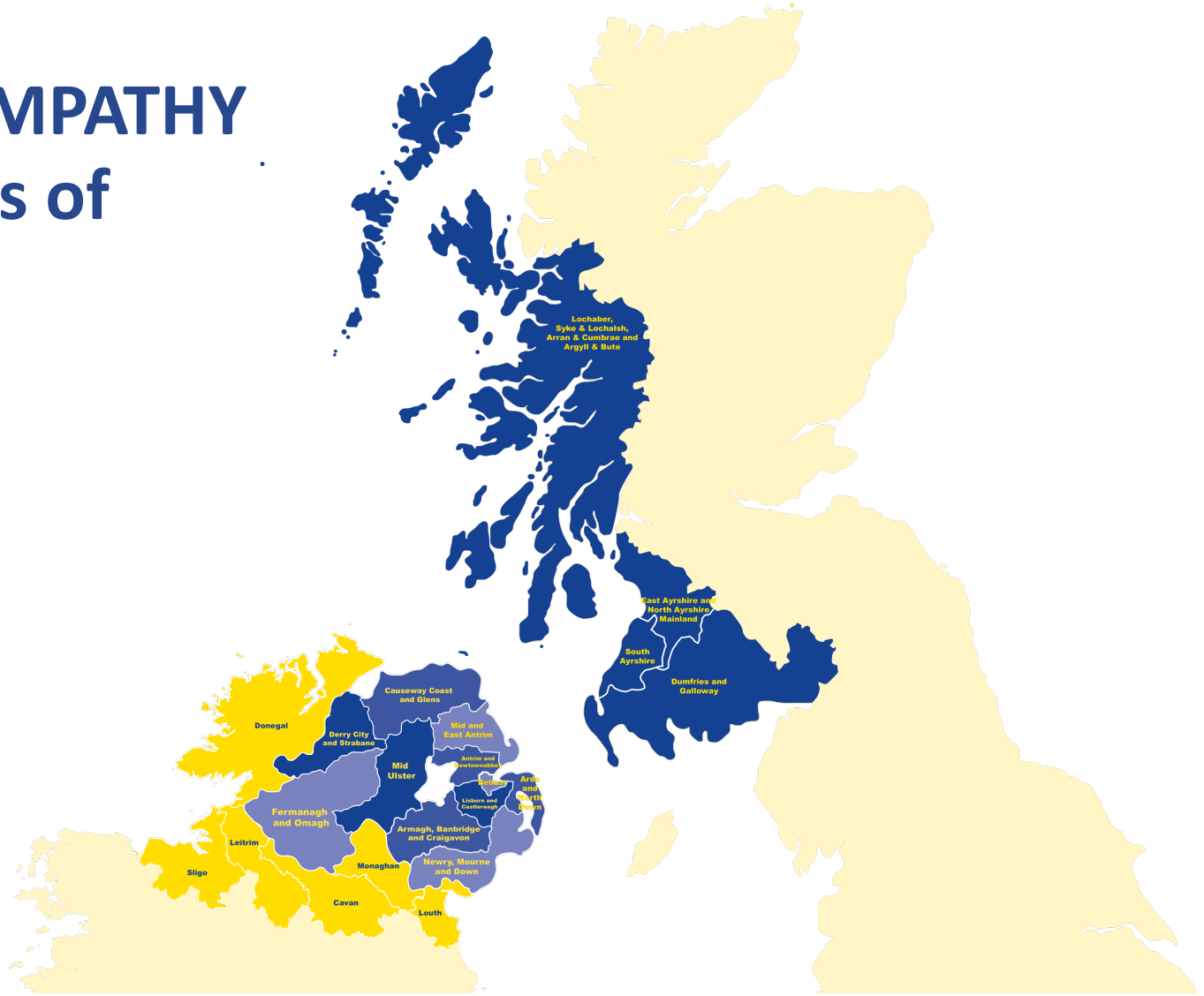
# Initial findings from the iSIMPATHY project and our experiences of implementation

December 1st 2022

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# iSIMPATHY is

- 3-year EU-INTERREG VA funded project (2019 – 2023) with matched funding from DoH
- Partnership between Scottish Government, Health Service Executive, Medicines Optimisation and Innovation Centre (*Primary and Secondary care)*
- implementing Stimulating Innovation in the Management of Polypharmacy and Adherence Through the Years

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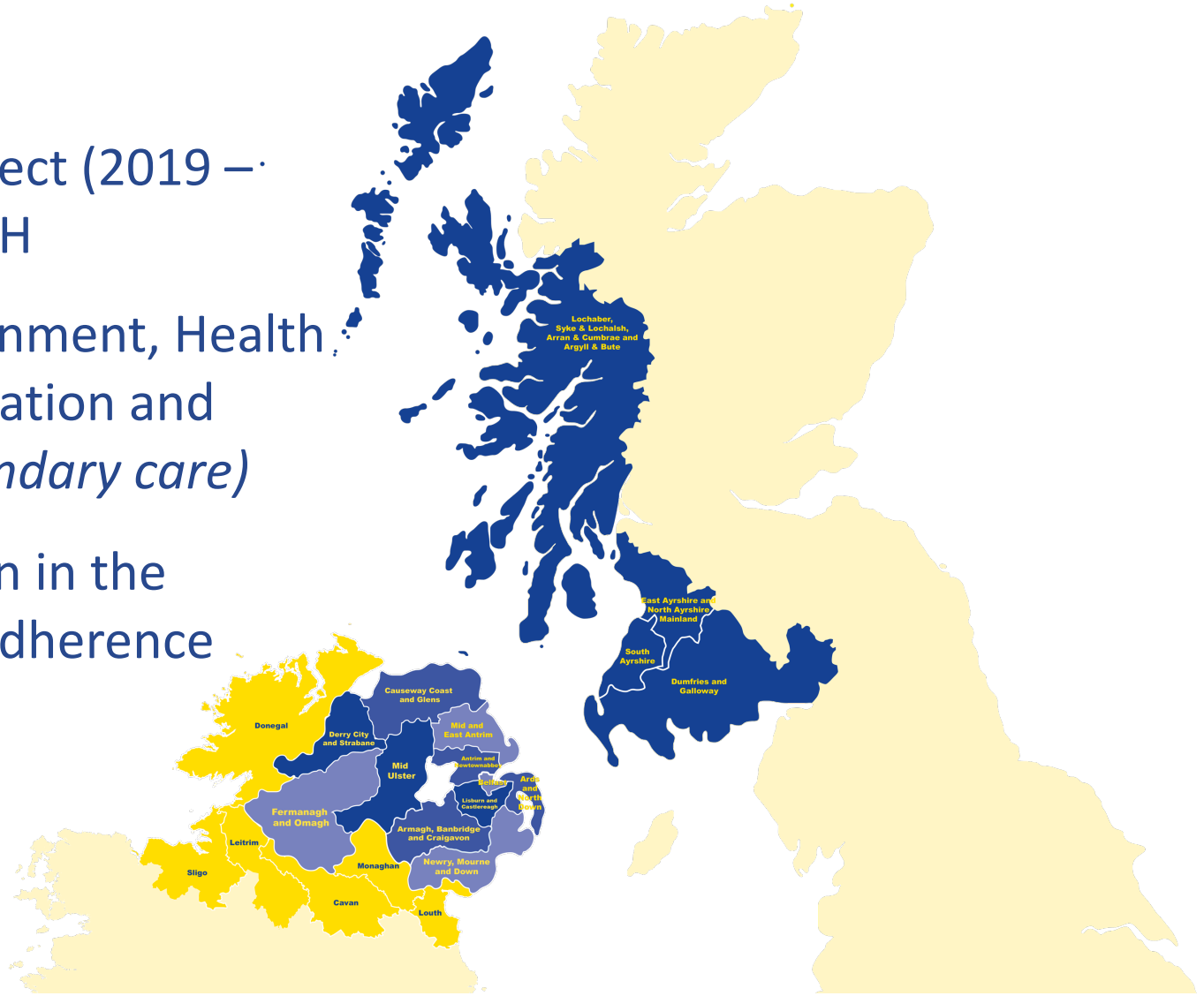


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# iSIMPATHY…What we do:

- Delivering effective, comprehensive, person-centred, pharmacist led, polypharmacy medicines reviews
- Across the three project jurisdictions
- Liaising with doctors and nurses to implement agreed changes

# iSIMPATHY…Why we do it:

- To enable those with multiple morbidities to live healthy & active lives

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# iSIMPATHY…Shared Decision Making

iSIMPATHY recognises that experts in Healthcare include

✓ Healthcare Professionals

✓ Policy Makers

## iSimpathy Polypharmacy reviews also recognise - Patients

- As experts in their own care and they own needs
- Holistic medication review
- We put the patient & family at the heart of every decision & empowering them to be genuine partners in their own care[1]

1 M.J. Barry, S. Edgman-Levitan, Shared Decision Making — The Pinnacle of Patient-Centered Care NEJM 2012 366;9

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# Aim of Appropriate Polypharmacy[1]

- ✓ All drugs are prescribed for the purpose of achieving specific therapeutic objectives that have been agreed with the patient.
- ✓ Therapeutic objectives are actually being achieved or there is reasonable chance they will be in the future.
- ✓ Drug therapy has been optimised to minimise the risk of ADRs
- ✓ The Patient is motivated & able to take all medications as intended (Adherence)
- ✓ **WHO Global Patient Safety Challenge – Medication Without Harm**

1 Scottish Government Polypharmacy Model of Care Group. Polypharmacy Guidance realistic Prescribing, 3rd edn. 2018

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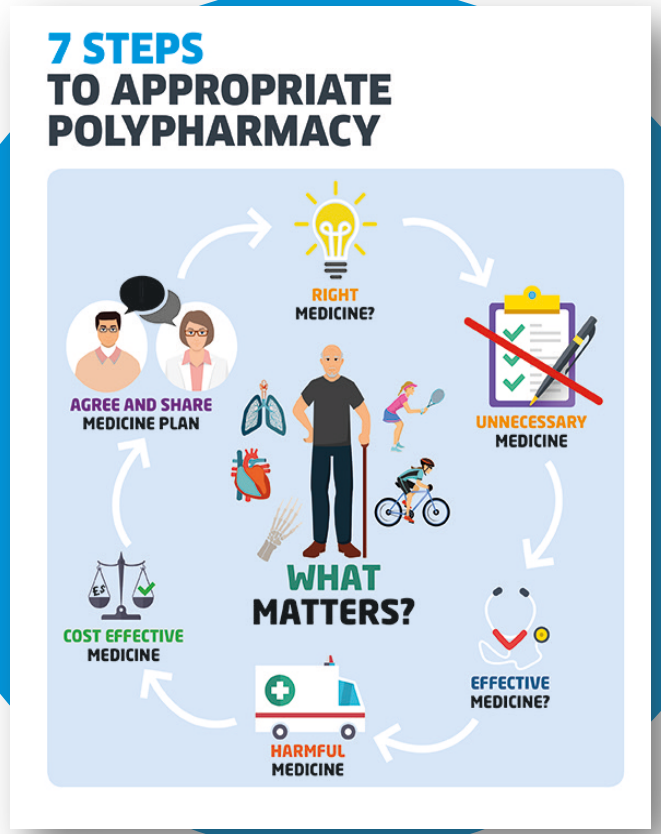
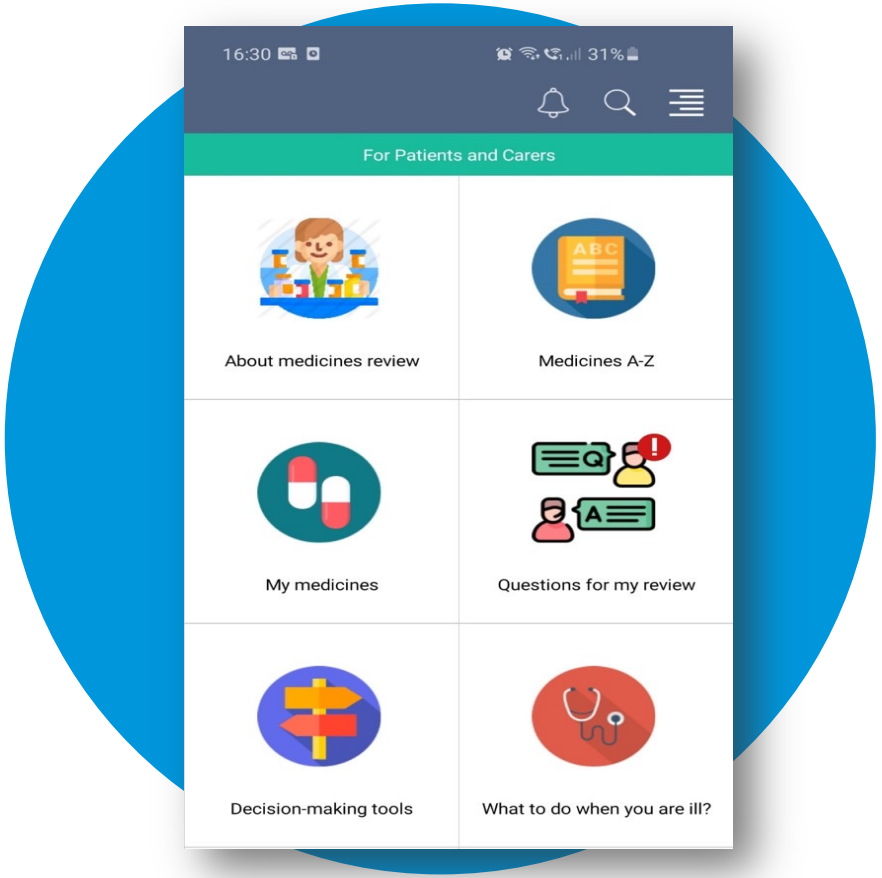
# iSIMPATHY Key Resources




www.isimpathy.eu/uploads/Polypharmacy-Guidance-2018.pdf




www.managemeds.scot.nhs.uk

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# 7 STEPS TO APPROPRIATE POLYPHARMACY


Step 1: What matters to the patient

Step 2: Identify essential drug therapy

Step 3: Does the patient take unnecessary drug therapy?

Step 4: Are therapeutic objectives being achieved?

Step 5: Is the patient at risk of ADRs or suffers actual ADRs?

Step 6: Is drug therapy cost-effective?

Step 7: Is the patient willing and able to take drug therapy as intended?

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# Evaluation tools used in iSIMPATHY

1. Eadon Clinical Intervention Grading
2. Medicine Appropriateness Index – Person Centred (PC-MAI)
3. Polypharmacy Indicators
4. Patient Reported Outcome Measures (PROMS) – Pre & Post Review
5. Other feedback from other clinicians – GPs, Nurses, Consultants etc

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# Evaluation tools; Eadon Clinical Intervention Grading

| Problem | Intervention | Grade |
|---|---|---|

- Drug: interaction, formulation, dose, frequency, duration, duplication, indication, etc
- Adherence
- Drug/ Device omitted
- Adverse Drug Reaction
- Allergy
- Review of Patients on Medications
- Formulary Change
- Patient/ Carer Education
- Request/ Review Labs/ Observations
- Referral to another Health Professional

| Eadon Grading Scale |
|---|
| 1. Detrimental to patient |
| 2. No significance to patient |
| 3. Significant: does not improve patient care |
| 4. Significant: improves patient care |
| 5. Very significant: prevents a major organ failure or adverse reaction of similar importance |
| 6. Potentially lifesaving |

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# Evaluation tools; PC-MAI

- Patient Centred Medicines Appropriateness Index
- Carried out for 10% of Patients
- Weighted tool to allocate a socre to each medicine based on their appropriateness **for that patient at that time**
- Calculated Pre & Post Medication Review

J. Hanlon et al. A method for assessing drug therapy appropriateness. Journal of Clinical Epidemiology. 10, P1045-1051, OCTOBER 01, 1992

| **Drug:** Aspirin | **Grade A-B-C** | **Score** |
|---|---|---|
| **Indicated** | C | 3 |
| **Effective for the condition in this individual** | C | 3 |
| **Correct Dose** | B | 0 |
| **Practical Directions** | B | 0 |
| **Significant Drug-Drug interaction** | C | 2 |
| **Significant Drug-Condition** | C | 2 |
| **Unnecessary Duplication** | A | 0 |
| **Duration appropriate** | C | 1 |

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# Evaluation tools; Polypharmacy Indicators

- Polypharmacy Guidance Realistic Prescribing 2018
- Used to help prioritise patients for review

Examples;

- ✓ Prescribed Oral Anticoagulant & NSAID
- ✓ Prescribed ACEi/ ARB and diuretic & NSAID
- ✓ Prescribed Steroid long term without co-prescription of bone protecting agent
- ✓ Patient ≥65yrs & Prescribed 3 or more drugs with sedating or anticholinergic effects (excluding anti-epileptics)

| | |
|---|---|
| **CVDevents** | Patients aged 65 years or older with dementia is prescribed an antipsychotic |
| | Female patient with a history of venous thromboembolism is prescribed an oestrogen |
| | Patient with AF and CHADSVASC score >=3 is not prescribed an oral anticoagulant |
| **Dependency** | Patient is prescribed an opioid at an average daily dose equivalent to >180mg morphine per day over the previous 6 months |
| | Patient is prescribed gabapentin or pregabilin at an average daily dose of >4800mg gabapentin per day over the previous 6 months |
| **ExtraPS** | Patient prescribed levodopa is prescribed metoclopramide or prochlorperazine on repeat |
| | Female patient with a history of breast cancer is prescribed an oestrogen |
| | Female patient with intact uterus is prescribed an oestrogen without progestogen |
| | Patient aged 65 years or older is prescribed metoclopramide on repeat |
| **Falls** | Patient aged 75 years or older is prescribed a steroid long term without co-prescription of a bone protecting agent |
| | Patient with dementia is prescribed TWO or more drugs with significant sedating or anticholinergic effects (excluding drugs only used for epilepsy) |
| | Patient without dementia aged 65 years or older is prescribed THREE or more drugs with significant sedating or anticholinergic effects (excluding drugs only used for epilepsy) |
| | Patient without dementia aged 75 years or older is prescribed TWO or more drugs with significant sedating or anticholinergic effects (excluding drugs only used for epilepsy) |

https://www.therapeutics.scot.nhs.uk/polypharmacy/indicators/

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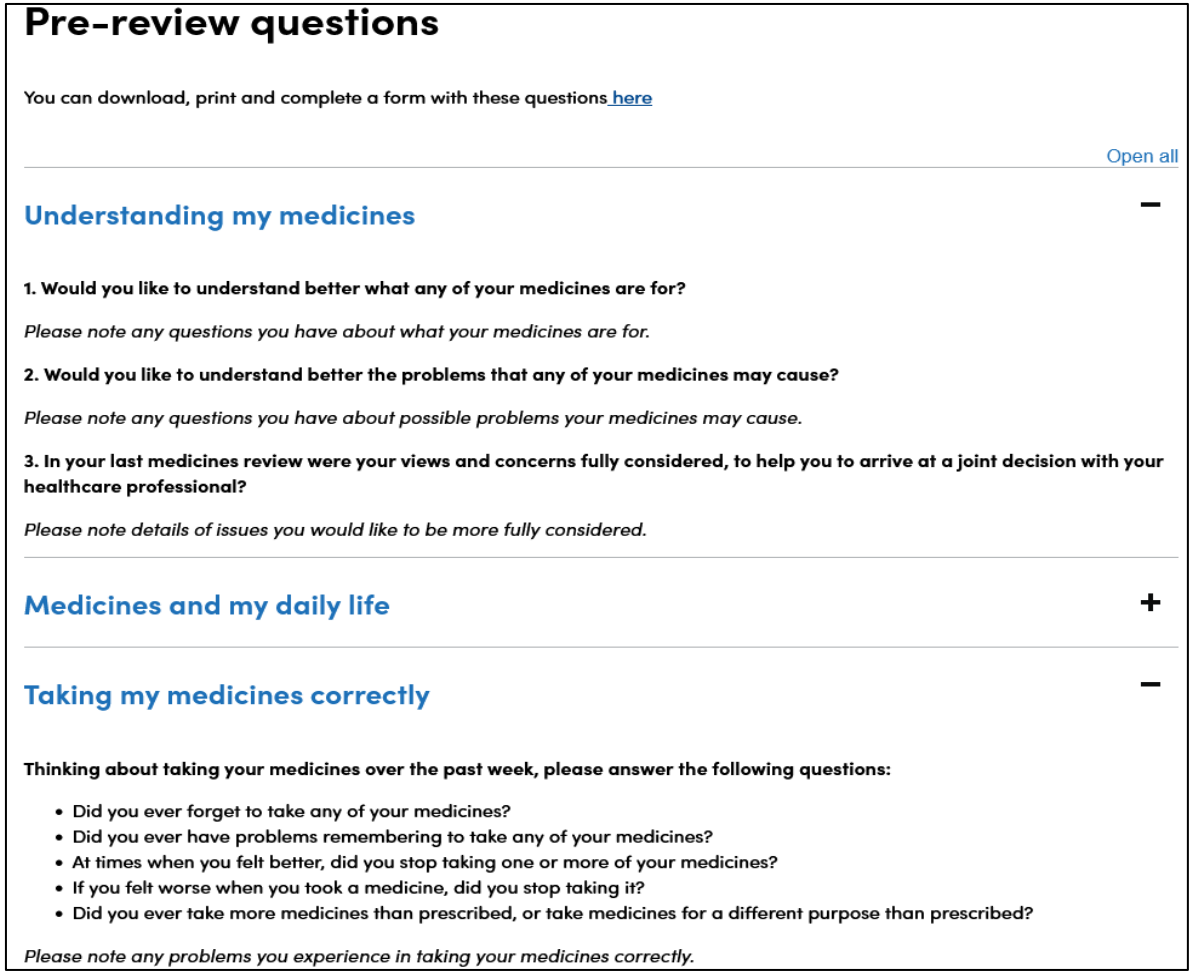
# Evaluation tools; Patient Related Outcome Measures

- Helps to identify what is important to the patient in regards their medications.
- Highlights issues with adherence
- Carried out Pre & Post Review
- Provides qualitative data on the patient's opinions of the review process



## Pre-review questions

You can download, print and complete a form with these questions here

Open all

### Understanding my medicines −

**1. Would you like to understand better what any of your medicines are for?**

*Please note any questions you have about what your medicines are for.*

**2. Would you like to understand better the problems that any of your medicines may cause?**

*Please note any questions you have about possible problems your medicines may cause.*

**3. In your last medicines review were your views and concerns fully considered, to help you to arrive at a joint decision with your healthcare professional?**

*Please note details of issues you would like to be more fully considered.*

### Medicines and my daily life +

### Taking my medicines correctly −

**Thinking about taking your medicines over the past week, please answer the following questions:**

- Did you ever forget to take any of your medicines?
- Did you ever have problems remembering to take any of your medicines?
- At times when you felt better, did you stop taking one or more of your medicines?
- If you felt worse when you took a medicine, did you stop taking it?
- Did you ever take more medicines than prescribed, or take medicines for a different purpose than prescribed?

*Please note any problems you experience in taking your medicines correctly.*

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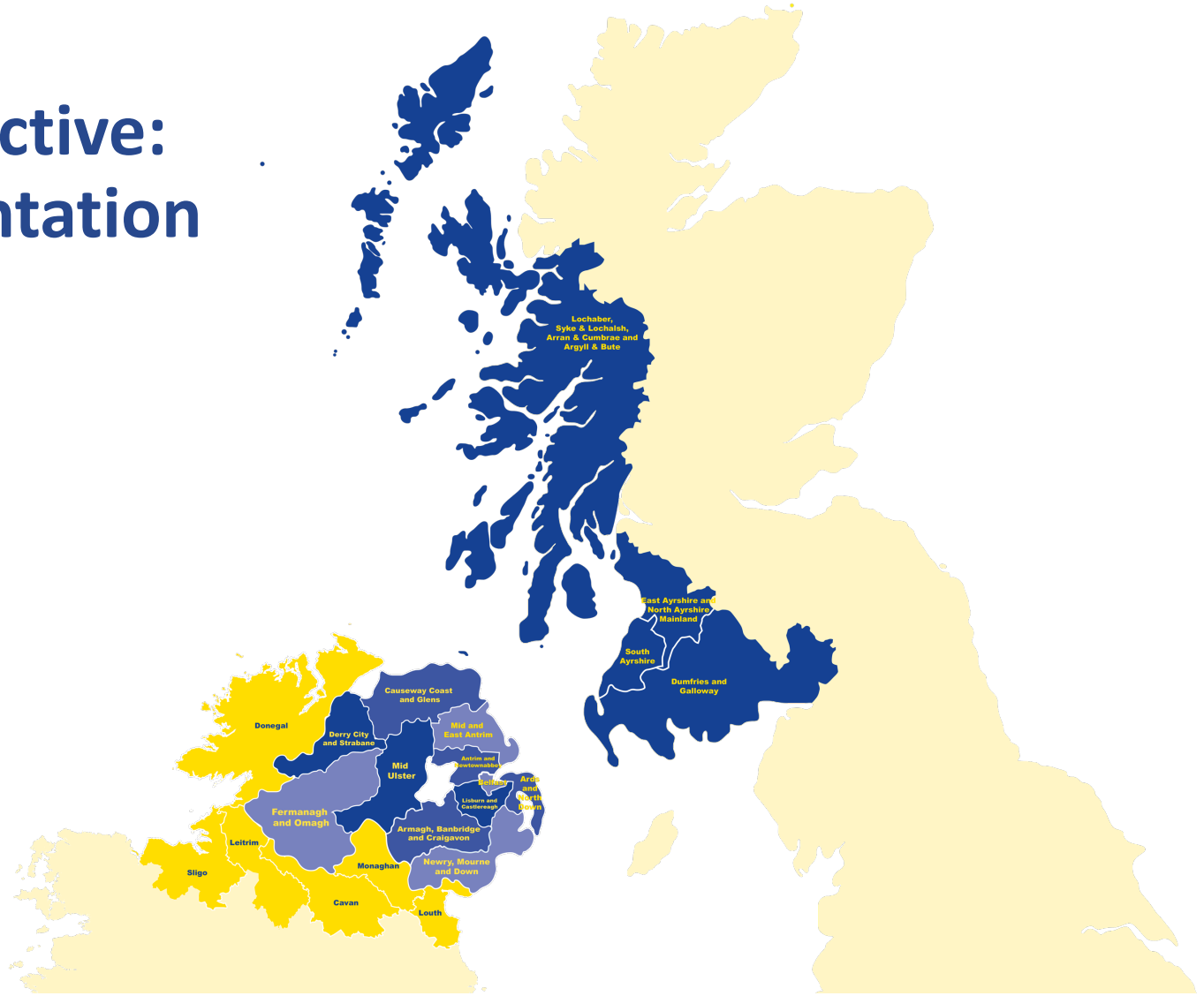
# Northern Ireland Perspective: An overview of implementation

Joanne Brown

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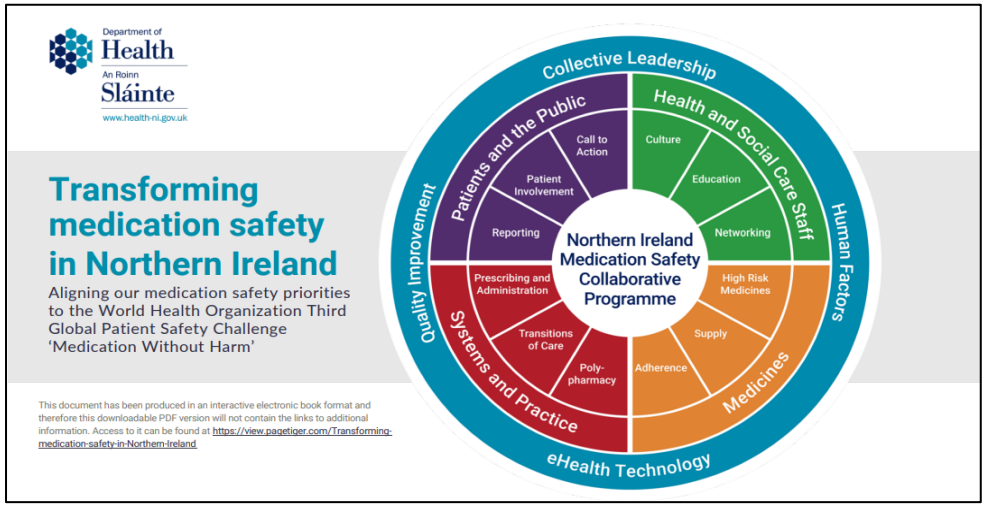
# Implementation

- Acute Medical wards in Antrim Area Hospital
- Benefits & Challenges of Medication Reviews in this area





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# Results – Based on 1035 Reviews

Average age 76

57% Female

12.6 medicines Pre Review

12.3 Post Review

89% reduction in PC-MAI

7 long term conditions

8.4 Interventions

Positive patient and staff feedback

94% grade 4 Eadon and above

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# Added value of iSIMPATHY Reviews

## Identification and Actioning of;

- ✓ Inappropriate Medicine Use
- ✓ Adherence issues
- ✓ Patient education and empowerment

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# Added value of iSIMPATHY Reviews

## Identification and Actioning of;

- ✓ Health literacy needs
- ✓ Adverse drug reactions
- ✓ Contributing factors/ important information for admission

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# Added value of iSIMPATHY Reviews

## Patient-Centred Medication reviews “What matters to you?”

- ✓ Psychology input to service
  - Motivational interviewing
  - Discussion of mental health issues
- ✓ Being a patient advocate
- ✓ Developed confidence, courage, ability & the ripple effect

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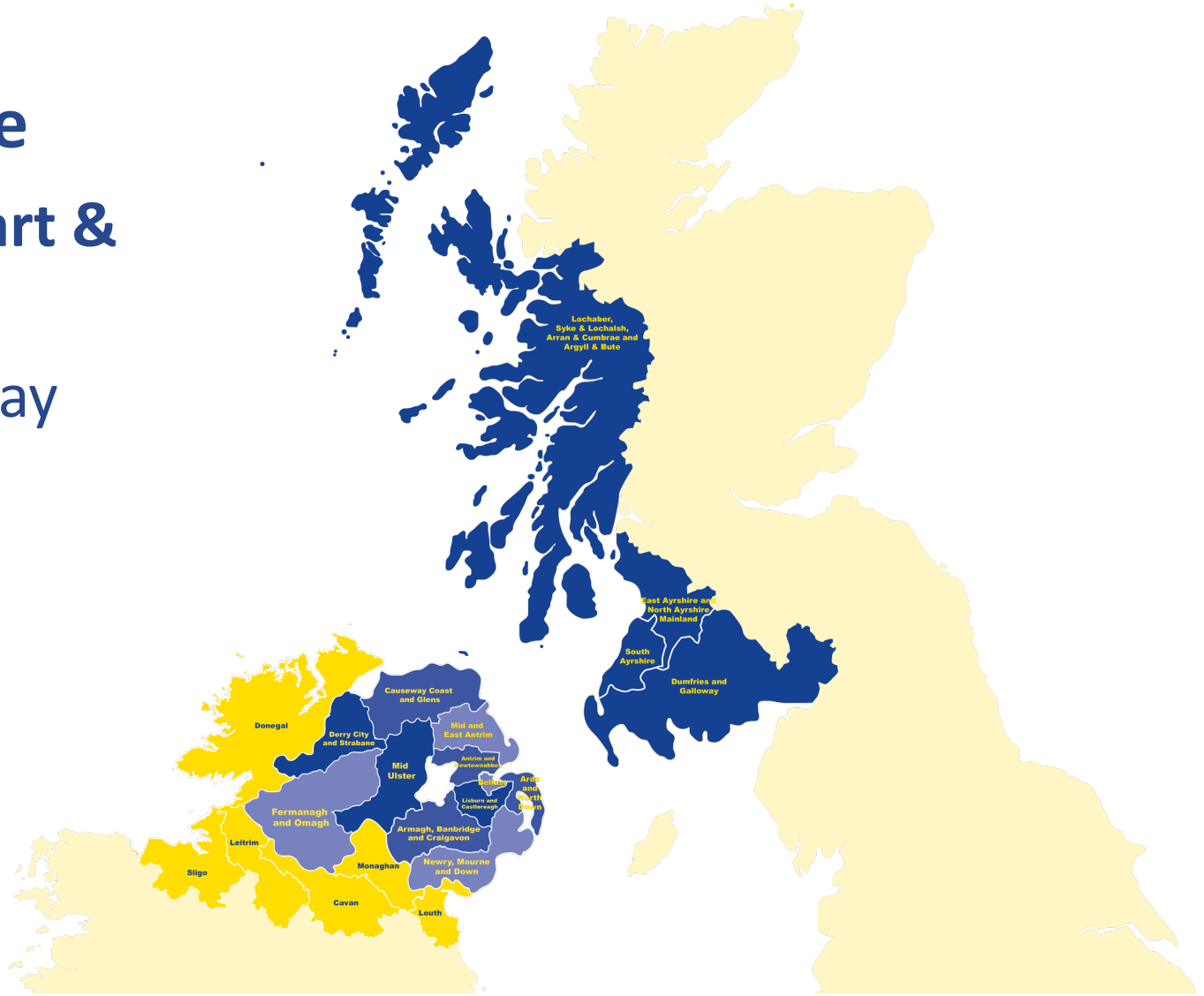
# Scotland Perspective


## Lesley Herd, Laura Urquhart & Nicola Robertson

NHS Dumfries and Galloway

NHS Ayrshire and Arran

NHS Highland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# NHS Ayrshire and Arran – Secondary Care

- Based at large district general hospital – University Hospital Crosshouse, Kilmarnock (517 Beds)

- Other Secondary Care facilities include:
  - Smaller district general hospital (Ayr)
  - 2 long stay/ rehabilitation (Irvine, Prestwick)
  - 4 Community (Girvan, Brodick, Cumnock, Millport)

- Serves population of Ayrshire (367,000) & area of 3369Km$^2$


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# NHS Dumfries and Galloway

- Based in Diabetes Outpatients department, Dumfries
- Serves population of Dumfries and Galloway (149,000) and total Area of 6426Km$^2$
- Strongly Rural – so adaptable delivery mode
  - Face to Face
  - NHS Near Me
  - Telephone

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# Why Diabetes? Polypharmacy is inevitable

- Complex multi-system disorder increasing in prevalence in Scotland
- Crude prevalence ranges from 4.9% to 6.9% in NHS boards across Scotland
- Dumfries & Galloway on of the highest at 6.7%
- Diabetes is progressive – leading to intensifying therapy and additional treatment for potential complications & co-morbidities

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# Review Process Enablers


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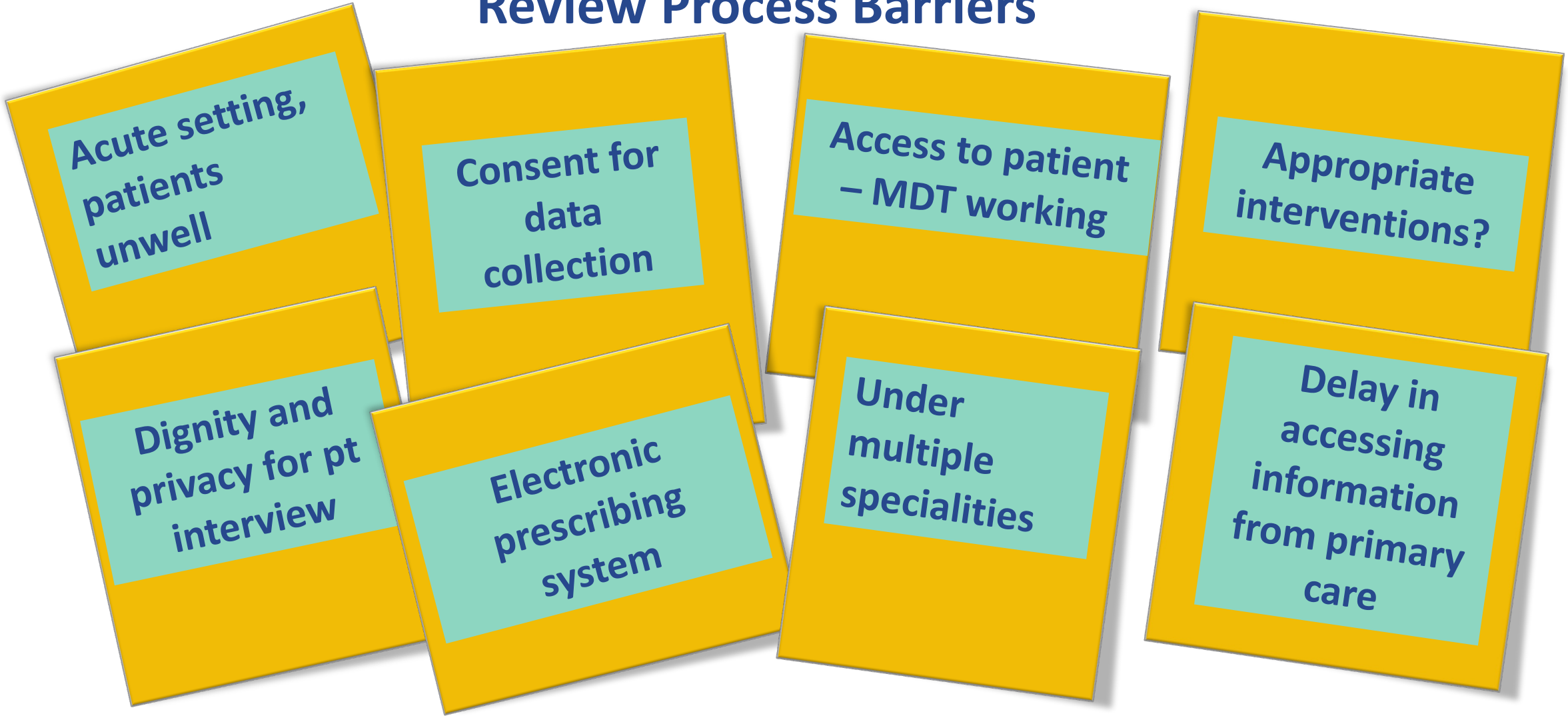
# Review Process Barriers

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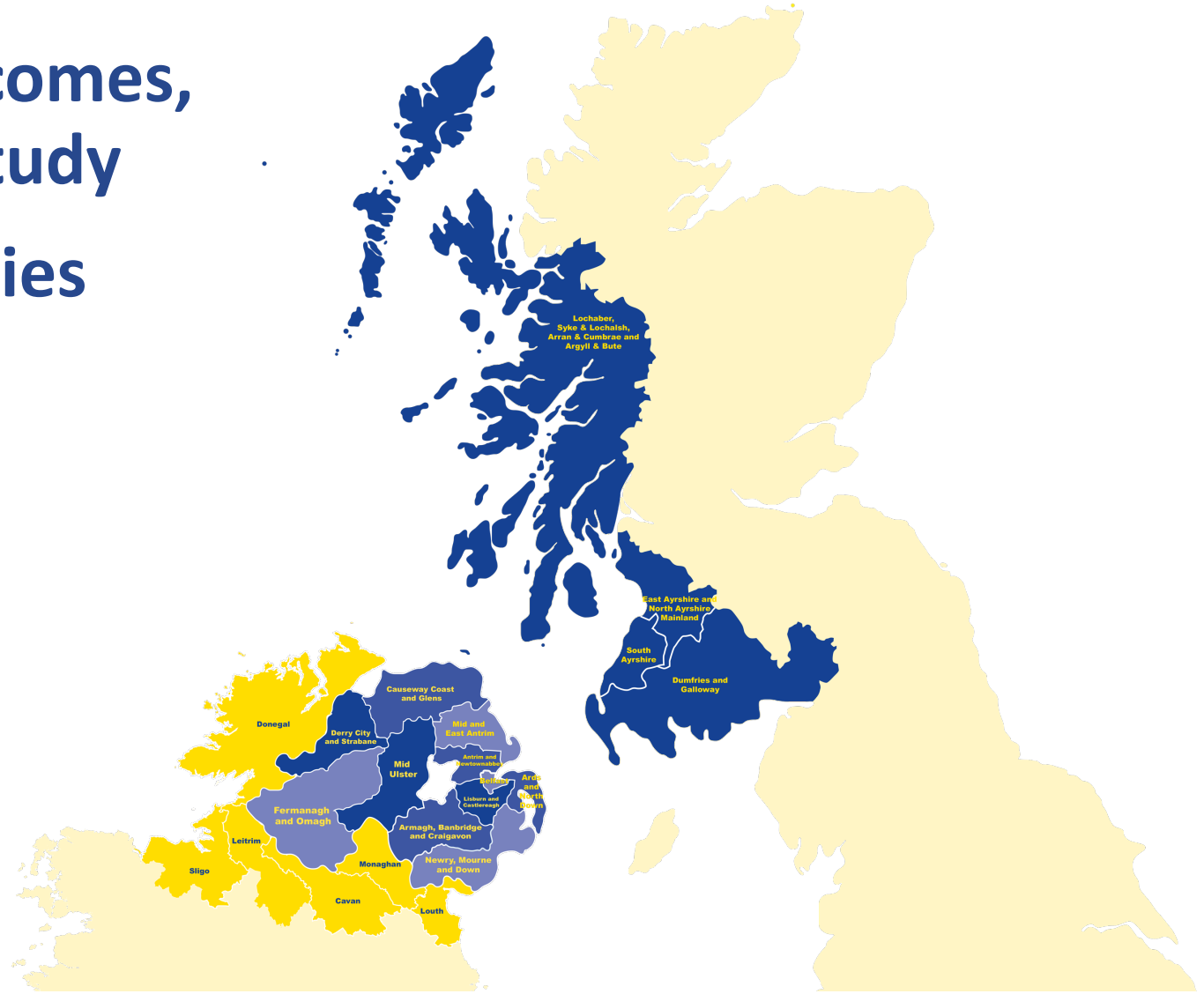
# Ireland Perspective: Outcomes, Challenges and Case Study

## When Patients Priorities differ from Ours

Clare Kinahan

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# Preliminary Outcomes

- Approximately 10 reviews per pharmacist per working week
- Average patient age = 77 years (31-101)
- Average number co-morbidities = 7 (complexity)
- Average of 13 interventions per Review (Approx 37% involved changes to Rx)
  - ✓ Drug Changes
  - ✓ Dose Changes
  - ✓ Education
  - ✓ Information
  - ✓ Monitoring
  - ✓ Referral

  **96% of interventions hold clinical significance** ***(Eadon grade 4 or above)***
- Average of two drugs stopped per review (14 pre, 12 post) **net savings of €208 per review**

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# Preliminary Outcomes

- **Medication Safety**
  - Average of 0.8 Polypharmacy indicators identified per patient (some none, others multiple)
  - 69% Addressed (others partially resolved or not appropriate to address)

- **Deprescribing**
  - 342 STOPP Criteria were identified; 75% Resolved (n=100)

- **Medicines Optimisation**
  - 54 START Criteria were identified; 80% resolved (n=100)

- **Integration into HSE initiatives**
  - Preferred drugs initiative, Antimicrobial Stewardship (85% enacted)

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# Case Presentation – 78yr old Male; Joe (consent granted)

## Comorbidities 8:

1. Unprovoked DVT x 2
2. Asthma / COPD
3. Epilepsy; 1990
4. Prostate disorder BPH
5. Irritable Bowel Syndrome
6. Atrial Fibrillation
7. Treated Dyspepsia
8. Hypertension

Hgt 170cm, Wgt 86kg, BMI 29.5
HbA1c 40, Chol 4.3, LDL 2.5
Cr 86, CrCl 58.4-65ml/min Ideal-Adj

## Medications = 14 Pre-review

28 x Atorvastatin 20mg – 1 nocte
56 x Apixaban 5mg - BD
28 x Theophylline 400mg – 1 Nocte
28 x Phenytoin 100mg – 1 Daily
28 x Amlodipine 5mg Tablets – 1 Daily
28 x Ramipril 10mg – 1 Daily
28 x Dutasteride/ Tamsulosin 0.5mg/0.4mg – 1 Daily
28 x Isphagula Husk 3.5gm Sachets Orange – 1 Mane
1 x Salmeterol/ Fluticasone 25mcg/250mcg – P2 BD
1 x Salbutamol PRN
28 x Omeprazole 20mg – 1 Daily PRN
1 x Clobetasone 0.05% Ointment – Sparingly PRN

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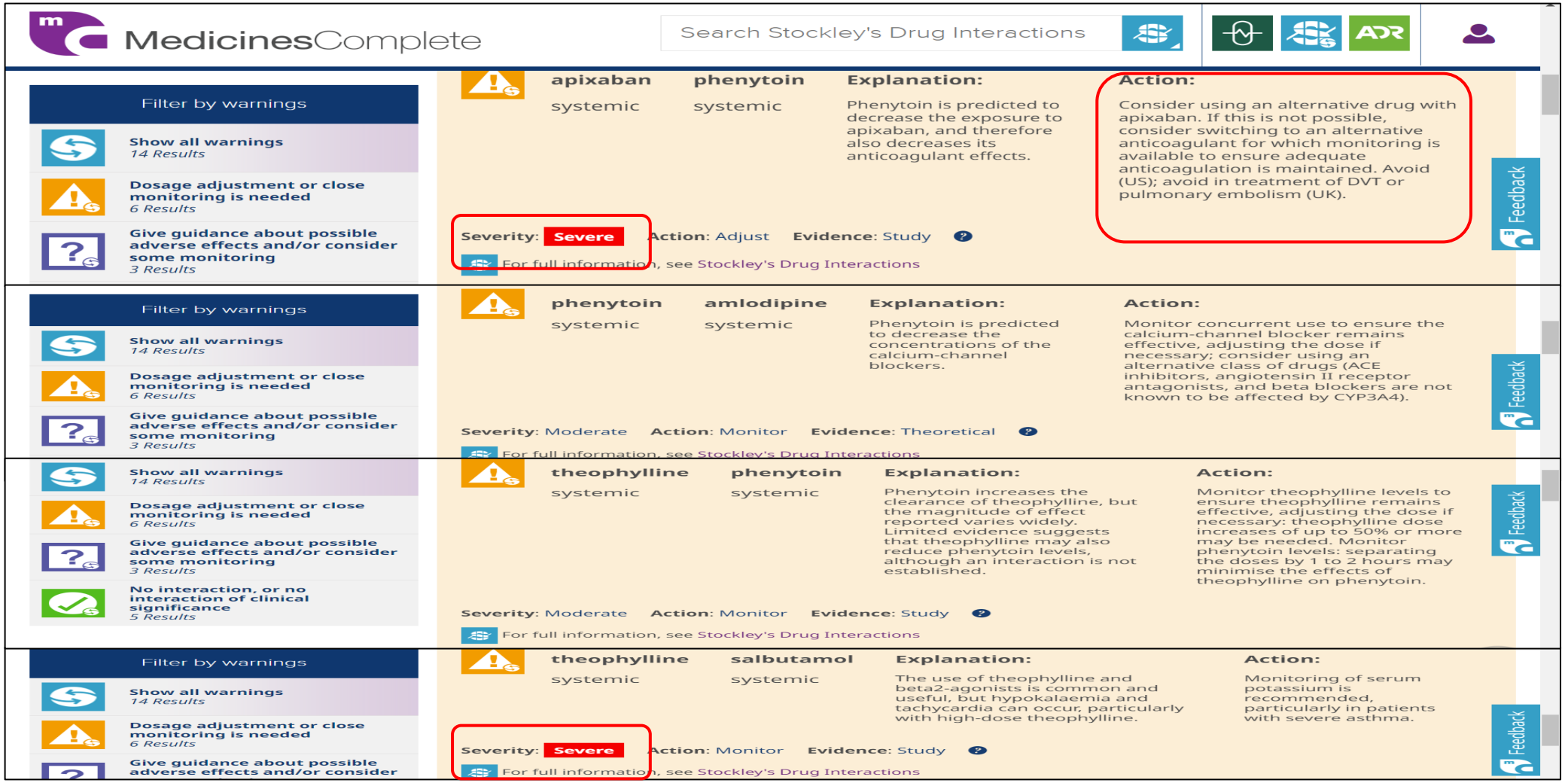
# Case Presentation – 78yr old Male; Joe (consent granted)

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# Case Presentation – 78yr old Male; Joe (consent granted)

Apixaban/ Phenytoin inducers of CYP3A4(strong) and P-glycoprotein = **Avoid**

**Severity** Major **Reliability** Rating Good. Higher risk (4.76) of stroke or systemic embolism compared with patients treated with DOACs without phenytoin. **Median peak Apixaban concentrations that were 29% lower**, and patients had a **6-fold greater risk of an apixaban concentration below the expected range**.

Change or stop Antiepileptic?

Levetiracetam might decrease the exposure to apixaban but not edoxaban. No interaction exists for either Pregabalin or Lamotrigine with either Edoxaban or **Apixaban BUT It is risky to modify an established AED, risk of seizures recurrence**, and anticoagulant use increases the risk of major bleeding due to traumatic injury.

Change Anticoagulant?

**Edoxaban / P-glycoprotein/ABCB1 Inducers Risk Rating D: Consider therapy modification**

**Severity** Moderate **Reliability Rating** Good. Efficacy may be decreased. Avoid co-administration when possible.

**Complicated to start anticoagulant in patient with epilepsy well-controlled by old AEDs, especially phenytoin**

**Reasonable to use warfarin** as can tailor dosage to INR values

www.uptodate.com/drug-interactions https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6292857/

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# Case Presentation – 78yr old Male; Joe (consent granted)

## What matters to You? "Staying on the road but off warfarin"


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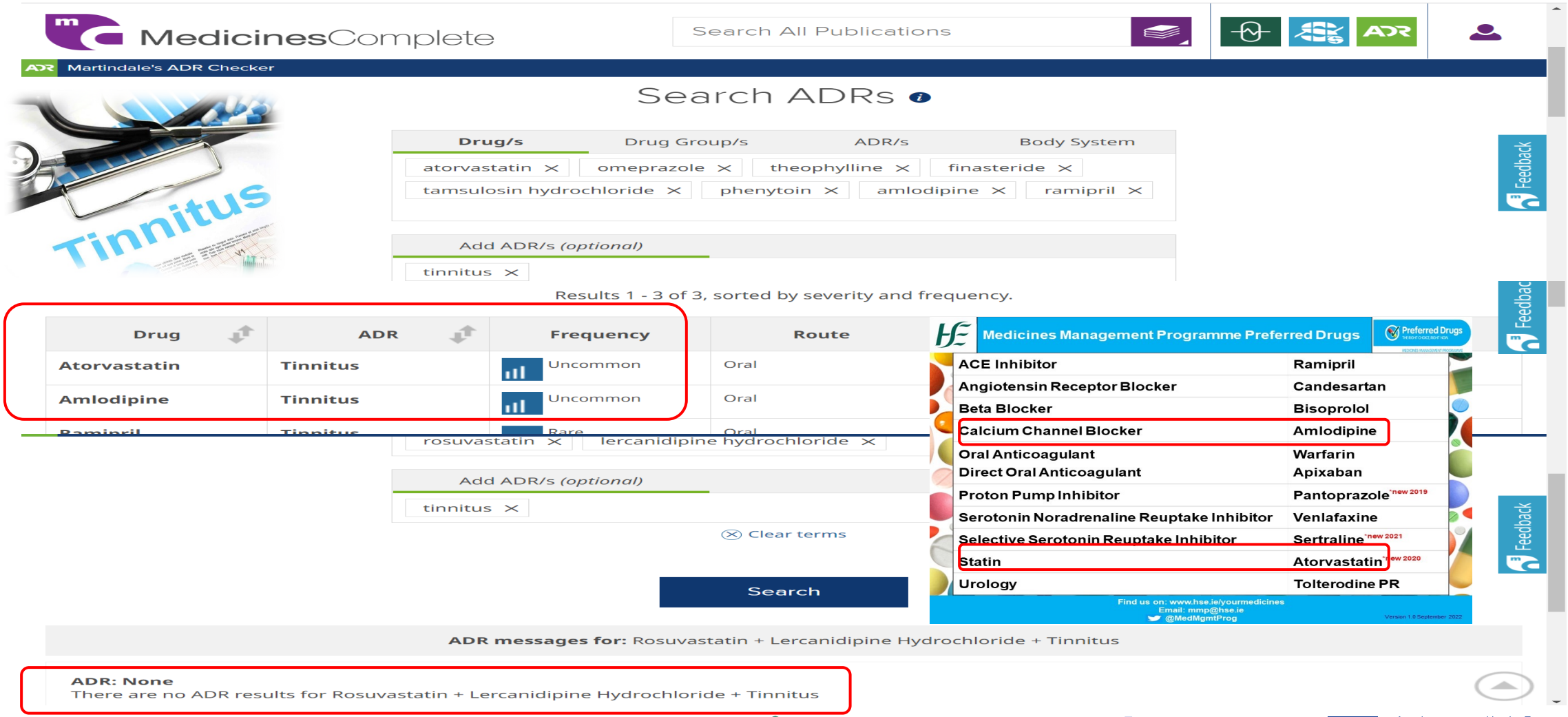



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## Initial Recommendations made to GP

1. **Consider Neurology Referral** for review of ongoing burden vs benefit of Phenytoin in light of its potential to decrease efficacy of Apixaban. **At last neurology r/v Dec 2000 was reduced to current dose** and patient was told, likely doesn't need it- but kept on low dose on **"just in case"- PLEASE NOTE he does not wish to stop if it means he cannot drive for 6 months**

1. **Trial reduced dose Theophylline 200mg Nocte.** Last respiratory review was 2006. **As per patient, his nocturnal symptoms resolved in 2004 and he attributes them in retrospect to inhalation of his late wife's hairspray at night.** He is happy to trial gradual dose reductions as he feels his chest is fine. Note risk of hypokalaemia and tachycardia, particularly with high-dose theophylline. It can exacerbate cardiac arrhythmias and therefore caution should be exercised in patients with cardiac disorders. Also cautioned if history of prostatic enlargement & seizures

2. **Could consider changing Atorvastatin 20mg to Rosuvastatin 10mg and Amlodipine to Lercanidipine**, as the latter in both cases do not list tinnitus a potential ADR

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**Follow Up……No response from neurology and noticed increase SOB when walking up hill**

**Plan B…… Urgent Cardiology referral and anti-Factor Xa assay**

As per SPC "A  calibrated quantitative anti-Factor Xa assay may be useful in exceptional situations where knowledge of Apixaban exposure may help to inform clinical decisions"

One hospital laboratory would only test at the request of a haematologist. However another said they could facilitate assay if given prior notice and sample makes it to lab by 9.30am, to be separated & frozen prior to transfer to National Coagulation Centre.

**PLAN :** Patient to come in at 8.30am Monday morning for blood sample and then he and his daughter will drive sample together to deliver to hospital lab

**Follow Up…. NO RESULT.** Sample defrosted when it reached National Coagulation Centre.

Advised should be processed on consultant request only, not from community.

Advised that because there are no internationally accepted antiXa therapeutic ranges for DOACs, assay should not be used to monitor therapeutic responses. Instead if drug-drug interaction precludes the use of a DOAC (such as phenytoin) warfarin recommended.

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# Lessons learned in Republic of Ireland

1. Patients priorities often differ from our priorities
2. There is no “UNSEE” button
3. Sharing decisions means sharing responsibility for them
4. There is much learning to be gained from following up
5. Practices/ service availability varies widely at different sites
6. **Irish GPs and Patients face many challenges – They are grateful for our help!**

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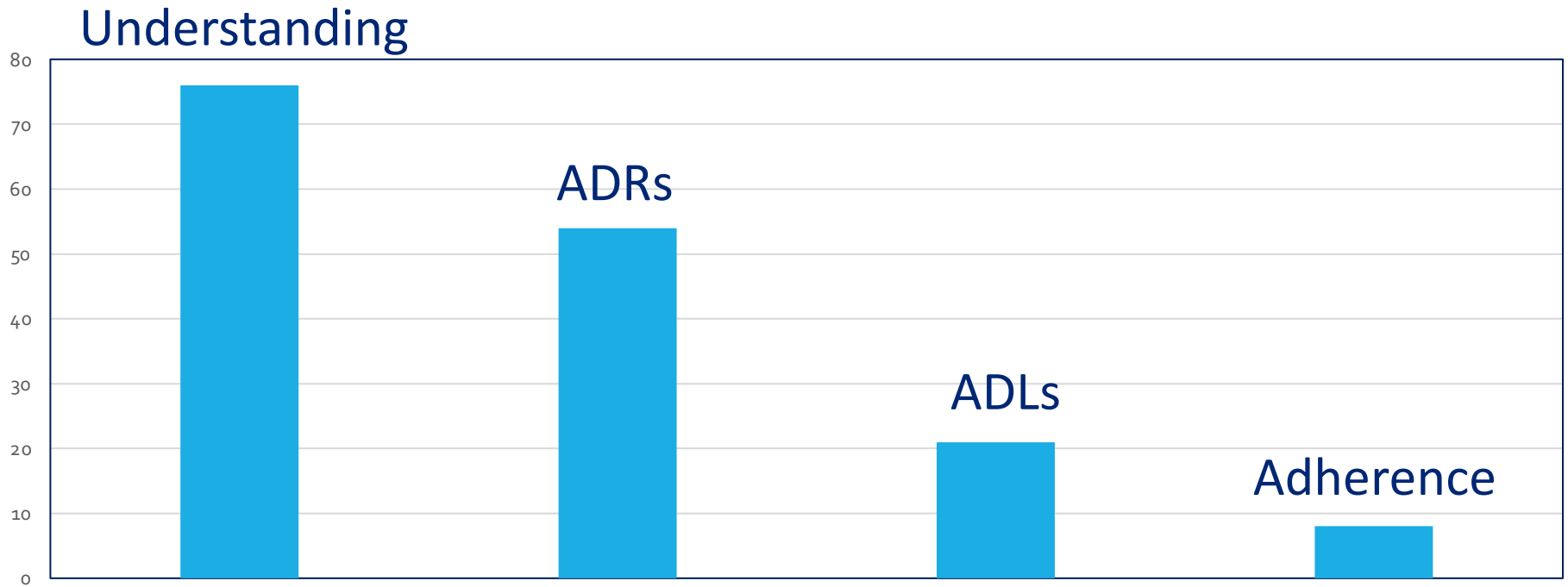
# Feedback

- **GPs** report: Positive effect on GP job satisfaction, knowledge and understanding
- High **patient** uptake and openness to shared decision making
- 88% experienced improvements in Patient Reported Outcome Measures (PROMs)

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# Patient / Carer Feedback

This was some of the best care my mother has received and it has resulted in a significant improvement in her confusion, her steadiness on her feet, and her relationship and interaction with me

My medication review led to a huge improvement! I'm now walking for an hour and a half each morning. I used to have to stop every few minutes because of dizziness

I honestly feel what you are doing will make such an impact in such a positive way. Let's hope it will be rolled out, I am very much in favour

It was good to have somebody on my side and take time to hear my views

It's made a huge difference to Dad's quality of life and to us as a family, knowing he is at less risk of falling

There was a definite improvement in my constipation and shortness of breath. I had no idea that changing my tablets could help with these things

Dad's mood and appetite are much better since his medication review

My mouth is less dry and my bowels have improved

Before my medication review I suffered badly with heavy legs and wheezing, which stopped me doing a lot of things I wanted to do. After just a few small changes to my tablets I'm now out walking for 30mins every morning

The review considered me as a whole person, not just my medical conditions

I'm delighted to be on less medications. I feel much better and I'm eating a bit better now too

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# Questions & Answers

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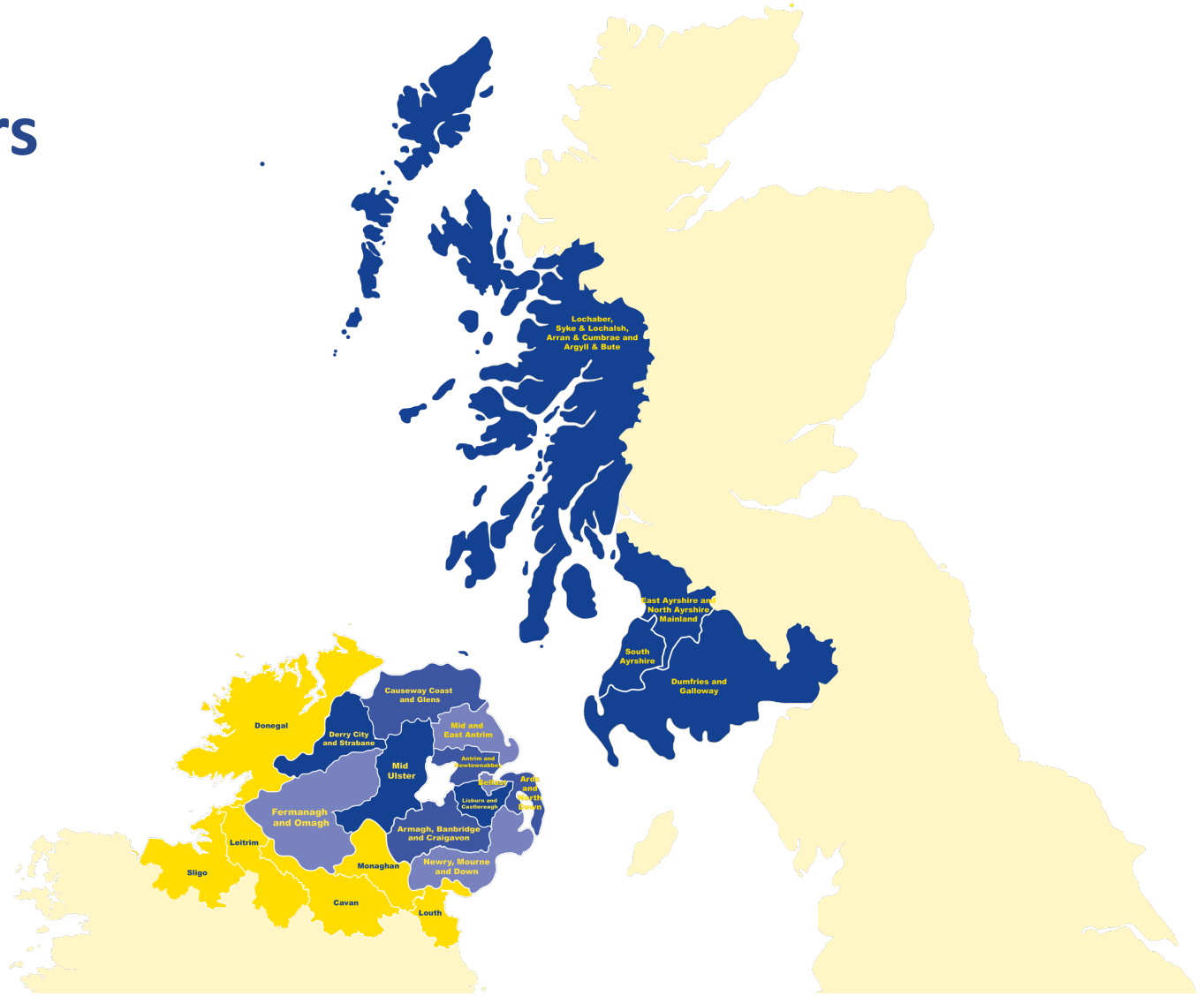


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