Data Driven Quality Improvement in Primary Care 2:
Optimising management of patients at risk of preventable drug side effects

Dr Tobias Dreischulte
Lead Pharmacist R&D
NHS Tayside/University of Dundee
Preventable drug side effects

Medicines effectively manage many long term conditions, but ...

... all medicines can cause side effects
  - Unpreventable side effects
  - Preventable side effects
Preventable drug side effects

Medicines beneficial for many many long term conditions, but ...

... all medicines can cause side effects
- Unpreventable side effects
- Preventable side effects
Preventable drug side effects

Emergency hospital admissions

- Preventable drug side effects: 4%
- Heart attacks: 2.4%
- Stroke: 1.6%
Preventable drug side effects

Emergency hospital admissions Tayside

Preventable drug side effects 1000/year

Heart attacks 600/year

Stroke 400/year
How to avoid preventable drug side effects?

Improved self-management: 330 admissions

Improved monitoring: 220 admissions

Safer medication regimens: 310 admissions
How to avoid preventable drug side effects?

Who is most at risk?

• On many medicines (e.g. 10 plus)
• Older age (e.g. 75 years plus)
• Vulnerable to particular side effects (e.g. previous stomach ulcer → Stomach bleed)
How to avoid preventable drug side effects?

DQIP1

Data driven quality improvement in primary care
How to avoid preventable drug side effects?

Electronic Medical Record
(All patients registered with the practice)

Informatics tool

List of patients
at increased risk of preventable drug side effects

Review

Consult with patient

Corrective action
(if required)

Contact other professional
✓ ~1,600 patients reviewed
✓ ~40% reduction in patients at risk of preventable side effects
✓ ~100 drug related hospital admissions prevented in year 1
• Limited scope
  - NSAID and antiplatelet prescribing
  - > 100 indicators identified

• Limited reach
  - ~50% declined participation: “No time”

• GPs only: Sustainable?
Data Driven Quality Improvement in Primary Care 2:
Optimising management of patients at risk of preventable drug side effects

Dr Tobias Dreischulte
Lead Pharmacist R&D
NHS Tayside/University of Dundee
Aims

• Extend the range of targeted patients
• Increase reach
• Increase review capacity
• Facilitate collaborative approach
Aims

• Extend the range of risky prescribing / patients targeted for review
• Reach all practices in one health board
• Increase review capacity by involving practice pharmacists
Design

Phase 1
- Anticipated barriers & facilitators to pharmacist involvement
- Initial IT design

Phase 2
- Encountered barriers & facilitators to pharmacist involvement
- Iterative IT optimisation

Phase 3
- Intervention components
- Implementation and evaluation
Methods

**Phase 1**
- Semi-structured interviews with practice pharmacists
- Expert consensus on prescribing targeted

**Phase 2**
- Pilot study in 6 practices:
  - IT tool implemented
  - Interviews with pharmacists & GPs
  - Examination of actions taken

**Phase 3**
- Intervention components

**Outcomes**
- Impact on prescribing
- Impact on hospital admissions
- Cost-effectiveness
- Drivers of successful implementation