Practice-based research networks – Experience from Scotland

Bruce Guthrie

Professor of General Practice

NHS Research Scotland Primary Care Research Champion

bruce.guthrie@ed.ac.uk

Outline

- 1. NHS Research Scotland Primary Care Research Network
  - Recruitment to research
  - Research capacity building
- 2. SHARE – Scottish Health Research Register
- 3. Scottish School of Primary Care
- 4. Research at scale in primary care
- “Middle ground research”

1. NRS Primary Care

- Funded by Scottish Government
- Primary function is to support patient recruitment to research
- Complemented by SHARE
- Originally part of Scottish School of Primary Care but now separate

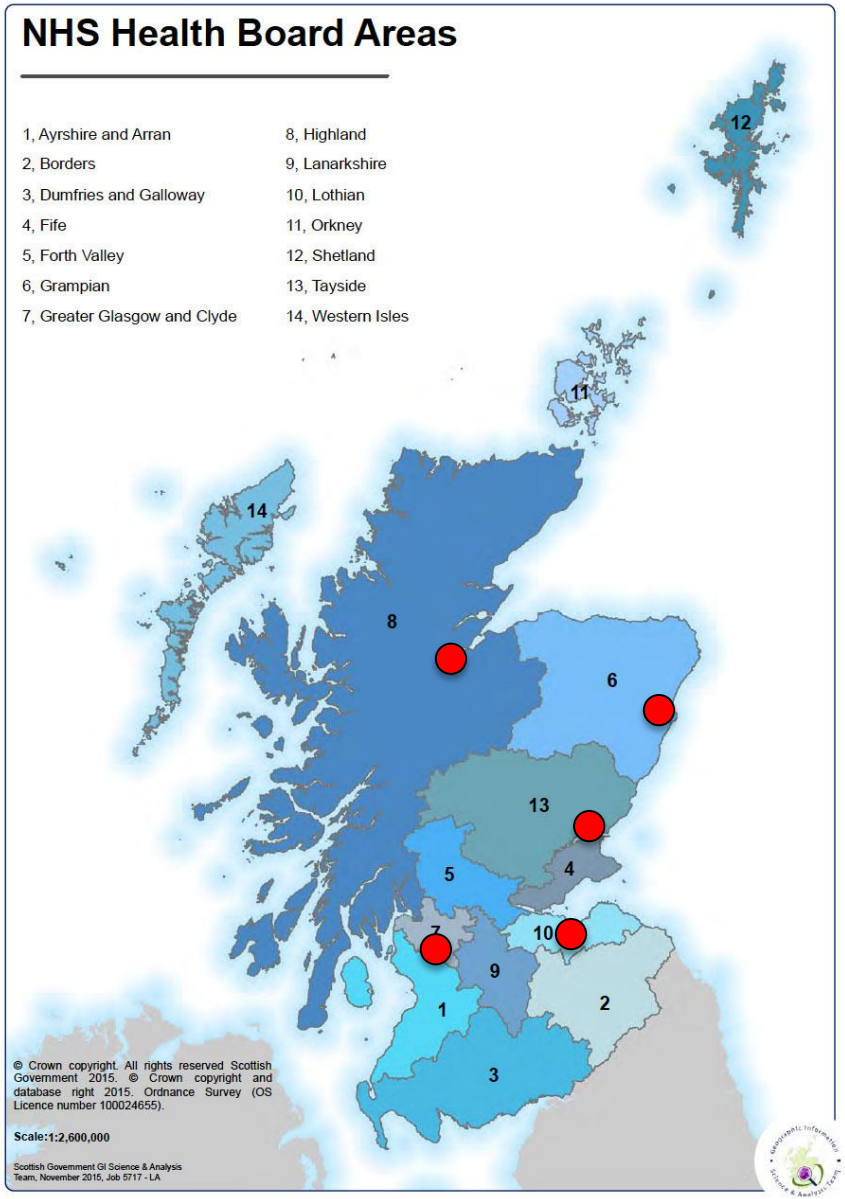
http://www.nhsresearchscotland.org.uk/research-areas/primary-care
https://www.registerforshare.org/
http://www.sspc.ac.uk/

1. NRS Primary Care

- Aim is to make recruitment to research easy
  - For practices
  - For researchers
  - For patients
- Network staff will handle patient identification, and initial mailing on behalf of practices
  - Universal electronic records with two IT systems
  - Mass mailing systems available (Docmail, Health Informatics Centre in Dundee)

NHS Health Board Areas

1, Ayrshire and Arran
2, Borders
3, Dumfries and Galloway
4, Fife
5, Forth Valley
6, Grampian
7, Greater Glasgow and Clyde
8, Highland
9, Lanarkshire
10, Lothian
11, Orkney
12, Shetland
13, Tayside
14, Western Isles



Scale:1:2,600,000

Scottish Government GI Science & Analysis Team, November 2015, Job 5717 - LA

1. NRS Primary Care

- Supports recruitment of 5-10,000 patients/year
- ~25% of practices participate per year
- ECLS study as an example (primary care CI)
  - Wrote to >80,000 high-risk smokers
  - 12,000 participants recruited from 157 practices
- ScotHeart-2 (specialist CI)
  - Will write to 60,000 to recruit 6000
- Embedded trials of recruitment
  - Studies within a trial (SWATs)

http://www.nhsresearchscotland.org.uk/research-areas/primary-care

2. SHARE

- Register of Scottish residents who consent to:
  - Direct contact to recruit to research (not via GP)
  - Search of electronic records to see if eligible
  - (GO-SHARE spare blood project)
- 250,827 people registered as of 3/6/19
- Target is 1 million (~20% of population)

https://www.registerforshare.org/

3. Scottish School of Primary Care

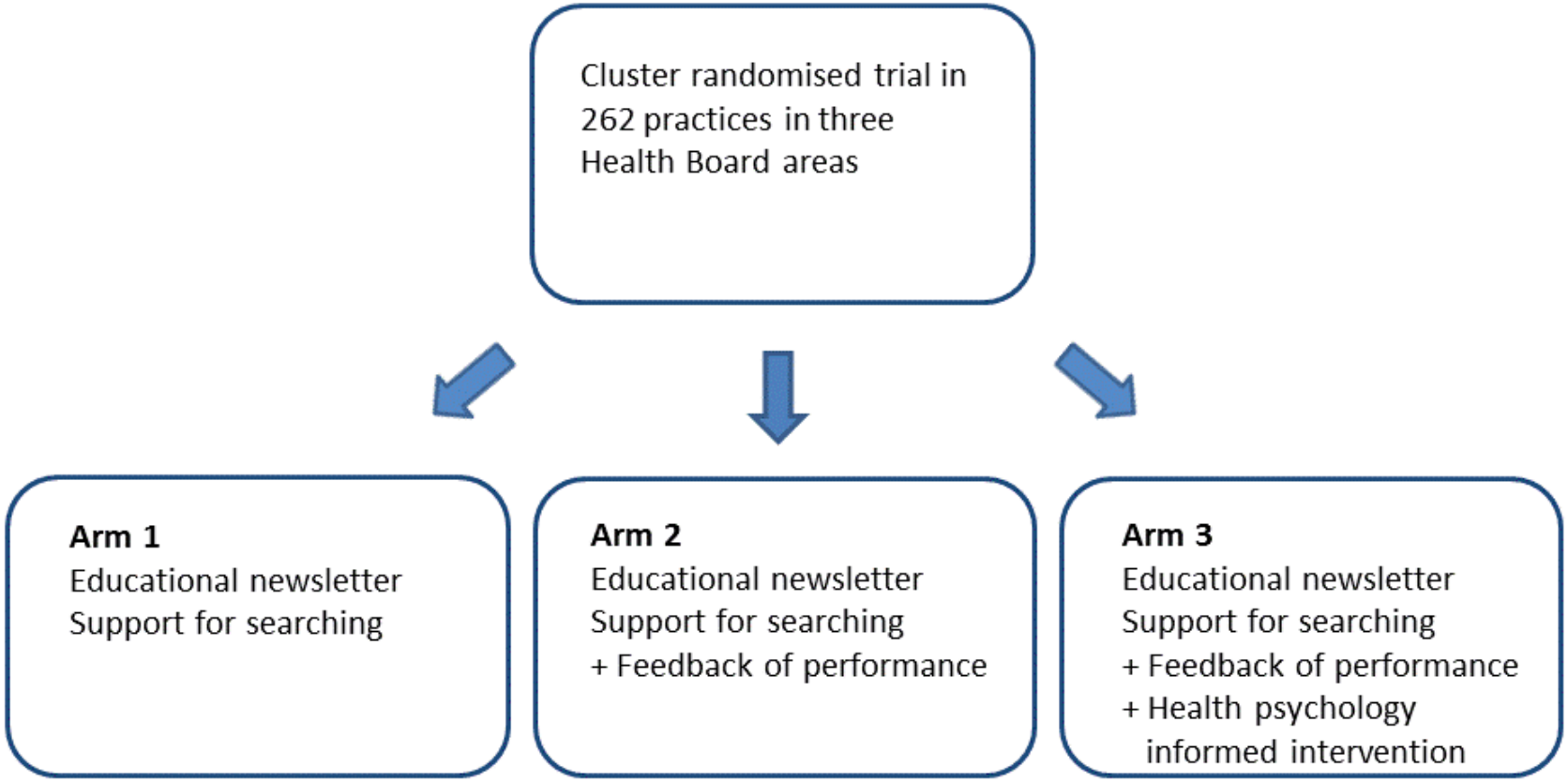
- Coalition of academic departments with an interest in primary care
  - General practice, nursing, pharmacy
  - Varying funding over time with varying focus
- Functions
  - Research co-ordination
  - Evaluation of primary care reform
  - Policy advocacy
  - Capacity building

http://www.sspc.ac.uk/

4. Research at scale in primary care

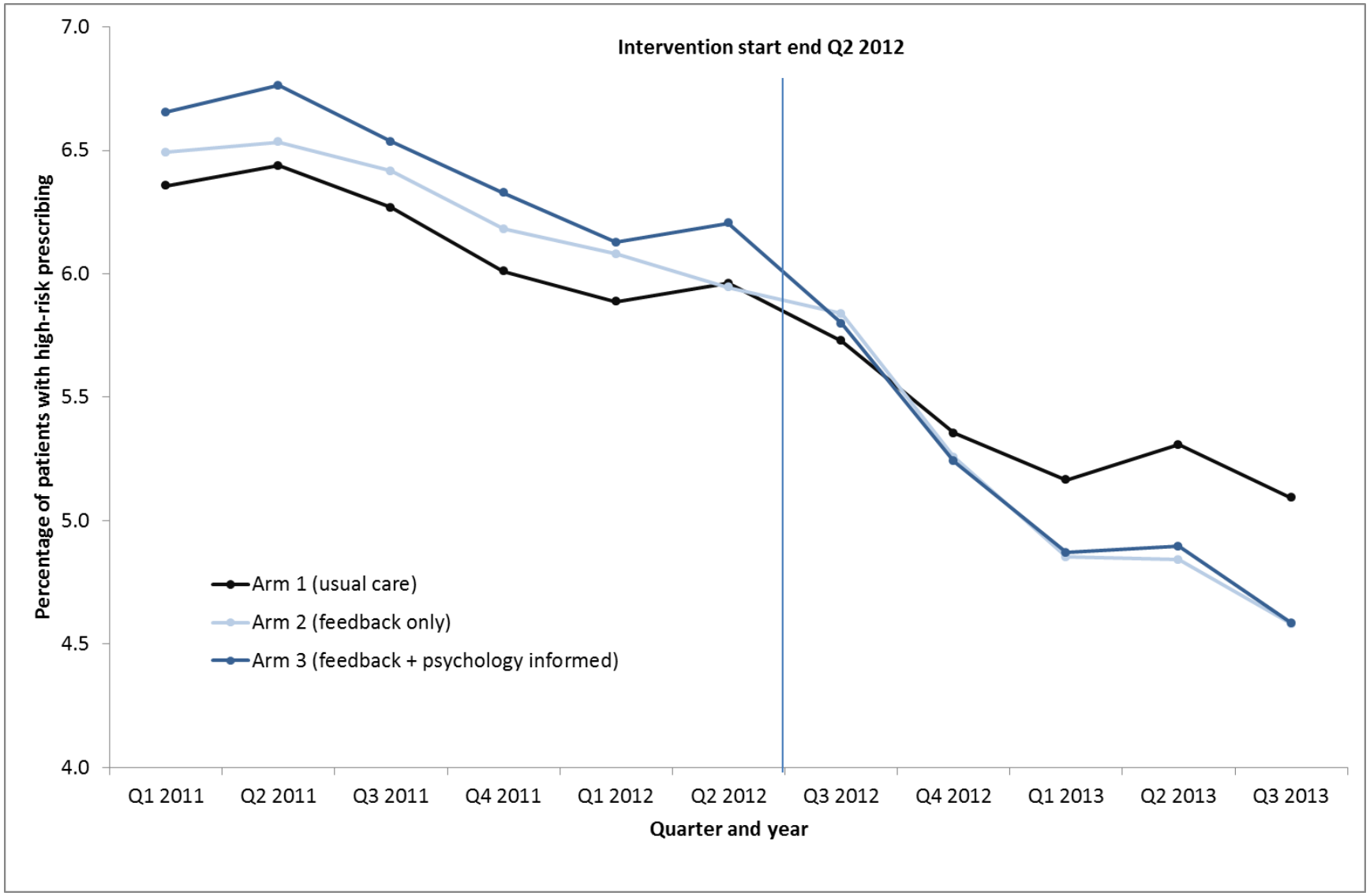
- Example of two large trials
  - EFIPPS https://www.bmj.com/content/354/bmj.i4079
  - DQIP https://www.nejm.org/doi/full/10.1056/NEJMsa1508955
- Cluster randomised trials of complex interventions targeting prescribing safety
  - Mixes of data/informatics, education, reorganisation of care, financial incentives
  - Done in collaboration with National Health Service

EFIPPS



- Primary outcome = composite of 6 measures

Guthrie B et al. BMJ 2016;354:i4079

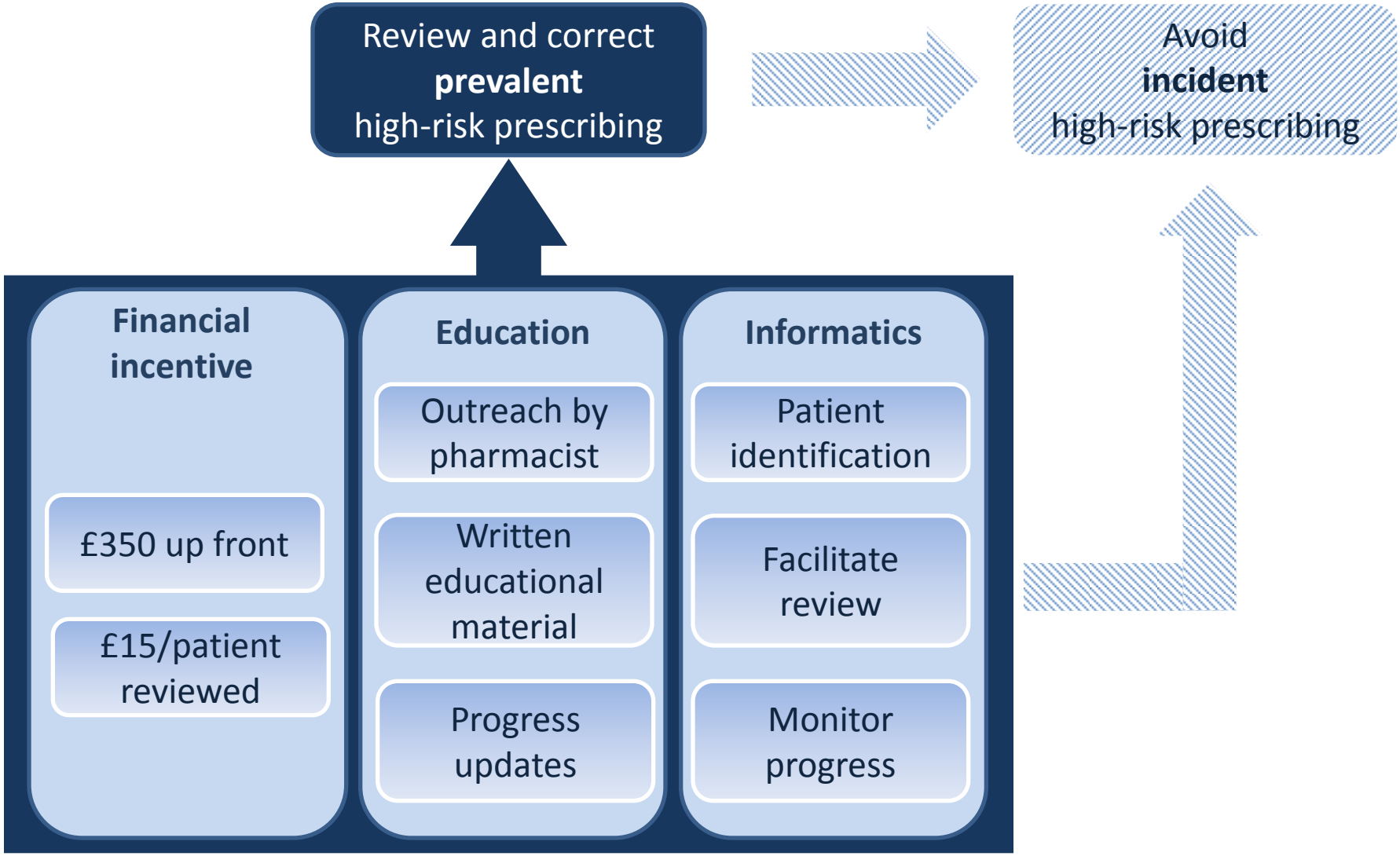


Guthrie B et al. BMJ 2016;354:i4079

EFIPPS

- Small but worthwhile effects from ‘normal business’ type intervention
- Feedback tool built with (and in) NHS, now being used for quarterly feedback of antibiotic data
- Practices still relatively passive in research terms
  - Not consented (trial of ‘normal business’)
  - Not aware they are involved in a study

Guthrie B et al. BMJ 2016;354:i4079

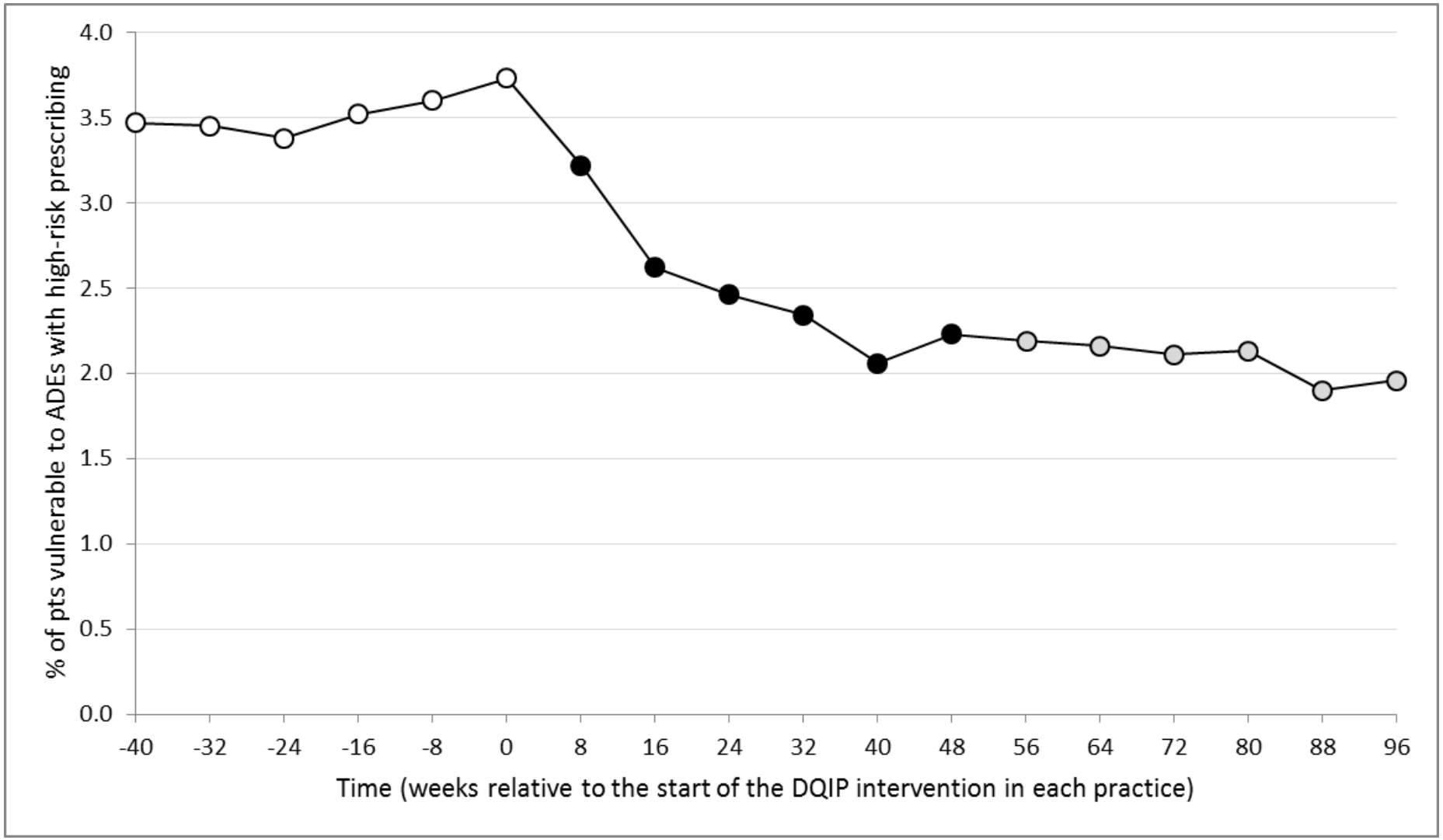


Dreischulte et al. New England Journal of Medicine 2016; 374: 1053-64.

DQIP trial outcomes

PO1: NSAID and peptic ulcer w/o gastroprotection	Gastrointestinal
PO2: NSAID and ≥75 years w/o gastroprotection	
PO3: NSAID and antiplatelet w/o gastroprotection	
PO4: Aspirin and clopidogrel w/o gastroprotection	
PO5: NSAID and warfarin w/o gastroprotection	
PO6: Antiplatelet and warfarin w/o gastroprotection	
PO7: NSAID and heart failure	Heart failure
PO8: NSAID and ACEI/ARB and diuretic	Renal
PO9: NSAID and CKD	

Dreischulte et al. New England Journal of Medicine 2016; 374: 1053-64.



Dreischulte et al. New England Journal of Medicine 2016; 374: 1053-64.

DQIP trial findings

- Primary outcome OR 0.63 (95% CI 0.57-0.68)
- ‘Ongoing’ high-risk prescribing OR 0.60 (95% CI 0.53-0.67)
- ‘New’ high-risk prescribing OR 0.77 (95% CI 0.68-0.87)
- Sustained 12 months after the intervention stopped

- GI bleeding admissions OR 0.66 (95% CI 0.51-0.86)
- Heart failure admissions OR 0.73 (95% CI 0.56-0.95)
- Acute kidney injury admissions OR 0.84 (95% CI 0.68-1.09)
- Unrelated ACSA OR 1.02 (95% CI 0.95-1.10)

Dreischulte et al. New England Journal of Medicine 2016; 374: 1053-64.

4. Research at scale - prescribing

- Key elements of research now in practice
  - Use of indicators for improvement
  - Robust evaluation of improvement activity
  - Facilitated by NHS collaboration in the research
- Refocus on ‘polypharmacy’
  - Much more difficult than focusing on indicators
  - Shared work to develop guidelines
  - Co-design of informatics interventions in two health boards, plan to implement across Scotland

http://www.polypharmacy.scot.nhs.uk/polypharmacy-guidance-medicines-review/

Scottish model (Network, SHARE, SSPC, research)

- Strengths (network in the broad sense)
  - Core part of the recruitment ecosystem
  - Efficient recruitment (many patients only in PC)
  - Innovation in recruitment (SHARE, SWATs)
  - Policy influence and evaluation
- Weaknesses
  - Complex environment/lots to juggle
  - Recruitment not that engaging of practices
  - Limited resource to pay practices to do research
  - Funding for SSPC is not secure/variable

Scottish model – collaborative research

- Strengths of academic-NHS collaborations working together in important areas
- "Middle-ground" research
  - Both sides bring complementary strengths
  - Aligns research and NHS priorities
  - Robust evaluation with a route to translation
- Complements more basic research
  - Epidemiology and pharmacoepidemiology, implementation science, behavioural science

Guthrie B et al . Developing middle-ground research to support primary care transformation. British Journal of General Practice 2017;67:498-9

Conclusion

- Networks are a complex ecosystem
  - No single best solution
  - Need active work to align elements and sustain
- Multiple collaborations
  - Academics-clinicians-managers-policymakers
- Requires funding
  - But deliver value if you get them right
  - 1/3 of patient recruitment, novel approaches to recruitment, high impact publications, translation into practice, justifies investment in capacity building


Thank you!
Questions?