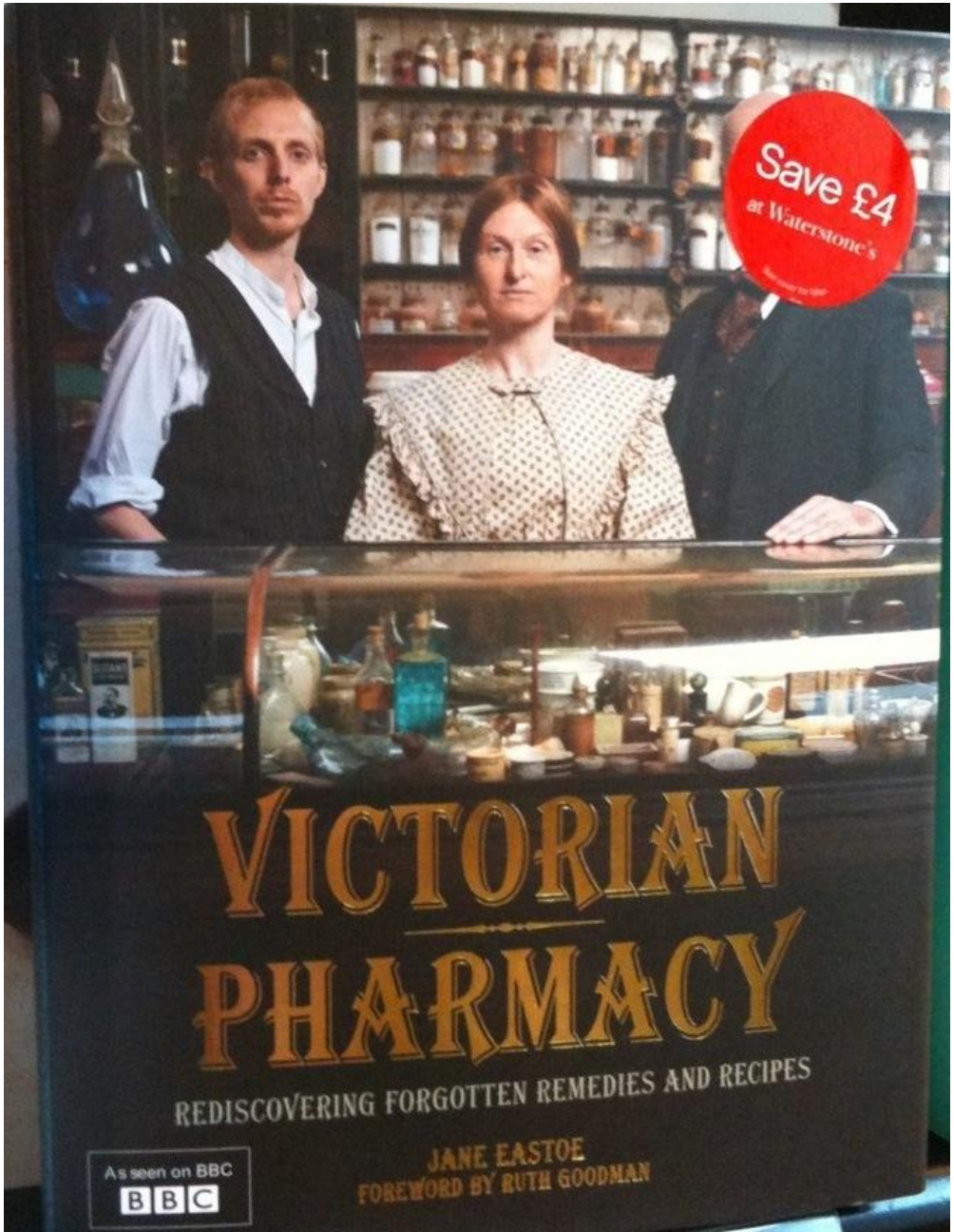
Medication errors and the pharmacist – an interprofessional vision

Nick Barber

Director of Research

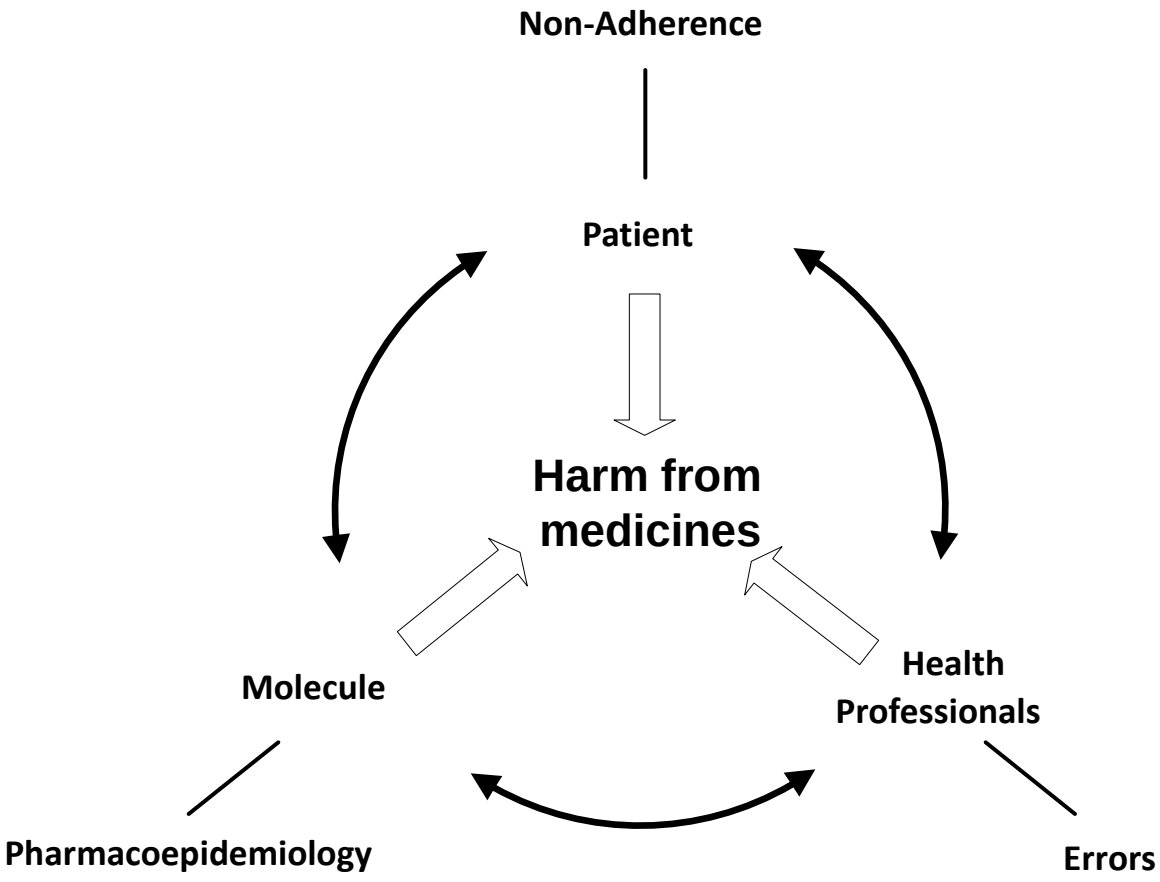
The Health Foundation

The Victorian Pharmacy (BBC 2)


Save £4
at Waterstone's
VICTORIAN
PHARMACY
REDISCOVERING FORGOTTEN REMEDIES AND RECIPES
As seen on BBC
BBC
JANE EASTOE
FOREWORD BY RUTH GOODMAN

Where it all started for pharmacists

- Pharmacy through history has been there to control poisons – it is about the safety of chemicals and their safe formulation
- Medication administration errors in hospitals in the 1960's stimulated revolutions in pharmacy
  - USA – unit dose
  - UK – drug chart, mostly stock drugs on ward, pharmacist checks clinically and for supply needs daily.


Non-Adherence
Patient
Harm from medicines
Molecule
Health Professionals
Pharmacoepidemiology
Errors

Medication errors and quality

- Quality
  - Safety
    - Medication errors
      - Administration errors
      - etc
  - Effectiveness
    - Medication errors
  - Patient experience
    - Medication errors
- When aiming to reduce medication errors let us remember that we are doing it to improve quality and keep whole quality in mind.

What is good quality prescribing?

- ‘Barber’s boxes’ BMJ 1995
- Balance four factors
  - Maximise effect
  - Respect patient choice
  - Minimise risk
  - Minimise cost

Examples of medication errors

- Prescribing
- Administration
- Nonadherence
- Dispensing
- Hospital admission and discharge

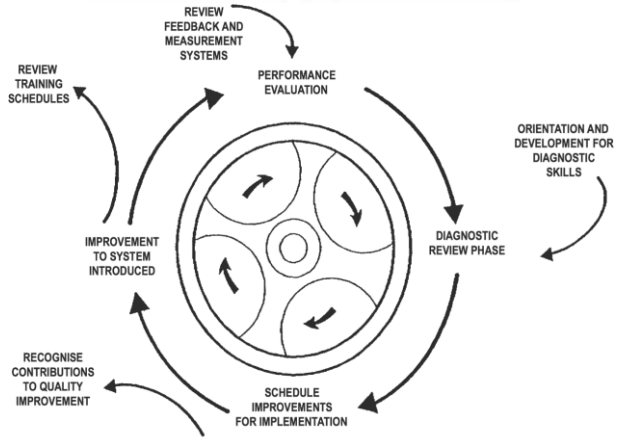
- 1 in 10-25 Rx
- 1 in 10-20 admins
- 1 in 2-3 Patients
- 1 in 30 OR <1% of items
- 1 in 3? Patients

Are pharmacists scraping burnt toast?

How do we improve?

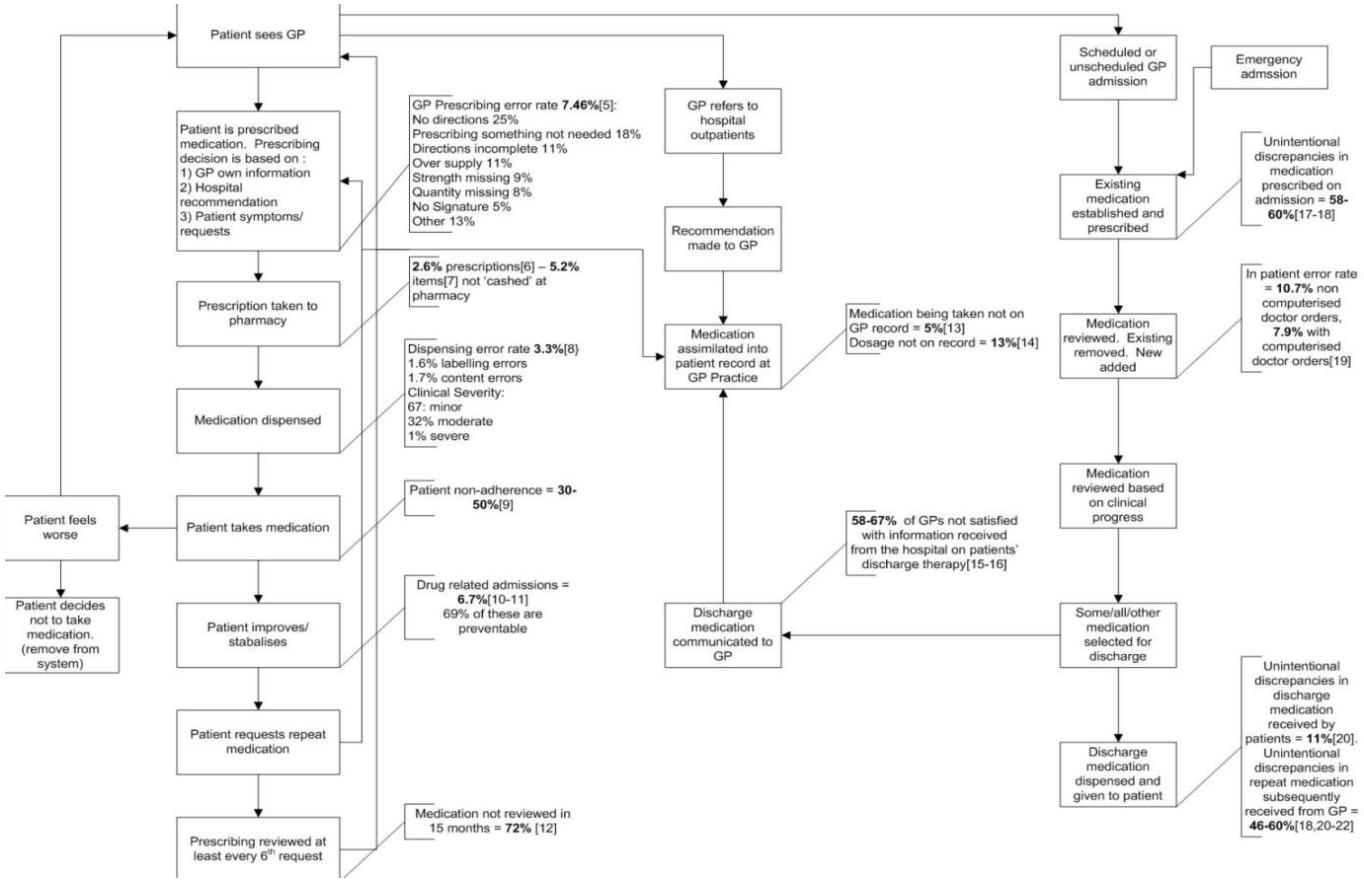
- Polish each cog

- Redesign the system

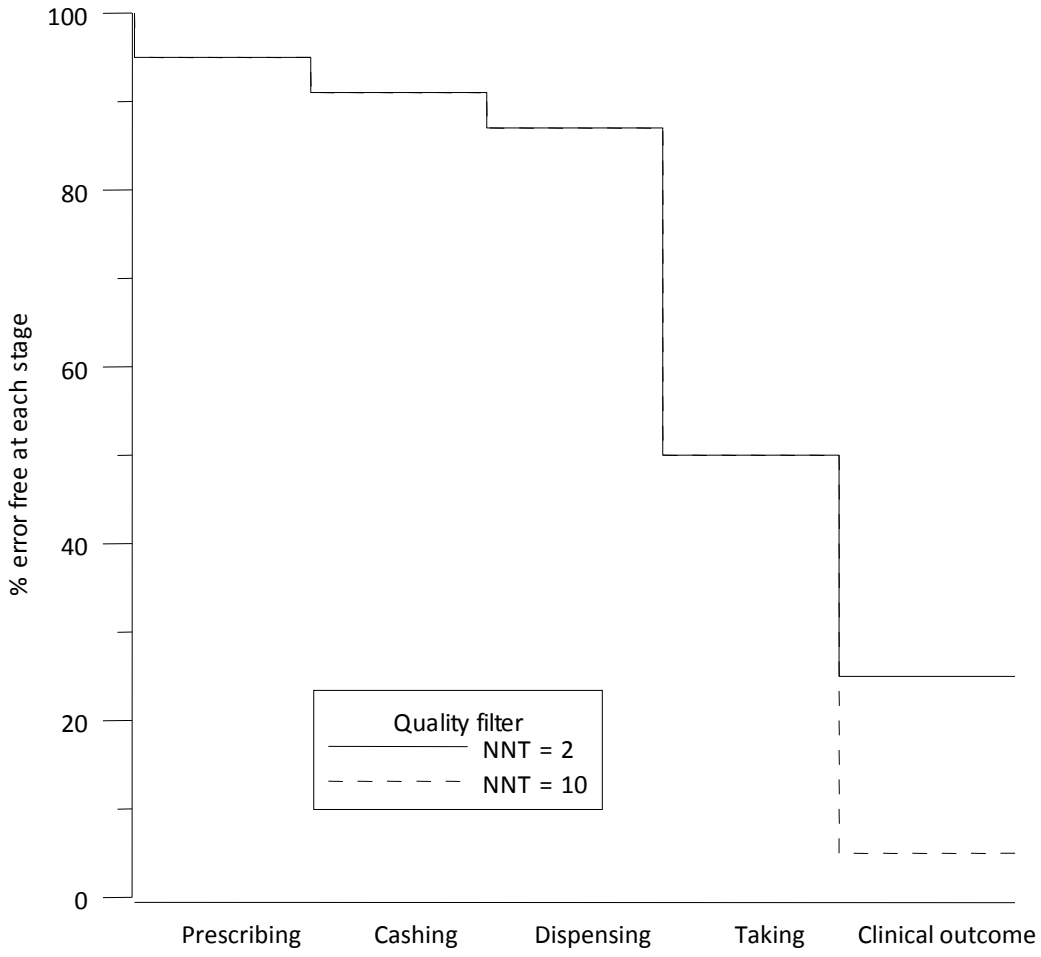


Source: Ballantyne (1990)

Map of medication errors in primary care Garfield et al BMC Medicine 2009



Reducing error in primary care



Garfield et al BMC Medicine 2009

A whole system look at error: Care homes (CHUMS Study)

- Care Home Use of Medicines Study
  - Barber et al. *Qual. Saf. Health Care* 2009; 18;341-346. (unlocked)
- 256 residents from 55 homes
- Observations in homes, interviews with home staff/GPs/Pharmacists

Errors

- 7 out of 10 residents were exposed to at least one error on any day
- Prevalence of errors (eg probability per drug prescribed or administered):
  - Prescribing 8.3% (39% of residents)
  - Administration 8.4% (22% residents)
  - Dispensing 9.8% (37% residents)
  - Monitoring 14.7% (32/218) in 27/147 residents

Harm

- Assessed each error on 1-10 validated scale
- Harm by type of error (mean, range)
  - Prescribing 2.6 (0.2-5.8)
  - Dispensing 2.0 (0.2-6.6)
  - Administration 2.1 (0.1-5.8)
  - Monitoring 3.7 (2.8-5.2)
- Harm not the only consequence – loss of quality of life and dignity too

System wide issues

No one owns the system

People are generally doing their best, interacting with perhaps one other in the system, with no idea of the errors that are occurring, nor how frequent they are.

Surely an example of how we need to work together inter-professionally

Prescribing is an act made under great uncertainty

- As the consequences are unknown there needs to be an iterative review process until the treatment is acceptable to the patient and likely to work.
- *After a competent time, if it takes no effect, use the second, the third, and so on. I have purposely set down (in most cases) several remedies for each disorder; ..... the medicine that cures one man, will not always cure another of the same distemper.*
  - Primitive Physick, John Wesley 1747

General Practice as 19C theatre

- Current model similar to Victorian ‘actor manager’
- Time to move to 21C model: become a Director of specialists
- All work to the same plan, but bring in different expertise and world views to improve technical knowledge/delivery and enrich understanding.

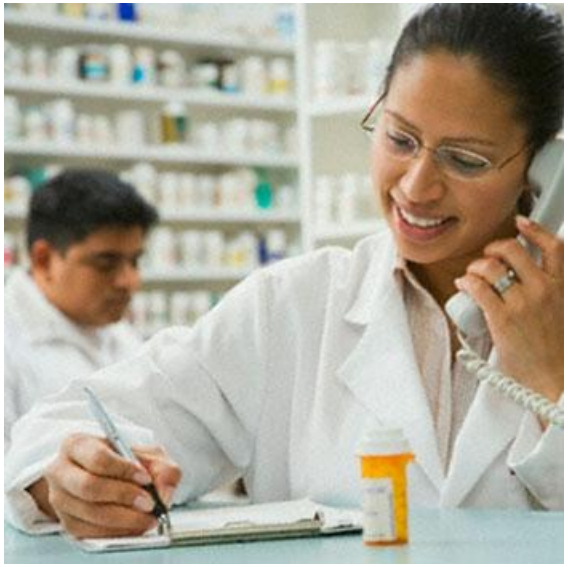
How to improve the medication system

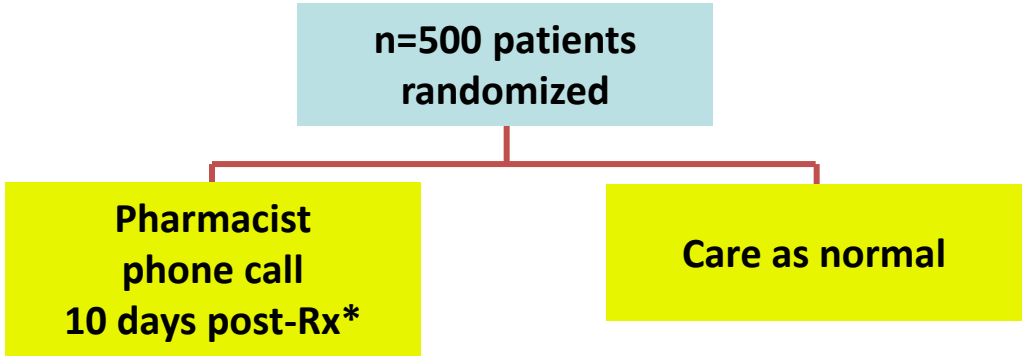
- Get the prescription *rightish* first time
- Introduce feedback loops to deal with the unknowable and the changing eg
  - Review clinical condition
  - Review circumstances (home/family/job etc)
  - Review medicine use problems and adherence
- Make patient experience central in these processes

Reducing error/improving quality

- 272 patients treated for a new chronic medical condition. 10 days after receiving the prescription:
  - 66% said they had problems
  - 32% were non-adherent
    - Barber, Clifford, Parsons, Horne, Darracott. Quality and Safety in Health Care, 2004
  - Half non adherence intentional, half unintentional (error)

Telephone-based advice by pharmacist improves adherence



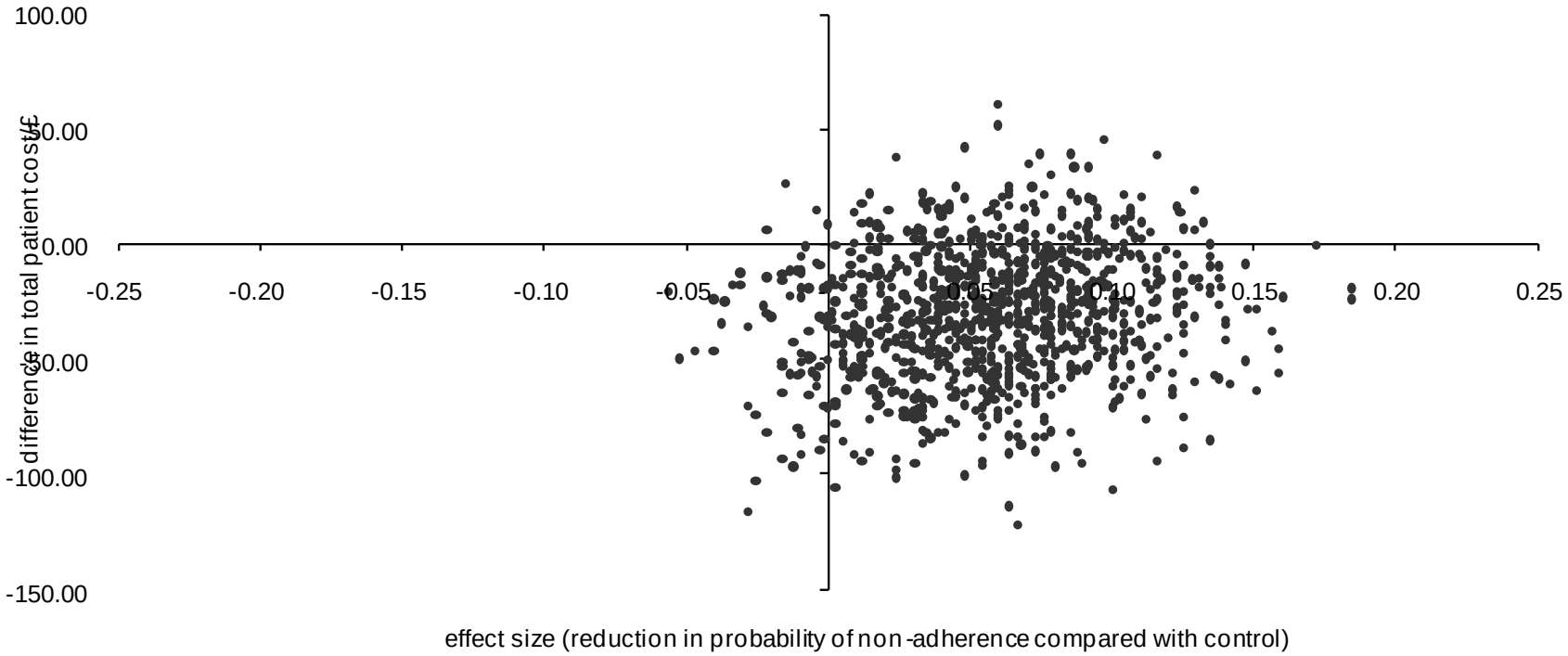


- 12-minute call from pharmacist resulted in significantly:
  - More positive beliefs about medicines (necessity–concerns)
  - Higher adherence
  - Fewer patients reporting medication-related problems

- Pharmacist follow-up from centralised telephone service 10 days after new prescription from community pharmacy
- Intervention was cost-effective[2] and liked by patients

1. Clifford S, Barber N, Elliott R, Hartley E and Horne R (2006). *Pharm World Sci* (2006) 28: 165-70
2. Elliott R, Barber, N, Clifford C, Horne R & Hartley E (2008) *Pharm World Sci* (2008) 30: 17-23

The intervention is cost effective



Elliott et al *PWS* 2008

Inter-professional approach to medication errors

- Lets share an understanding of
  - Our goals: What ‘good’ looks like with respect to medicines and their use
  - The systems to deliver ‘good’
- Lets celebrate and gain energy from our different world views