Outputs We provided *Pseudomonas* eradication therapy (previously published – White *et al*. 2012) and have piloted a home intravenous antibiotic service providing treatment for exacerbations which saved 497 hospital bed days in 2013. Twenty one patients received 37 home intravenous courses; of these, 17 courses were self-administered. Overall we reduced annual bronchiectasis admissions by 30% when comparing with 2011–12, equivalent to 23 fewer admissions over the year.

We have developed an online database and clinical record tool which can be shared and updated by hospital and community alike. As well as allowing rapid communication, the database shows trend analysis, logging of microbiology/antibiotic use and is a valuable audit and research resource.

We held a recent workshop comprising CCG, community partners and hospital stakeholders. We developed a new dynamic care pathway showing a combined "community/hospital hub" which will work with partners in primary and secondary care (Figure 1). We propose that such shared care working represents a useful model for broad application elsewhere.

Getting to grips with paediatric lung disease

P96 A NEW INTERACTIVE GAME DEVICE MAY IMPROVE COMPLIANCE WITH SPACER DEVICES IN VERY YOUNG CHILDREN

[1]CS Murray, [2]S Shakir, [1]T Aslam. *[1]University of Manchester and Central Manchester University Hospitals NHS Foundation Trust , Manchester, UK; [2]Penine Acute Hospitals NHS Trust, Manchester, UK*

10.1136/thoraxjnl-2014-206260.237

Background The use of spacers in young children is not always easy and can result in distressed children and parents. We aimed to develop and assess an interactive electronic game to improve ease of use and potentially compliance with inhalers in young children.

Methods The Respiratory Aid For Inhalers (RAFIhaler) consists of an electronic sensor adjacent to the outflow valve of a spacer mask, providing input every 0.1 seconds to a custom designed android application on a smartphone that is mounted, in full view of the child, on top of the spacer. The application displays on-screen characters designed to respond to correct breathing as part of a game storyline, for example by blowing away characters unfriendly to the hero (RAFI) or blowing his boat across a river. The RAFIhaler was developed through iterative testing and multiple redesigns of hardware and software until a satisfactory final module was completed.

This module was tested on 14 children admitted to hospital with acute wheeze by an independent researcher, along with a survey to assess the child's reaction and the parent and child's perceived benefit from RAFIhaler. Open-ended questions allowed further feedback.

Results Fourteen children (2–7 yrs, 7M:7F) participated; 13 children and 14 parents completed the survey. All children stated they enjoyed the activity. Eleven children responded further; 10 (91%) felt the RAFIhaler helped them taking medication. All but one parent felt that RAFIhaler helped their child use the spacer. Of the thirteen parents who felt the RAFIhaler helped, three felt their child previously really struggled with the inhaler. Some benefits of RAFIhaler voiced by parents were: enjoyable (3); good distraction (3); made child calmer (2); helped in breathing/inhalation technique (3); would be useful at home (1). One parent felt RAFIhaler was not of benefit as they felt their child already took their inhaler well.

Conclusions Children universally found using the RAFIhaler with their spacer enjoyable. The majority of parents felt the RAFIhaler helped their child take their medicine. The RAFIhaler may be of use both in encouraging young children to use their inhaler/spacer, and in combatting anxiety and stress associated with their use.

P97 DIVERGING TRENDS IN PREVALENCES OF ASTHMA, ECZEMA AND HAYFEVER IN CHILDREN AGED 9–12 YEARS

M Barnish, N Tagiyeva, L Aucott, G Devereux, S Turner. *University of Aberdeen, Aberdeen, UK*

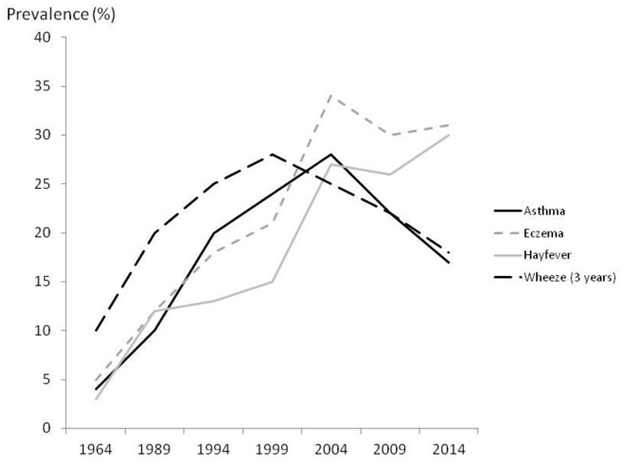
10.1136/thoraxjnl-2014-206260.238

Introduction The prevalences of childhood asthma, eczema and hayfever have been recorded in our local population since 1964. The prevalence of a lifetime history of asthma rose from 4% in 1964 to a peak of 28% in 2004 before falling back to 22% in 2009. Wheeze in the past 12 months fell from 19% in 2004 to 16% in 2009. Lifetime prevalences of eczema and hay fever were approximately 5% in 1964 and had risen to 30% and 25% in 2004 and 2009. Here we present the results of our 2014 survey where we tested the hypothesis that eczema and hayfever prevalence will have followed the earlier trend for asthma and fallen since 2009.

Methods Children aged 9 to 12 years attending local primary schools were eligible. The questionnaire used in previous surveys was distributed to children by teaching staff, completed by parents at home and returned directly to the researchers.

Results Forty-seven schools were invited to participate of whom 41 took part. There were 4175 questionnaires distributed and 1378 returned (33%). The mean (SD) age was 10.9 (1.1) and 50% were boys. A lifetime history of asthma was reported in 17%. Lifetime prevalences of eczema and hay fever were 31% and 30% respectively. Wheeze in the past 12 months was reported in 13%.

Conclusions The proportion of children with a history of ever having had asthma and of recent wheeze continues to fall in our population at a time when the prevalences of eczema and



Abstract P97 Figure 1