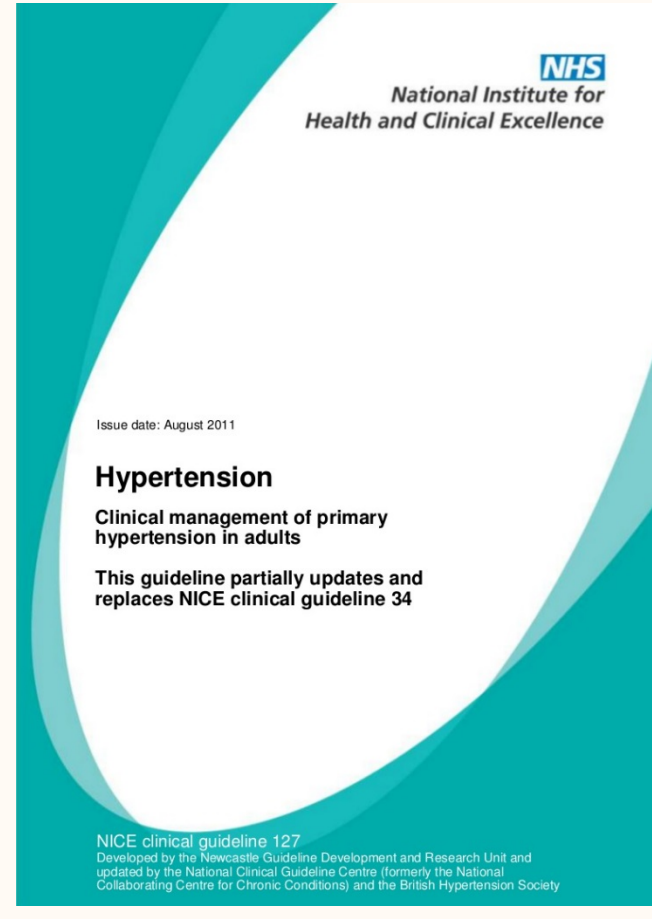


# Evaluating Diuretics in Usual Care (EVIDENCE) - piloting a novel methodology for comparative effectiveness research in hypertension



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## Background

- The randomisation of prescribing policies has the potential to answer important clinical questions in the absence of head-to-head comparative effectiveness data
- 2011 NICE hypertension guidelines in the UK recommended:
  - ❖ *indapamide* or *chlortalidone* (thiazide-like diuretics) should be used in preference to
  - ❖ *bendroflumethiazide* (a thiazide diuretic) for the management of hypertension
- This recommendation has been criticised for lacking evidence
- It has not been fully implemented:
  - ❖ bendroflumethiazide remains the most widely used thiazide or thiazide-like diuretic across Scotland
- The EVIDENCE study:
  - ❖ Evaluating Diuretics in Normal Care
  - ❖ **will demonstrate whether cluster randomising prescribing policies can be used to assess the comparative effectiveness of prescribed medicines**
  - ❖ compares *bendroflumethiazide* & *indapamide*
  - ❖ is embedded in the routine practice of NHS Scotland
  - ❖ will be analysed using anonymised, routinely collected data

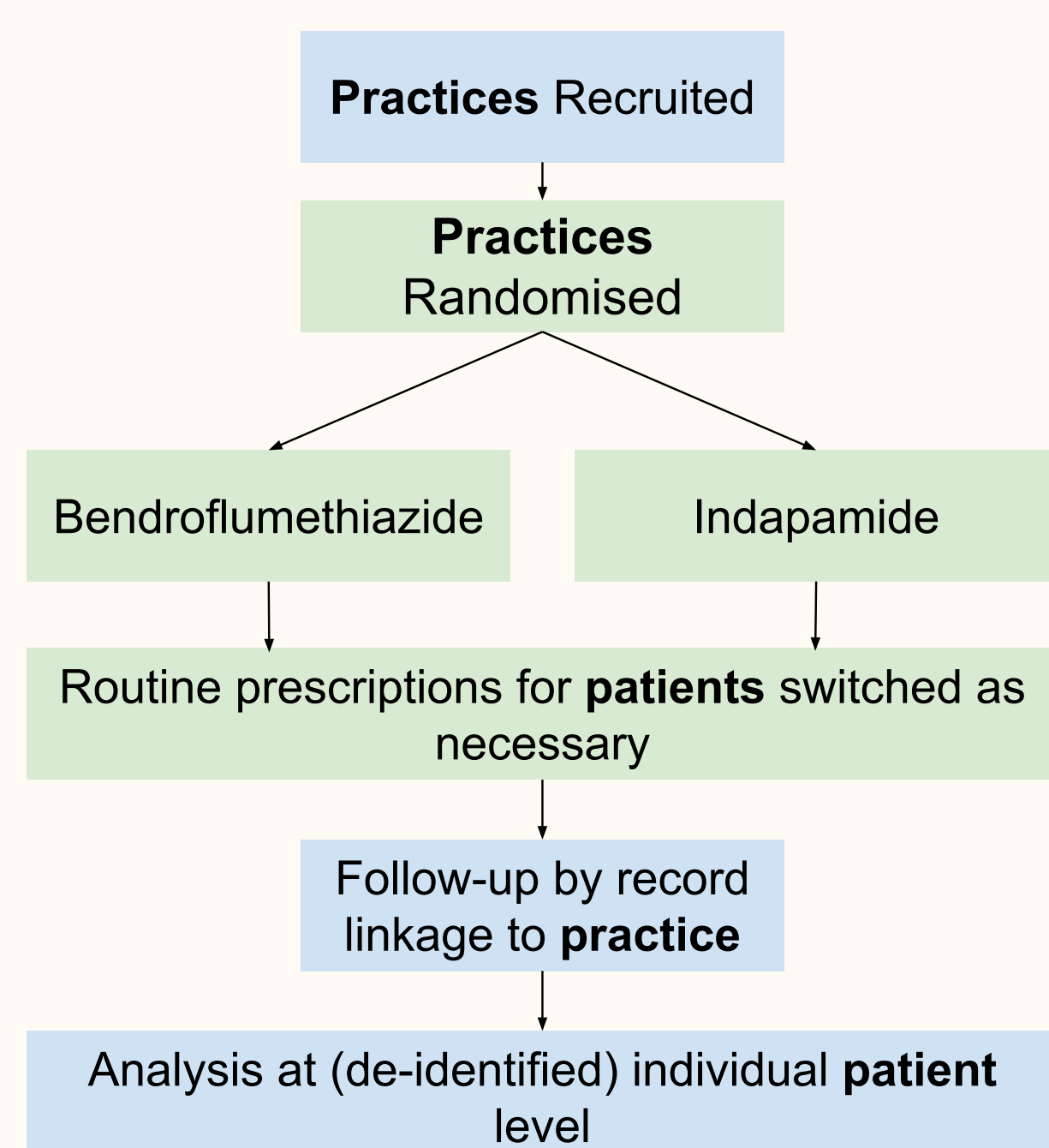


<http://memoresearch.com/evidence>

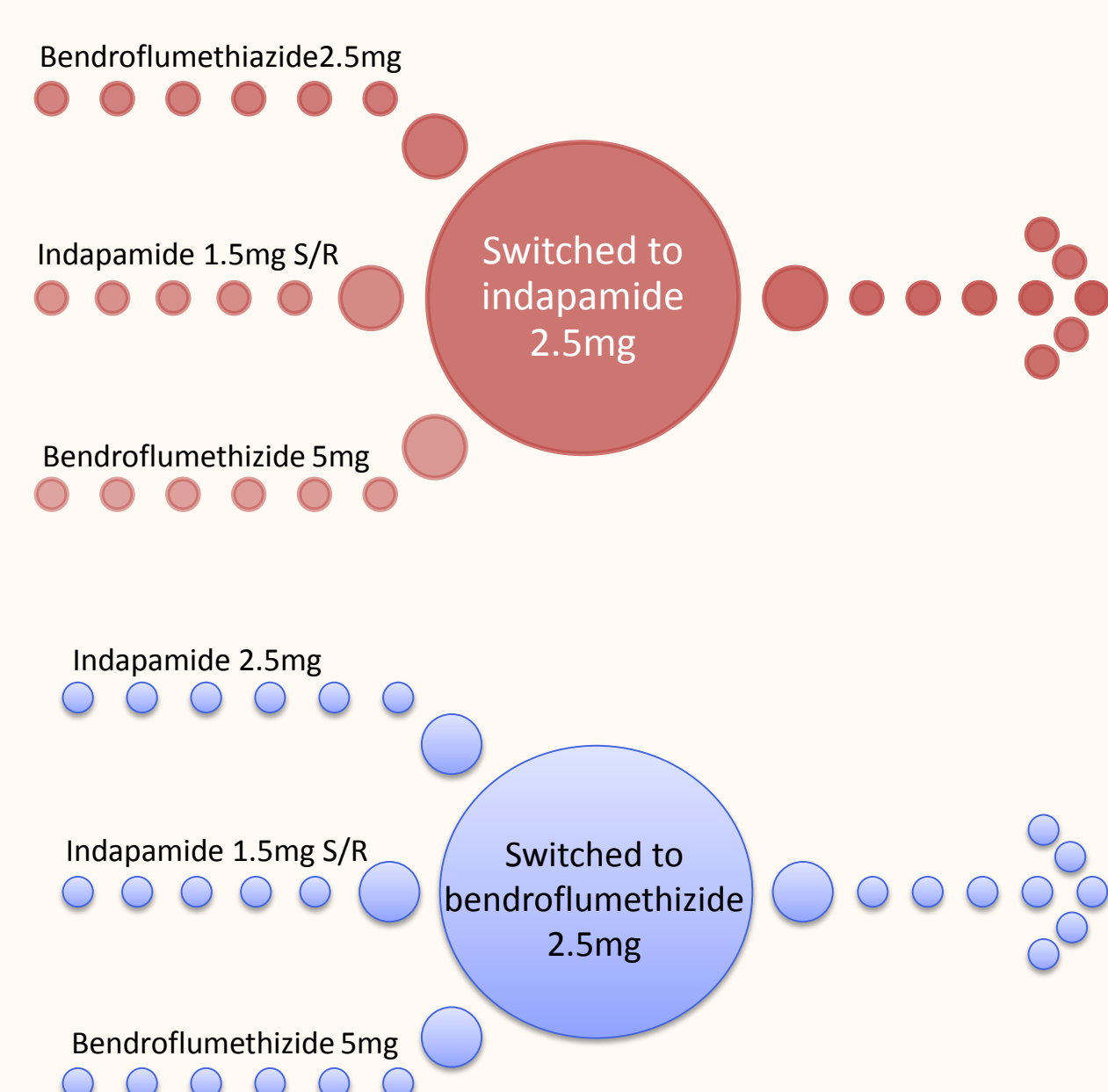
## Results

- The EVIDENCE study protocol has been approved by a Research Ethics Committee and the initial pilot phase has commenced in Tayside, Scotland
- Initial experience suggests that implementation of the intervention can be delivered at a practice level
- The feasibility of a GP-practice level drug switch is confirmed
- The numbers of patients prescribed study medications before and after the policy implementation along with measures of adherence to applied switching and reasons for non-adherence will be analysed
- It is likely that cardiovascular events in this pilot phase will be few, but results will demonstrate the utility of routinely collected data
- To date (August 2018)
  - ❖ 11 practices have had their formularies randomised
    - 4 Indapamide, 7 bendroflumethiazide
    - 2740 patients
    - weighted by practice size
  - ❖ 933 patients have had drug switches implemented
  - ❖ 1,966 patients “randomised” to *bendroflumethiazide*
  - ❖ 727 patients “randomised” to *indapamide*

Flowchart showing study design



Where a patient is not prescribed the recommended thiazide/thiazide-like medication switches will be made as follows:



## Methods

- EVIDENCE uses a cluster randomised, parallel group design to evaluate the NICE recommendation
- Randomisation is at GP practice level
- Practices are allocated to a prescribing policy of:
  - ❖ *bendroflumethiazide* or *indapamide*
  - ❖ as first-line diuretic in hypertension
- Where necessary routine prescriptions are switched
  - ❖ to comply with the policy
  - ❖ using established “drug switch” mechanisms
    - typically used in the NHS for cost saving
- The effectiveness and impact of the intervention will be assessed using routinely collected data
  - ❖ record linkage of:
    - prescribing
    - outcomes data (hospitalisation & mortality)

ROUTINE POLICY CHANGE IN GP PRACTICES

FOLLOW-UP USING ROUTINELY COLLECTED DATA



## Conclusions

- EVIDENCE will test a novel methodology for conducting comparative effectiveness research efficiently within the NHS in Scotland
- It is anticipated that this methodology will be applicable to the assessment of many diverse medications and interventions in current routine use where there is insufficient evidence to guide clinical practice

## Acronyms

EVIDENCE The Evaluating Diuretics in Normal Care  
GP General Practitioner (family doctor)  
NICE National Institute for Health and Care Excellence  
ISD Information Services Division (of NHS Scotland)

## Conflict of Interest Statement

Author Disclosure Information:  
The authors have no relevant conflicts of interest to declare