

cepts explanatory terms less than 16 characters long, words were shortened, e.g. inhaler became "inhlr", (2) All systems are limited by what Read code system can offer, including linking numbers to codes, (3) Torex has two systems; the older version struggled to accommodate much of the information we need to extract and we have had to abandon its use in the short term. MSD Informatics can provide templates for Premier Synergy, (4) GPASS has two systems of templates already available, one from a commercial company MSD Informatics and one from the Scottish Office, SPICE. Introducing a broader template as we require is challenging for many GPs running the SPICE template. **Conclusions:** Chronic disease management is becoming increasingly standardised and it seems sensible to tie that process in with better management and better data extraction processes. Increasingly with the changes both in structure and the increasing demand for high quality data (a pre-requisite of the new GP contract), uniform, clinically relevant and high quality data will be needed for all computer systems. Although there are no perfect systems we have shown that it can be done, at least with asthma.

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#### ABS017: ASTHMA WATCH—A PUBLIC RELATIONS EXERCISE TO MANAGE ASTHMA

I. Charlton, P. Lewis, Ken Langbridge Sue Hull, Maureen Samsley, Sue Sullivan

Central Coast Division of General Practice, University of Newcastle, 7 Tilba Street, Kincumber, NSW 2251, Australia  
Tel.: +61-2-43-692444; fax: 61243631664. *E-mail address:* whizz@ozemail.com.au

**Study background:** Asthma Watch, commenced in 1999, was a locally based public relations exercise born from the need to encourage patients to "go to their doctor, have their asthma properly assessed and get a written action plan". **Methods:** During the period 1996–2004 data was collected on the use of spirometry and self management plans, medication prescribed and hospital admissions in the Central Coast Division of General Practice. This was compared to similar data from three other Divisions of General practice. **Results:** During the period of study there was a change in the prescribing habits of GPs in the Division with a significant fall in the use of reliever medications. The Central Coast has one of the highest use of self management plans in Australia and hospital admissions have fallen by 10% despite a substantial increase in the population. **Conclusions:** Asthma Watch has been associated with changes in behaviour of both patients and doctors. Recent developments using pollen and pollution counts together with an "Asthma Index" are aimed at keeping asthma and its management in the public eye and maintaining the momentum generated by Asthma Watch.

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#### ABS018: ASTHMA THREE PLUS-PROGRESS TO DATE

I. Charlton, P. Lewis, Ken Langbridge Sue Hull, Maureen Samsley, Sue Sullivan

Central Coast Division of General Practice, University of Newcastle, 7 Tilba Street, Kincumber, NSW 2251, Australia  
Tel.: +61-2-43-692444; fax: +61243631664.  
*E-mail address:* whizz@ozemail.com.au

**Introduction:** The Asthma Three Plus program is a \$48 million program launched by the Australian government in November 2001. It is perhaps the most ambitious general practice initia-

tive for asthma care ever attempted. Three Plus encourages patients to visit their local doctor on at least three occasions over a 4 month period. During that time the patient has their asthma assessed (preferably with spirometry), undertakes an education program, has their medication and inhaler technique reviewed and receives a written action plan. **Methods:** The Health Insurance Commission (<http://www.hic.gov.au/statistics/>) provides information on the number of Asthma Three Plus programs completed, asthma medication prescribed and spirometry undertaken. This information is available for each of the 119 Divisions of General Practice throughout Australia. **Results:** An initial enthusiasm has been evident in the uptake of the Asthma Three Plus program. More recently the uptake has declined. This may relate to seasonal factors or "GP fatigue". Nationally GPs are only undertaking 2–3 Three Plus programs per GP per year. An average GP would be expected to have 40 patients suitable for the program. It is also evident that some regions have been more enthusiastic in their use of Three Plus and spirometry than others. Since the introduction of Three Plus there has been a decline in the use of short acting beta agonists and an increase in the use of combination therapies incorporating long acting beta agonists. **Conclusions:** Asthma Three Plus remains an important initiative and following its launch there now needs to be a concerted program to find ways of making it more widely available. Some Divisions have been more successful than others in this process and their strategies need to be more widely disseminated. Although open to controversy, a possible method may be the use of patient incentives to encourage follow-up attendance.

#### ABS019: HIGH SATISFACTION WITH ATTRIBUTES OF HANDIHALER® DRY POWDER INHALATION SYSTEM AS RATED BY PATIENTS WITH COPD

P. Frith<sup>a</sup>, N. Berend<sup>b</sup>, B.U. Monz<sup>c</sup>, T.J. Witek<sup>c</sup>

<sup>a</sup>Repatriation General Hospital & Flinders Medical Centre, Adelaide, Australia; <sup>b</sup>Woolcock Institute, Australia; <sup>c</sup>Boehringer Ingelheim GmbH, Germany  
Tel.: +61-8-8275-1738; fax: +61-8-8277-6890. *E-mail address:* peter.frith@rgh.sa.gov.au

**Purpose:** Optimal benefits of inhaled drug therapy are realised when the inhaler device has attributes that are meaningful to the patient and when the patient is satisfied with how well the device provides these attributes. **Methods:** In Australia, a telephone interview was conducted among 755 patients with stable COPD who were prescribed the anticholinergic agent tiotropium, the first once-daily inhaled bronchodilator, which is delivered via the breath-activated HandiHaler®. Patients were asked about the importance (seven-point scale) of pre-specified handling attributes that they may find important in an inhaler device (11 items) as well as how satisfied they were with the HandiHaler for each of these attributes following 6 weeks of use. **Results:** The top five ranked attributes that were regarded as important or very important were: reliability (98%), ease of use (97%), ease of inhaling (97%), ease of holding during use (94%) and ease of following the instructions (92%). For these five most important attributes, the patients' satisfaction (satisfied or very satisfied) with the HandiHaler ranged from 87 to 98%. Patients' overall satisfaction with the HandiHaler was 90%. Also, the overall satisfaction with the HandiHaler did not differ for important subgroups of patients, including those having hand-joint problems (89% satisfied), those more than 70 years of age (91% satisfied) and those with fewer years (did not complete high school) of education (88% satisfied). **Conclusion:** Preliminary experience with the HandiHaler among COPD patients demonstrates high satisfaction for key delivery device attributes.

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**ABS043: USEFULNESS OF A RECORDS AUDIT TO ASSESS DETAILS OF IN-PATIENT MANAGEMENT OF ASTHMATICS ADMITTED TO A RURAL REGIONAL HOSPITAL**

M. Stockbridge<sup>a</sup>, D. Playford<sup>b</sup>, J. Huggins<sup>a</sup>, J. Peters<sup>a</sup>

<sup>a</sup>Geraldton Regional Health Service, Geraldton, WA, USA; <sup>b</sup>Combined Universities Centre for Rural Health, PO Box 109 Geraldton, WA 6531, USA

Tel.: +1-8-9956-0200; fax: +1-8-9964-2096. *E-mail address:* dplayford@cucrh.uwa.edu.au

*Purpose:* One expedient way to manage respiratory conditions in rural and remote locations is to make use of hospital inpatient time. This study assesses how the continuum of care for rural asthmatic in-patients is managed while the person is in hospital. *Method:* the project involved a 6-month audit of in-patient records for all admissions due to asthma. ICD codes inclusive of J45 and 46 were used to identify these patients. Record of medications, in-hospital education, and linkage with services outside the hospital were charted in Microsoft excel. *Results:* Asthma was the principle diagnosis for 134 admissions during the year of study, 64 of which were in the period of study. The great majority of these admissions were for mild to moderate asthma: the ICD code J45, which excludes acute severe asthma, comprised 93% of records. These showed that, during their median 3-day stay, most asthmatics were put on appropriate maintenance therapy (83%), half were visited by the resident asthma educator (45%). Some records showed evidence of education about action plans (34%), principally from the asthma educator. Forty percent of hospitalised asthmatics were visited by the early discharge nursing staff, and half of the patients were advised to see their GP upon discharge (55%). However, the co-occurrence of three critical factors—medication, asthma plan, and a follow-up appointment with the GP—showed only 18% of patients received all three. *Conclusions:* Audit of clinical records is a useful tool to assess details of service delivery. In this case, while asthmatics were generally admitted for long enough to be educated about their condition, the focus of hospital intervention tended to be medical. A number of procedures could make hospital stay more effective, including having written material ready to give to patients admitted with a diagnosis of asthma, appointments made for in-hospital asthma education at this point, as well as at separation, mailing summary information to GPs to trigger follow-up appointments which could also include nurse-educators and allied health assistance.

**ABS044: MANAGEMENT OF HIGH ASTHMATIC USE OF AMBULATORY HOSPITAL SERVICES IN A RURAL REGIONAL HOSPITAL**

D. Playford<sup>a</sup>, M. Stockbridge<sup>b</sup>, M. Gilles<sup>a</sup>, W. Kelly<sup>b</sup>, K. Solly<sup>b</sup>, L. McDonald<sup>c</sup>, D. Isackson<sup>d</sup>, J. Scott<sup>a</sup>

<sup>a</sup>Combined Universities Centre for Rural Health, P.O. Box 109, Geraldton, WA 6531, USA; <sup>b</sup>Geraldton Regional Health Service, Geraldton, WA, USA; <sup>c</sup>University of Western Australia, Perth, WA, USA; <sup>d</sup>Curtin University of Technology, Perth, WA, USA  
Tel.: +1-8-9956-0200; fax: +1-8-9964-2096. *E-mail address:* dplayford@cucrh.uwa.edu.au

*Purpose:* To better understand the high use of ambulatory services by a rural asthmatic population, this study describes the treatment of asthmatics presenting to a regional hospital over 1 calendar year. *Methods:* The total number of respiratory cases presenting to Accident and Emergency (A&E) in 2002 were identified. All respiratory records from 1 month per season were then extracted to identify asthma presentations. Clinical assessment, triage, management and epidemiological information for each presentation were entered into SPSS and analysed using crosstabulations. *Results:* Respiratory presentations to A&E varied from 74 in January to a maximum of 296 in August. Asthma-like cases represented 11-35% of cases. These records showed an unexpectedly high level of adult asthmatic presentations, a high number of consultations between 6 and

10 p.m., a disproportionate number of Aboriginal occasions of service, and a high level of admissions for all groups. The National Asthma Campaign criteria differed in their classification of severity. Oxygen saturation levels identified 82% of attendances as mild; whilst accessory muscle and pulse rate identified 32% as mild, and respiration rate showed only 8% mild. Progression to admission was most strongly related to respiration rate and accessory muscle use whereas oxygen saturation was a poor indicator of admission. A great majority of persons presenting to A&E with presumptive asthma received medication. Alone and in combination with other medications, Ventolin nebulisers were administered in nearly 90% of cases. High A&E use by asthmatics was strategically managed by the instigation of a clinical pathway, enabling nurses to treat asthma with Ventolin as identified and directed by the guideline. Twenty percent of cases were handled in this way. *Conclusions:* In rural towns, mild to moderate, as well as severe, asthmatics tend to use the all-hours medical services available through the local A&E department. Strategies have been put in place in an effort to enable efficient and effective triage of these cases. Current use of the National Asthma Campaign guidelines provide a number of possible interpretations of severity and subsequent management, and are associated with a high use of medications and admission. Following this study an asthma working party formed to examine the mechanisms for recording asthma data, to encourage the use of metered-dose Ventolin inhalers and to strengthen nurse-based intervention.

**ABS049: DEVELOPMENT OF ALLERGY IN INFANCY: THE MORE INFECTIONS THE BETTER?**

T. Maas<sup>a</sup>, J. Vaes<sup>a</sup>, E. Dompeling<sup>b</sup>, J.W.M. Muris<sup>a</sup>, C.P. van Schayck<sup>a</sup>, J.A. Knottnerus<sup>a</sup>

<sup>a</sup>Research Institute CAPHRI, Maastricht University, Maastricht, The Netherlands; <sup>b</sup>University Hospital Maastricht, Department of Paediatric Pulmonology, Maastricht, The Netherlands

*Background:* From the moment the hygiene hypothesis was postulated, its popularity kept increasing among researchers as well as the general population. From this it would follow that childhood infections prevent allergic disease. Proxy variables for infection load: day care attendance and number of siblings in the household, have been shown to be inversely related to atopy development. Childhood infections were described to be beneficial for a non-allergic development of the immune system by stimulating the immune deviation process. The PREVASC-study is a Dutch birth cohort study of 443 familial predisposed children that is being followed from the prenatal period until the age of 6 years. In this RCT which is primarily focussed on exposure to environmental factors like inhalant- and food allergens and environmental tobacco smoke and its effect on asthma and allergy development, variables like respiratory and gastro-intestinal infections are being registered prospectively by the children's parents and their GP. The total IgE level is being measured at different moments in time. *Purpose:* What is the relation between respiratory- and gastro intestinal infections in early life as reported by parents and GPs on total IgE level at 1 year of age? *Method:* In a linear regression model with the independent variables respiratory- and gastro-intestinal infections and the dependent variable total IgE level at 1 year of age as well as the confounding factors inhalant and food allergen exposure and exposure to environmental tobacco smoke, day care attendance, number of weeks breastfed, day care attendance, sib ship size and sex, were included. *Results:* Our analysis revealed that neither respiratory- nor gastro-intestinal infections did influence the total IgE level at the age of one. The only variables that influenced the IgE at one year of age were breastfeeding, partially hydrolysed formula feeding and sib ship size. *Conclusion:* In the PREVASC-study, the hygiene hypothesis is not confirmed as far as the influence of childhood infections is concerned. It was shown that there is no protective effect of respiratory- and gastro-intestinal infections during infancy on the total IgE level at one year of age in familial predisposed children (preliminary unpublished data).