

Adherence in Children with Problematic Severe Asthma

Pearce, CP^{1,2}, Fleming, L.^{1,3}, Bush, A^{1,3} and Horne, R^{1,2}

¹Asthma UK Centre for Applied Research, University of Edinburgh, EH8 9AG. ²UCL School of Pharmacy, Centre for Behavioural Medicine, BMA House, London, WC1H 9JP. ³Imperial College London, Paediatric Respiratory Medicine, Royal Brompton Hospital and National Heart and Lung Institute, London.

The 2nd Annual Scientific Meeting 2015, The Midland Hotel, Manchester, November 10th-11th

Background:

- Problematic severe asthma (PSA) is defined as poorly controlled asthma despite high levels of prescribed medications (Bush et al., 2008)
- The prevalence in childhood is thought to be between 5-10% of asthmatic children; however the amount of resources these patients consume is disproportionately high
- PSA can be split into Difficult Asthma (DA) and Severe Therapy Resistant Asthma (STRA)
- DA is amenable to improvement by addressing relevant adherence, allergy and psychosocial issues.
- At least 50% of paediatric patients with PSA are classified as DA; with non-adherence being an issue for around half of these patients (Bracken et al., 2009).



Aims:

1. To **identify the modifiable causes of non-adherence** in children with PSA to inform an adherence intervention.
2. To use the Medical Research Council (MRC) (Craig et al., 2008) guidance to develop an **intervention for children with DA** by tailoring support to overcome the **perceptual** and **practical barriers to adhering to treatments**, as recommended in the NICE Guidelines (Nunes et al., 2009).

Methods:

Study 1: Literature reviews

Literature Review: The known reasons for non-adherence in children with PSA

Systematic Review: Effective components of previous asthma adherence interventions

Study 2: SmartInhaler Data

Secondary analysis will be conducted, using **electronic monitoring (SmartInhaler)** collected in over 100 children with asthma, to investigate **patterns of non-adherence** to inform the intervention.

Study 3: A Mixed-Methods Cross-Sectional Study

This study will use validated **questionnaires** and qualitative **interviews** with children and their parents to **identify potentially modifiable** factors associated with **non-adherence**.

Study 4: Intervention Development Group (IDG)

A group consisting of **researchers, clinicians and patients** will be established. The IDG will use the PhD results to **develop the intervention manual**.

Study 5: Feasibility and Acceptability

Finally, a feasibility and acceptability pilot study of the intervention will be conducted.

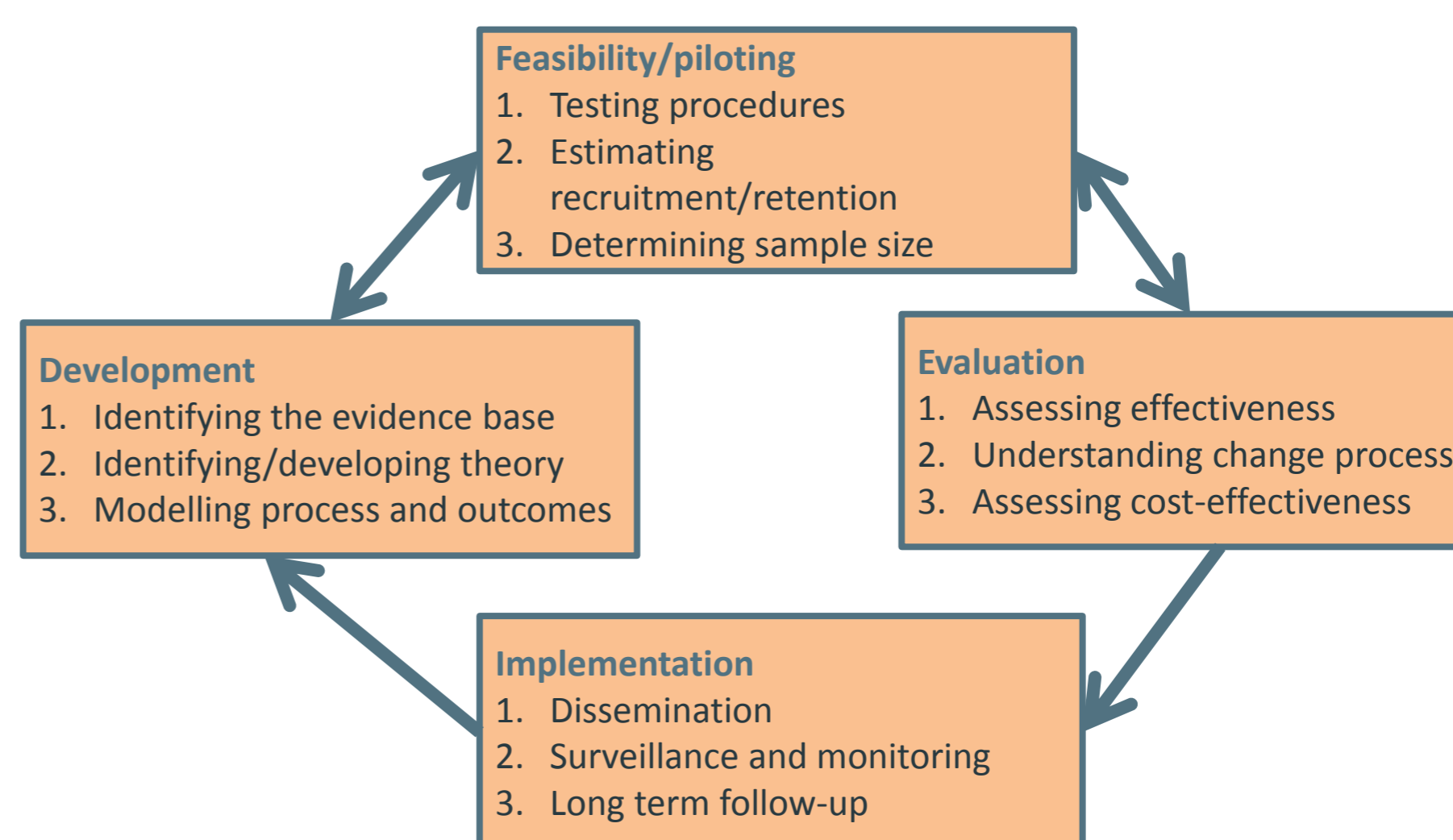


Figure 1: Key stages from the MRC guidance for developing complex interventions

Potential Implications:

This PhD addresses the crucial question of non-adherence in children with PSA.

It is intended that the intervention developed will lead to a definitive multi-site Randomised Control Trial and roll- out within the wider NHS.

References

- Bush A, Hedlin G, Carlsen KH, *et al.* Severe childhood asthma: a common international approach? *Lancet* 2008; 372:1019–21.
- Bracken, M., Fleming, L., Hall, P., Van Stiphout, N., Bossley, C., Biggart, E., ... & Bush, A. (2009). The importance of nurse-led home visits in the assessment of children with problematic asthma. *Archives of disease in childhood*, 94(10), 780-784.
- Craig, P., Dieppe, P., Macintyre, S., Michie, S., Nazareth, I., & Petticrew, M. (2008). Developing and evaluating complex interventions: the new Medical Research Council guidance. *British Medical Journal*, 337.
- Nunes, V., Neilson, J., O'Flynn, N., Calvert, N., Kuntze, S., Smithson, H., ... & Steel, J. (2009). Medicines adherence: involving patients in decisions about prescribed medicines and supporting adherence. NICE: National Institute for Health and Clinical Excellence, London, UK.

Contact: Christina.pearce.15@ucl.ac.uk

**AUKCAR Programme 2-
Maximise treatment benefits**

This work is funded by Asthma UK as part of the Asthma UK Centre for Applied Research [AUK-AC-2012-01].

**Asthma UK Centre
for Applied Research**

