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ABSTRACTS

A selection of abstracts reviewed and accepted by the Scientific Committee for presentation at the 4th International Primary Care Respiratory Group (IPCRG) World Conference in Seville, May 28-31st 2008

1. Inhaled steroids in childhood asthma: are General Practitioners prescribing excessive doses?

Thomas M, Turner S, von Ziegenweidt J, Price D
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Introduction: Inhaled corticosteroids (ICS) are safe and effective treatment for childhood asthma at standard doses, but cross sectional studies suggest that some children are treated with excessively high doses so are at risk of serious adverse effects. We aimed to quantify longitudinal trends in asthma prescribing for children, with particular reference to high dose ICS prescribing.
Methods: Retrospective, cross sectional, observational study of general practitioner prescribing for asthma medications in children aged under 12 years with a recorded asthma diagnosis between 1992 and 2004 using the General Practice Research Database (GPRD).
Results: Data were available for an average of 357, 956 children per year. The percentage of children prescribed ICS increased from 2.7% in 1992 to 7.0% in 1997 and 1998 and then fell to 3.3% in 2004. In the under 5 year-olds with asthma, high dose ICS prescriptions (>400 mcg/day) fell from 10.6% of all ICS prescriptions in 1992 to 4.5% by 2004. In contrast, high dose ICS prescriptions (>800 mcg/day) for asthmatic 5-11 year-olds rose from 1.1% in 1992 to 4.6% in 2004. Oral corticosteroid prescribing in under 5 year olds asthmatics prescribed ICS fell from 37.1% in 1992 to 21.7% 1999 and remained constant thereafter; the respective percentages for 5-11 year olds were 20.1% and 12.4%.
Conclusions: Trends for prescribing in childhood asthma changed dramatically and there are several plausible reasons for this. Off licence high dose ICS prescribing increased in 5-11 year olds and this trend needs urgent attention.

2. Does the burden of allergic rhinitis amongst primary care practitioners impact on patient management?

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Purpose: To investigate the burden of allergic rhinitis on primary care practitioners (PCPs) and their care of patients with the same condition.
Methods: An on-line quantitative questionnaire, composed of 21 closed questions was derived from existing validated and novel questions. The questionnaire was completed by 1201 PCPs (50% AR sufferers) from eight countries.
Results: PCPs reported that AR symptoms affected concentration (31%), stress levels (31%), general mood when dealing with patients (28%), level of physical contact with patients (22%), time spent with each patient (18%), the number of patients seen (16%) and absence from work (average of 6 hours per week). PCPs with AR reported more AR patients in their practice than PCPs unaffected by AR (0.0152.). Results showed that they gave a significantly higher ranking to patients' requests for a specific treatment (p=0.0114) and their emotional well-being (p=0.0078), and a significantly lower ranking to preventing comorbidities (p<0.0001) and providing a treatment associated with greater patient compliance (p=0.0048). 41% of all PCPs were unaware of the Allergic Rhinitis and its Impact on Asthma (ARIA) Guidelines and 29% stated that they preferred to treat patients' individual needs irrespective of the guidelines.
Conclusion: This is the first study to demonstrate the impact of AR on the lives of affected PCPs, showing an association with lost productivity, absenteeism and reduction in professional performance. AR symptoms may also significantly influence the way PCPs manage this condition in their AR patients.

3. The A-Team: A national asthma education program, the Australian way

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Background: In response to the high burden of asthma on the community, the Australian.
Government has provided funding for initiatives to further improve asthma management in primary care.
Objectives: The National Asthma Council Australia established the A-Team, an ongoing national asthma education program, to reinforce and increase awareness of the latest best-practice asthma management guidelines for general practitioners, practice nurses and allied health professionals. This preliminary evaluation is of phase 3 of the program, which is being implemented over 2006–2009.
Methods: An independent evaluator was appointed to assess the program outcomes. Following each A-Team workshop, participants were asked to complete a written evaluation survey. Follow-up telephone surveys will be conducted with volunteer participants 6 months later to assess change in practice.
Results: To date 712 health professionals have attended 31 workshops across Australia. In total, 452 participants completed surveys, mainly nurses (48.0%), general practitioners (27.4%) and pharmacists (15.5%). Almost all respondents (97.1%) felt that attending the workshop had 'somewhat' (53.1%) or 'considerably' (44.0%) increased their knowledge of evidence-based best practice, and 93.4% had 'somewhat' (60.6%) or 'considerably' (32.7%) increased their practical skills to support their application of evidence-based practice in asthma care. In total, 94.7% of respondents expected 'some' (62.8%) or 'considerable' (31.9%) improvement in their asthma management practices. Telephone follow-up is in progress.
Conclusion: The A-Team asthma education program is a targeted, truly national program and a successful model for providing evidence-based asthma management guidelines and education to health professionals in primary care.

4. Is it cost-effective to take a more systematic approach to managing asthma in Australian general practice?

Holton C, Beilby J, Harris M, Proudfoot J, Harper C, Ramsay E, Ruffin R

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Objective: To investigate whether systematic asthma care is cost effective in the Australian setting.

Methods: 565 moderate or severe asthma patients were recruited for a cluster randomised controlled trial from 40 general practices. The intervention comprised setting up a register-recall system incorporating postcard prompts, and education of GPs and staff. Data on health outcomes and costs were collected over 12 months using patient questionnaires, spirometry, case note review and practice staff interviews. The economic evaluation took a societal perspective. Costing details were based on self-report, government figures and practice information. Data was analysed using mixed models ANOVA with adjustments for clustering and confounders.

Results: There was little evidence of statistically significant improvement in patient outcomes or quality of care, apart from provision of a written asthma action plan. Analysis of costs revealed a mean out-of-pocket cost to control patients of $924 pa compared with $899 pa for intervention patients. Costs to the government were a mean of $1925 pa for control patients and $1654 pa for intervention. Overall, there was a $295 difference in favour of the intervention. While GP visit costs and medicine costs were slightly higher, there were substantial savings in hospitalisation costs.

Discussion: Although the intervention was not proven to be clinically effective, the costs for management of intervention patients were noticeably lower. Combined with the trends to improvement in some outcome measures (clinical, quality of life, self-management and satisfaction) this suggests that there may still be benefit in adopting a systematic approach to asthma care.

5. A double-blind, randomised, parallel group, placebo-controlled study evaluating the nasal decongestant effect of xylometazoline in common cold

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Background: Otrivin® (xylometazoline) is a nasal decongestant spray that constricts nasal blood vessels and reduces nasal airway resistance, enabling patients with blocked nose to breathe more easily.

Aims: To objectively and subjectively characterise the decongestant and additional effects of Otrivin in common cold.

Design: Double-blind, placebo-controlled, parallel group study in which patients with common cold (n=61) were randomised to treatment with Otrivin 0.1% (n=29) or placebo (saline solution) (n=32) (one spray 3 times/day for up to 10 days).

Primary objective: Decongestant effect (nasal conductance).

Secondary objectives: Peak subjective effect (visual analogue scale, VAS), duration of relief of nasal congestion, total and individual cold symptoms and general well-being (patients' daily diary), adverse events (AEs).

Results: Otrivin had a significantly greater decongestant effect vs. placebo, demonstrated by the nasal conductance at 1 h (384.23 vs. 226.42 cm^3/sec; p≤0.0001) and peak subjective effect (VAS 20.7 mm vs. 31.5 mm; p=0.0298). Nasal conductance was significantly superior for up to 10 h (p=0.0009) and there was a trend in favour of xylometazoline for up to 12 hours (not statistically significant). Otrivin significantly improved total and some individual common cold symptoms scores (p<0.05), leading to significantly greater patient satisfaction with treatment and greater superiority in terms of general evaluation (p<0.05). Nineteen AEs were reported: 8 with Otrivin (all mild–moderate) and 11 with placebo (1 severe).

Conclusions: Otrivin is an effective and well tolerated decongestant nasal spray that significantly relieved nasal congestion compared with placebo in common cold and provided long-lasting (12-hour) relief with just one spray, allowing patients to breathe more easily for longer.

6. Costs of specific IgE (sIgE) blood testing by the primary care physician (PCP) for patients with allergy-like rhinitis symptoms can be offset by reducing unnecessary prescriptions

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Purpose: To determine whether costs associated with sIgE blood testing by the PCP for patients with allergy-like rhinitis symptoms can be offset by reducing unnecessary prescriptions and/or physician office visits.

Method: Randomised, prospective cohort study enrolled 120 patients with allergy-like rhinitis symptoms at two primary care sites; all patients had sIgE blood tests, but results were not shared with physicians treating patients in the empirical treatment arm.

Results: Among patients with negative test results, patients in the empirical arm had significantly higher ($67.88) costs for allergy-targeted medications (e.g., non-sedating antihistamines, leukotriene receptor antagonists) than did patients in the "results informed" arm ($39.16) as measured in month 12 (p=.04). Costs associated with physician office visits also trended lower, but did not reach statistical significance.

Discussion/Conclusions: Given the cost of the blood test is $100, and that approximately two of every three patients tested will have positive test results, testing all patients with allergy-like rhinitis symptoms is better than cost neutral in the first year (testing costs for three patients total $300 vs. medication savings for one negative patient total $348). Based on an allergic rhinitis prevalence of 16%, testing could potentially save $7.7 million per year (160,000*$48) for every million covered lives.

7. Preventing relapse of smoking among postnatal women and their partners in primary care: A controlled birth cohort intervention study

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Objectives: Despite recent successful public smoking bans and decreasing smoking prevalence in some western societies, a substantial share of risk-populations as pregnant women are still tobacco-smokers. Measures for supporting prenatal smoking cessation and postnatal smoking relapse prevention are a crucial public health matter. Primary care health professionals in Norway are in a unique position to address this as antenatal care is conducted in primary health care.

Methods: Smoking behaviour in an unselected primary care population of 2904 expectant mothers was followed, constituting of a control cohort of 1984 participants, and an intervention cohort of 920 participants. A structured intervention program focusing on life style, including smoking behaviour, was integrated in ordinary pregnancy and maternity health care. A self-reported questionnaire was returned at six weeks and one year after delivery in both cohorts.

Results: In the intervention cohort 72% quit smoking during pregnancy, with a relapse rate of 34% one year after delivery compared to the control cohort where 58% quit with a relapse rate of 61%. The absolute risk reduction (ARR) was 27%, and relative risk difference (RRD) for relapse was 44%. Every fourth (NNT= 3,8) prevented one relapse. Adjusted odds ratio (OR) for smoking one year post-partum was 0.6 compared to the control cohort.

Conclusions: A multidisciplinary structured smoking intervention program for pregnant women in ordinary primary health care appears to be a promising strategy to reduce smoking relapse post partum. The frequency and continuity of contacts of primary care probably explain the magnitude and durability of the observed behavioural changes.

8. Analysis of incidents of dyspnoea attended to in prehospital emergency care in a rural area in the south of Spain

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Aims: To conduct a descriptive study of cases of dyspnoea seen in prehospital emergency care.

- Analyse the socio-demographic profile patients with dyspnoea.

A descriptive transversal study.

Method: Revision of clinical histories of patients attended by a medicalised ambulance, August 07 – January 08 (115 patients). Variables analysed: age, sex, reason for consultation, time, date, diagnosis and referral.

Results: The most common causes of dyspnoea requiring attendance in outpatient emergency services are:

- Over-65s: COPD exacerbations (24.3%), acute pulmonary oedema (PEA:16.5%).
- 15-45 years: anxiety (7%).
- Under 15s: Bronchiolitis, asthma, stridulous laryngitis.

The socio-demographic profile of patients visiting emergency service: male (54.8%), aged between 65 and 85 years (78.2%), requiring consultation for dyspnoea (88.7%). 39.1% of patients come in the afternoon and 32.2% at night. 75.7% of cases were referred to hospital, 21.7% remained at home and 2.6% died.

There was an increase in the number of COPD exacerbations during the winter months compared with other months (predominantly in males). The number of cases for PEA remained constant through the year and was predominant in women.

Conclusions: Dyspnoea is a common cause of emergency calls. Most common causes in Primary Care are COPD exacerbations and PEA. The profile of the patient is a male aged between 65 and 85 who requires assistance in the afternoons. The majority are referred to hospital. There is an increase in COPD exacerbations during winter.

9. Is dignity compromised in the care of patients with advanced COPD?

White P, Shipman C, White S, Edmonds P, Moxham J, Gysels M
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Background: Patients with advanced COPD have symptoms which draw unwanted attention in public places, suffer admissions to hospital with acute exacerbations, and are dependant on formal and informal carers. These aspects of their disease make them vulnerable to being treated by others in a way that compromises their dignity, an experience we assessed in this study.

Method: Prospective cross-sectional study in advanced COPD patients recruited through their general practitioners (GPs). Patients with two of the following: FEV_1 % predicted <30%, admission for exacerbations, breathlessness, home oxygen, cor pulmonale, or use of oral steroids, were recruited. A semi-structured interview schedule on personal characteristics, COPD impact, service use, and palliative care needs was administered with spirometry.

Results: 163 (62%) patients were interviewed. Mean FEV_1 < 30% predicted. Over half (50%) were female and lived alone (54%). 47(29%) reported specific disease related experiences which offended their sense of dignity. These occurred in hospital (27), in public (13), at the GP's practice (5) and elsewhere (7) and were caused by staff, the public, or family. Experiences included being spoken to rudely, critically or abruptly; having their appearance criticised; and an adverse reaction to breathlessness, coughing or using oxygen. Experiences were distressing, and could limit activity.

Conclusions: Over a quarter of subjects with advanced COPD described threats to their dignity and a lack of understanding that compromised their care or capacity to live independently. Greater professional understanding about the experience and limitations of advanced disease might help to limit threats to dignity of COPD patients.

10. Link between inhaler device used and outcomes at step 3 of the UK asthma guidelines

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Aim: To evaluate the link between inhaler device and outcomes in patients stepped up from inhaled corticosteroids (ICS) alone to ICS plus long acting β2 agonists (LABA).

Study Design and Methods: Patients with an asthma diagnosis, treated with ICS alone and whose first change in treatment was the addition of a LABA were identified from the General Practice Research Database. Patients were allocated to three cohorts: those prescribed metered-dose inhalers or breath-actuated inhalers (MDI/BAIs), dry powder inhalers (DPIs) or a mix of inhalers (MDI/BAIs and DPIs). Cohorts were compared in terms of successful asthma control (defined as no hospital attendances for asthma, no oral steroid prescriptions and average daily dosage of salbutamol ≤100mcg or terbutaline ≤250mcg) using logistic regression and chi-squared tests.

Results: 7515 patients were included.

	MDI /BAI	DPI	Mixed
N	4840	1503	1172
Successful asthma control*	23.8%	42.9%	22.2%
Unadjusted Odds Ratio (95% CI)	0.42 (0.37-0.47)	-	0.38 (0.32-0.45)
Adjusted Odds Ratio (95% CI)†	0.48 (0.40-0.59)	-	0.41 (0.33-0.51)
No Oral steroids*	74.6%	78.7%	71.5%
SABA dosage: % meeting target*	28.7%	53.2%	27.4%
No Asthma hospital admissions*	99.4%	99.9%	98.8%
No A&E admission for asthma	100%	100%	100%
No OPD attendance for asthma*	98.3%	98.3%	95.8%

* p≤0.001

† Adjusting for age, combination versus separate inhalers, change in inhaler type at step-up and baseline confounders: SABA and ICS daily dosage, oral steroids, asthma consultations, hospital admission for asthma, ICS compliance

Conclusions: Patients prescribed ICS and LABA as DPIs achieve better outcomes compared with patients on MDI/BAIs or a mix of MDI/BAIs and DPIs.

11. Are breathing exercises helpful in asthma?

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Purpose: Despite of effective pharmacotherapy, asthma outcomes remain sub-optimal. Many patients use complementary techniques including breathing exercises. We assessed the effectiveness of breathing exercises in improving subjective and objective asthma control.

Methods: Prospective parallel-group randomised controlled trial. 183 adults asthmatic patients (17 – 65 years, from 10 UK General Practices) with impaired asthma-related health status were randomised to breathing retraining with respiratory physiotherapists (3 sessions) or a control of nurse-delivered asthma education (3 sessions). The primary outcome was change in asthma-related health status (AQLQ) following intervention, secondary outcomes were changes in asthma symptoms, anxiety scores and objective asthma physiological and inflammatory measures.

Results: Similar major improvements in AQLQ scores were seen 1 month following intervention in breathing training (mean, 95% CI change 0.92, 0.71 to 1.22) and control (0.88, 0.66 to 1.10) groups, but at 6 months significant differences favoured breathing training (between groups difference 0.38, 0.08 to 0.68, p=0.01). Breathing training was associated with significantly greater improvements in anxiety, depression and Nijmegen (hyperventilation) questionnaire scores at 6 months, and with non-significant trends to improved asthma symptoms. Breathing training did not result in significant changes in airways physiology, inflammation (induced sputum eosinophil counts or fraction of exhaled nitric oxide) or hyper reactivity (methacholine PC20).
Discussion: Breathing training reduced the impact of asthma on patients' lives, although did not affect airways inflammation or hyper-responsiveness. Breathing exercises may represent an effective therapeutic approach for some asthmatic patients, although are unlikely to reduce the need for anti-inflammatory pharmacotherapy.

12. Is a percentage a percentage? Systematic review of the effectiveness of Scandinavian smoking cessation courses and quitlines.

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Smoking is the primary cause of mortality and morbidity. Fifty percent of all smoking-related diseases and deaths are due to COPD with a major impact upon health care costs and patients quality of life. Awareness of tobacco controlling policies, including smoking cessation, is increased. Reported effectiveness data are important, when deciding cessation strategy,
Purpose: Review how the effectiveness (quit rates) of public smoking cessation courses and quitlines are evaluated in Denmark, Sweden and Norway (Scandinavia).
Method: A systematic review was carried out in Medline and the gray literature. Following the Russell Standards studies were reviewed according to design, analysis of study data (intention-to-treat (ITT)/per protocol (PP)), measurement of smoking status, and length of follow-up. Data were benchmarked with pharmacological studies and Cochrane reviews.
Results: Although ITT is the scientifically advocated approach, 8 out of 10 studies of public smoking cessation courses are analysed using the PP approach and based on point prevalence estimates. Furthermore, smoking status is always self-reported. This results in one year quit rates between 25-48% versus 10-23% with ITT. In contrast pharmacological studies are conservative as being randomised, and relying on ITT, biochemical verification and continuous measurement of smoking status.
Discussion: This review documents that quit rates of smoking cessation interventions are not always comparable, and that Scandinavian courses and quitlines are evaluated using methods that results in perhaps too optimistic quit rates. Benchmarking with Cochrane reviews confirms this. This may not lead to the implementation of the most effective and rational smoking cessation interventions in Scandinavia.

13. What palliative care needs do COPD patients have as they approach the end of life?

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Background: Patients with advanced COPD have health and social care needs that may be at least as great as those approaching the end of life with lung cancer. Patients who die from COPD often have little contact with services in the three months before death. In this prospective study we identified patients with advanced COPD in primary care and assessed their palliative care needs.
Methods: Prospective cross-sectional study of advanced COPD patients, selected using two of the following: FEV_1 % predicted <30%, admission for exacerbations, breathlessness, home oxygen, cor pulmonale, or use of oral steroids. A semi-structured interview schedule on personal characteristics, COPD impact, service use, and palliative care needs was administered with spirometry.
Results: 44 (80%) of 55 practices took part, and 163 (61%) of 265 eligible patients (4/6 per practice) were interviewed. Mean age 72 years, 50% female, 88% short of breath most days/everyday, 45% housebound, 75% had a carer. Respondents at least as severe as non-respondents from medical records. Breathlessness was the most important problem in 92%. Most had been admitted with an exacerbation in previous two years. Almost all would want admission again if unwell to the same extent. None expressed existential concerns relating to their stage of life despite severe breathlessness and impairment.
Conclusions: The place of a generic palliative care approach for advanced COPD in a primary care setting is likely to be limited to very few patients. The palliation of unrelieved breathlessness in these patients is a major unmet need.

14. An educational intervention for patient-centred asthma care (PACE) modified for training practice nurses (PNs) and general practitioners (GPs) in Scotland: first stage evaluation

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Introduction: To address the issue of sub-optimal communication in asthma consultations, we are carrying out a prospective, cluster randomised trial of an educational intervention for patient-centred asthma care (1) modified for training practice nurses (PNs) and general practitioners (GPs). We present the first stages of the evaluation process.
Design: One GP and one PN were recruited from 18 practices. Baseline patient data was collected post-randomisation but before the delivery of training to the intervention practices. Adult patients with signs of poorly controlled asthma were recruited after an index consultation. Participants completed the ACQ, mini AQLQ, PPIQ (Perceived Involvement in Consultation) and MISS (Satisfaction with Consultation) questionnaires.
Results: 59% of patients had seen a PN, 17% a GP (24% did not say). Questionnaire scores were:

Questionnaire	Control	Intervention
ACQ (means)	1.54	1.79
Mini AQLQ (means)	5.04	4.72
MISS (total score)	115.36	112.64
PPIQ		
Responsibility	2.38	2.57
Choice	3.32	3.41
Information	2.31	2.52
Opinion	3.60	3.33

Non-parametric statistical analysis indicated no significant differences between control and intervention groups. A Mann-Whitney test gave a significant difference in PPIQ (Responsibility) between GP and PN (U=438.5, p<0.05).
Discussion and Conclusion: The data indicates poor control, little/some impact on asthma-related QoL, and low perceptions of involvement in decision making in both groups. Patients were more likely to feel responsible for their own asthma where their consultation had been with the PN.

This data suggests that patients were not effectively self-regulating their asthma. Post-intervention data will be reported next year.

15. Effectiveness of different inhaler types used in the "real-life" management of asthma (GPRD-REALITY)

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Aim: To compare successful asthma control in patients who commenced on or increased inhaled corticosteroid therapy (ICS) via a range of inhaler devices.
Methods: Patients aged 5-60 with evidence of asthma in the General Practice Research Database, excluding COPD, who commenced on or had ICS dose increased between January 1997-June 2007. Patients were allocated to three groups: prescribed metered-dose inhalers (MDIs) only, breath-actuated inhalers (BAIs) only and dry powder inhalers (DPIs) only.
Outcomes: Logistic regression was used to evaluate successful asthma control (no hospital attendances for asthma, no oral steroids and no consultations or hospital admissions for lower respiratory tract infections requiring antibiotics) during 12 month follow-up.
Results: 56,519 patients initiated therapy (56.7% female) and 9,326 patients received increased ICS dose (56.2% female).

	MDI	BAI	DPI
Commenced on ICS			
n	39,861	10,076	6,582
% successful asthma control	75.3%	76.6%	78.0%
Odds ratio (95% CI)	-	1.07 (1.02-1.13) p=0.007	1.16 (1.09-1.24) p<0.001
Adjusted OR* (95% CI)	-	1.12 (1.06-1.18) p<0.001	1.15 (1.08-1.23) p<0.001
Increase in ICS dose			
n	6,356	1,421	1,549
% successful asthma control	67.6%	74.1%	71.4%
Odds ratio (95% CI)	-	1.37 (1.20-1.56) p<0.001	1.20 (1.06-1.35) p=0.004
Adjusted OR* (95% CI)	-	1.26 (1.10-1.44) p=0.001	1.15 (1.00-1.30) p=0.036

* Adjusting for Age, Gender, baseline: antibiotic use, short-acting beta agonist usage, oral steroid course, primary and secondary care asthma consultations, A&E attendance for asthma

Conclusions: A significantly greater proportion of patients achieve asthma control if they commence or increase ICS therapy via a DPI or BAI inhaler, compared to MDI.

16. Meeting a COPD challenge - Innovative training for primary care practitioners to improve diagnosis

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Spirometry is the benchmark for diagnosis and severity assessment of COPD but is often omitted in primary care for a variety of reasons. We developed an innovative, facilitated scenario-based training program for primary care professionals (PCPs) to increase their confidence, competence and involvement in COPD case-finding.
Methods: A 5-step behaviour change initiative was developed: 1.Determine predisposing beliefs; 2. Conduct clinical scenario-based discussion work groups (DWGs) with PCPs and key opinion leaders (KOLs); 3. Train PCPs to use screening tools effectively; 4. Facilitate implementation of the screening initiative; 5. Evaluate each stage and final impact. In PCP practices, patients were screened with a simple questionnaire, then those with one or more positive response had spirometry with a hand-held spirometer (PiKo6®).
Results: Between April and December 2007 1,442 GPs and 422 PNs in 5 Australian states attended 109 DWGs with 34 KOLs. Main predisposing beliefs were the need for early (34%) and accurate (20%) diagnosis. The main motivation to participate was perceived program independence (42%). DWGs were rated as very good or excellent by 93% of participants. Before enrolment, only 25% of participants rated their confidence in diagnosing and managing COPD as very high or better, rising to 87% post-DWG. Three-month follow-up will be evaluated by March 2008.
Conclusions: This novel training program reached around 10% of Australian PCPs over 9 months, training them in effective use of screening tools for COPD. Substantial improvements occurred in confidence and knowledge, holding promise for better and more timely COPD case-finding in primary care.

17. Role of the spirometry in the decrease of smoking habit. preliminary results

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Objectives: To evaluate the efficiency of the simple smoking cessation advice combined with the discussion of the results of the spirometry on the part of the doctor of primary care (PC) on the smoke habit in smoking adults.
Materials and Methods:
Area: 6 centres of PC of an area of Barcelona.
Type of study: randomised clinical trial with control group.
Sample: 142 active smokers of more than 18 years. All the smokers did a spirometry to the beginning of the study and received smoking cessation advice, but only they commented on the results of the spirometry to them to the half of them (intervention group).
Results: 54.2% was control group, 59.9% was men and the mean age was 51 years old. The mean age of beginning of the consumption was 16 years old, the median of number of cigarettes per day was 20, 50% was going more than 31 years smoking and 61.3% previous attempts of abandon presented. 57.7% was in contemplation phase.

After a year of follow-up, 21.9% of them have left the habit and 17.1% were ex-smokers. In the control group was observed 11.7% of abandon whereas in intervention group was observed 35.6% (p=0.003). The ex-smokers were 10% of the control group and 26.7% of the intervention group (p=0.025).

Differences were observed in the abandon a year in relation to the diagnosis of spirometry, which had a mixed pattern were those who more abandon (p=0.042).
Conclusions: The detailed discussion of the results of the spirometry close to the smoking cessation advice increases the rate of abandon more than only the smoking cessation advice.

18. The challenge of linking patient reported outcomes and GP data - the practical challenges with IT systems in the UK

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Background: IPCRG guidelines recommend strategies for improving outcomes in asthma and COPD. Combining patient questionnaire and routine clinical data with IPCRG recommendations, paper-light review services enable guideline adherence, treatment, patient adherence, co-morbidities and life-style issues to be addressed. Pushing back review results into electronic patient records enables results to be easily and quickly accessible in a real-life clinical setting.
Aim: To review UK GP electronic data management systems to establish whether they could provide or support a paper-light COPD/asthma review service provided by a social enterprise.
Methods: We contacted 4 large GP data management systems (In Practice

Systems (IPS), EMIS, iSoft, and TPP) requesting whether they could provide or support the provision of:
1) secure storage of usernames and passwords
2) linked-anonymisation of routine data
3) extraction and posting of linked-anonymised data to an off-site resource.
4) identification of patient groups (e.g. COPD or asthma) by Read code and therapy,
5) perform mail merge to address questionnaires (according to IPCRG recommendations)
6) provide individualised disease specific patient and practice reports with guideline based recommendations,
7) push-back management considerations into electronic patient record.

Results: None of the providers could provide all 7 elements. However, IPS and EMIS have provided access to their operating system software to enable the provision of all 7 elements.

Conclusions: Current commercial GP data management systems are unable to integrate patient reported outcomes and routine data inline with IPCRG guidelines. We have developed tools to perform COPD and asthma review services in partnership with IPS and EMIS.

19. Delphi study on the reasons of underdiagnosis of chronic obstructive pulmonary disease, a multidisciplinary vision

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Objective: To know the opinion about the main reasons of underdiagnosis of Chronic Obstructive Pulmonary Disease (COPD) among all the sanitary professionals of an area of Barcelona.

Methods: Qualitative study: process of consulting orientated to obtaining consensus using the Delphi technology with two rounds of consulting. The sample is a random selection of sanitary professionals of the primary care centres of the area, pneumologists of the hospitals, technician of health of primary care (PC) and directors of supplier organisations of services of the area. We invited 283 professionals, by e-mail, in order that they were giving their opinion (valuing of 0 to 10) on 27 phrases with regard to the underdiagnosis of COPD. We analysed the results of the first round (25th, 50th and 75th percentiles) and them we forward, of personalised way, for the second round to those professionals who had taken part in the first round.

Results: The participation of the first and second round was 186 (65%) and 153 (82%) respectively. After the second round, the principal reasons of underdiagnosis of COPD were the following ones: the patients don't know the disease and don't perceive it like seriously and therefore they don't want to stop smoking, they don't consult in early stages; the underutilisation of the spirometry in PC and the little implication of nursing in the screening; they administer few resources for its prevention and more time for the PC's visits is necessary.

Conclusions: The reasons of underdiagnosis of COPD are multifactorials. An improvement should imply interventions on different levels and therefore, an immediate change does not seem easy.

20. Internet-based self-management improves short-term asthma control: the SMASHING study

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Rationale: Short validated asthma control measures, suitable for self assessment, are proposed by GINA to guide asthma treatment in order to improve asthma control.

Purpose: To evaluate the adherence and effect on asthma control and daily inhaled corticosteroid dose of a self-management algorithm based on the Asthma Control Questionnaire (ACQ) via the internet.

Methods: We conducted a randomised controlled trial of 200 adults (18-50 years) with mild to moderate persistent asthma over a 3-month period. Participants were assigned to either the internet-based self-management group (n=101) that monitored asthma control weekly with the ACQ and adjusted treatment using a self-management algorithm supervised by an asthma nurse specialist or the usual care group (n=99).

Results: Adherence to self-monitoring was 74.8% (95% CI, 72.4 to 77.1), adherence to treatment advice 55.1% (CI 95%, 47.7 to 62.4%). In the internet-based self-management group 43 participants had a clinically relevant improvement of asthma control compared to 16 participants in the usual care group (adjusted odds ratio 4.5; CI 2.2 to 9.5). The improvement in ACQ score was significantly higher in patients with uncontrolled or partly controlled asthma than in the group with well controlled asthma at baseline (-0.84, -0.60 and -0.05 respectively, p<0.01). Daily inhaled corticosteroid dose increased in the self-management group (△138 µg fluticasone equivalents) compared to the usual care group (△-51 µg; p<0.01).

Conclusions: Self-management of asthma by a treatment algorithm based on weekly self-assessments and treatment recommendations via the internet leads to more effective disease management than usual care.

21. Smokers who want to quit prefer their GP advice and support: a six months evaluation study in a primary care practice group

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Background: Data suggest that most smokers are interested in quitting. Those who have received a medical advice are 50% more likely to make a quit attempt than those who do not receive such counselling.

Aims and objectives: To evaluate the rate of smokers willing to quit and their satisfaction related to the medical advice received from their GP; to asses the opportunity of a smoking cessation program in our practice group.

Methods: Questionnaires were used during a six months period to all the patients who came in our practice group as part of a population health status evaluation program.

Results: From a total of 1682 questioned patients, 20.92% were smokers: 55.96% intended to quit in the next 12 months, 58.23% have made already attempts to quit (only 1.53% on medical supervision), 36.64% had a concomitant respiratory/other disease having the smoking habit as risk factor, 60.79% have been advised by their GP to quit smoking (42.15% of the "healthy" smokers and 100% of those with a chronic condition), 45.73% have been advised already before the actual consultation by their GP, 82.23% of them would like to receive a more detailed advise and attentive support from their GP due to its credibility (38.88%), accessibility (48.14%), holistic approach (12.96%).

Conclusions: Most smokers would like to quit and usually have at least one tentative to quit in their past. GPs' credibility is high among smokers but most of their interventions are concentrated on those patients who beside the tobacco dependence have a concomitant chronic disease.

22. Community cough clinic in developing countries

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Introduction: Cough is the most common presenting complains in our daily practice. In fact cough is not a disease but a protective reflex but the negative aspect of cough is the transmission of disease by droplets and its complications like. We are more aware of the mechanism and patho-physiology of cough than any other time and it is the high time to earn in depth knowledge to serve the patients with chronic cough.

Aim: Is to develop 'community cough clinic model' for the better

management of chronic cough
Method: We searched recently published papers on cough management, reviewed guidelines of ACCP, BTS and ERS and shared our long term practice experiences in poor socioeconomic situation.
Results: Considering the recommendations, availability and cost-benefit analysis we adopted a strategy for the practice in our practice. We used to follow an algorithm adopted from ACCP, BTS and ERS. In the adults the main three causes of chronic cough is UACS, GERD and Asthma syndrome like the developed countries but two more common causes should be incorporated i.e. Pulmonary tuberculosis and smoking with other fumes that may irritate the airways. Chronic cough in children shares the same features with that of developed countries.
Conclusion: Management of chronic cough is really a challenge in the developing countries. High prevalence of pulmonary tuberculosis, smoking and exposure to other irritant smoke make the situation difficult. Experience showed that establishment of community cough clinic with defined algorithm will definitely raise the cough resolution score.

23. What tasks do UK practice nurses perform when they diagnose asthma?

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Introduction: Primary care asthma nurses are increasingly responsible for diagnosis in the United Kingdom. National guidelines suggest that asthma diagnosis is based on patient history, symptoms and objective measurements. Here we report how often practice nurses use these indicators when diagnosing asthma.
Methods: Questionnaires were sent to 500 randomly selected UK primary care practices. Lead asthma nurses recorded the frequency they performed key diagnostic tasks on a four-point Likert-type scale ('Always' to 'Never'). The percentage of nurses that reported always conducting these tasks is reported here.
Results: The response rate was 78% (n= 389); of these 74% (n=288) routinely diagnosed asthma.

Table: Tasks performed during asthma diagnosis

How do you diagnose asthma?	Percentage of practice nurses that always perform task (n=288) % (95% CI)
Take a history	88% (84-92)
Consider symptoms:	
Wheezing	68% (62-73)
Nocturnal symptoms	68% (62-74)
Cough	67% (61-73)
Breathlessness	62% (57-68)
Record predicted/best peak expiratory flow	43% (37-49)
Give out a peak expiratory flow or symptom diary	43% (38-49)

Conclusion: In this highly representative UK survey almost 90% of practice nurses reported always diagnosing asthma by taking a patient history, but far fewer asked about symptoms. Less than half always recorded an objective measurement i.e. peak expiratory flow. This lack of adherence to national guidelines may results in misdiagnosis and inappropriate management.

24. Step up in asthma therapy: is the addition of a LABA better than high dose inhaled steroids?

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Purpose: For asthmatics uncontrolled on standard doses of inhaled corticosteroids (ICS), step-up options include increasing ICS dosage or addition of a long acting beta agonist (LABA). Controversy persists as to the best option. We compared asthma outcomes in patients whose first step-up from ICS monotherapy in routine general practice care was addition of LABA or increase in ICS dosage.
Methods: Observational study using the General Practice Research Database (GPRD), comparing outcomes in the 12 months following step-up using regression modelling to adjust for baseline cohort differences: age, sex, socio-economic status, BMI, co-morbidity (rhinitis, heart disease), smoking status, short acting beta agonist (SABA) use, oral corticosteroid use and use of asthma complicating medication.
Results: 48799 patients were identified in the ICS group and 17469 in the LABA group. In adjusted analysis, the odds ratio (OR, 95% Confidence Interval) of successful treatment (no hospitalisation, no oral corticosteroid use, average daily SABA use <1 dose/day) were lower on the ICS group (0.78, 0.74-0.82). The odds of needing rescue SABA prescriptions were higher in the ICS group (1.22, 1.14-1.30). However, the odds of using any oral corticosteroids were lower with ICS (0.94, 0.90-0.99), particularly of using 3 or more courses (0.80, 0.74-0.86). The odds of respiratory hospitalisation were also lower in the ICS group (0.70, 0.59-0.83).
Conclusion: In this 'real-world' dataset, patients stepped up from ICS treatment showed better symptomatic asthma control and lower rescue bronchodilator in association with LABA addition. The risk of severe exacerbations however appeared lower with ICS dose increase.

25. Improvement of spirometry in a primary health care centre in Huesca

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Within the program of support to the initiatives of quality in primary care, our health center (HC) decided to work on a project initiating a cycle of improvement. The technique of spirometry was the problem that occupied us. The intervention of nursing (successful performance of the test), medicine (interpretation) and patient (correct collaboration) is very important.
Objectives:
1. Training of nurses in the conducting of the test.
2. Training of medical personnel in the interpretation of the test.
3. Enhance patient's collaboration.
4. Record the results of the spirometry in the medical history.
Design of the study: Retrospective evaluation of the spirometries made in the HC. The patients chosen have COPD and their Spirometry has been done in the centre. The samples of 50 cases were chosen at random (α=0,95; e=0,13) The source of the data have been the Clinic stories. The type of data: structure, process and outcomes.
Results: Each nurse is responsible of making the spirometries to each quota, what explains the lack of specific schedule for the test. The calibration wasn't recorded, nor the cleaning of the spirometer, most of the breaches focused in the classification of the test, both in the functional alteration and in the grade. As indirect effects were detected two points of improvement: first, a decreasing in the frequency of spirometry for the monitoring of these patients (average time obtained 5, 42 years with SD 3.7) and second, the improvement of the registration of patients, distinguishing between COPD patients and asthma patients.

26. Aragoneses give their opinion: The tobacco law

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Objective: Know the views of users of health centres Aragoneses in connection with the law 28/2005 of 26 December, about sanitary measures against smoking.
Methods: A cross-sectional study. Self-administered questionnaire. In April 2007 were carried out 804 surveys in health centres in the three provinces of the Autonomous Community of Aragon, interrogating users about their opinion about the anti-smoking law.
Results: The study interviewed 314 smokers and 490 non-smokers and / or ex-smokers. 11% of smokers considered that it was a wise move the anti-smoking law versus 82% of non-smokers, being this a significant difference (X2 = 372'65, p = 0.0000).

They considered the law as beneficial to their health 11% of smokers and 80% of non-smokers, being the difference significant (X2 = 368'58, p = 0.0000).

They supported banning smoking in all public spaces, the 24% of smokers compared with 62% of non-smokers, being significant the difference (X2 = 112'97, p = 0.0000).

27. Are non-smokers protected?

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Purpose: To evaluate the effect of smoke on the environment of non-smokers (never smokers / ex-smokers).
Methods: A cross-sectional study. Self-administered questionnaire. We surveyed 490 non-smokers (never smokers / ex-smokers), who had gone to the doctor for any reason during the last week of April 2007 at the health centres of our region.
Results: 43% of those who declared themselves non-smokers said that they had,at one time, smoked every day (55% of women and 33% of men), leaving 57% of people who never had tried smoking.

7% said that they had stopped smoking within the first 4 months of 2007, 9% in 2006, 31% went between 2 and 5 years without smoking, and 53% for more than 6 years.

36% of non-smokers and / or ex-smokers live with smokers in the same home, leaving only about 11% that don't live with smoke in their presence, even though 67% note that tobacco smoke bothers them and 93% believe that second hand smoke can be harmful to their health. Similarly, 53% believe that the law is never or almost never followed in places of entertainment in which smoking is prohibited (bars, restaurants, nightclubs).
Conclusions: Non-smokers feel unprotected from tobacco smoke since over a third live with smokers who regularly smoke in their presence, and considering more than the half that legislation on smoking is not followed.

28. Compliance with fixed combination vs. separates in patients using dry powder inhalers

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Aim: To compare patient compliance in inhaled corticosteroid (ICS) and long-acting β2 agonist (LABA) over 12-months following step-up from ICS alone to LABA/ICS prescribed as combination dry powder inhaler (DPI) or separate inhalers (at least one DPI).
Study Design and Methods: Patients with an asthma diagnosis, treated with an ICS DPI and whose first change in treatment was the addition of a LABA were identified from the General Practice Research Database. Patients prescribed a combination LABA/ICS DPI and who used only combination DPI during 12-months follow-up were allocated to DPI cohort. Patients prescribed an additional separate LABA inhaler and who used at least one DPI in following 12-months were allocated to the separate inhalers cohort. Inhaler compliance was evaluated using logistic regression and chi-squared tests. A compliance threshold of 70% was set as a marker of compliance.
Results: 829 separates (60% male) and 197 combination (61% male) patients were identified.

	Separate inhalers cohort	Combination cohort	p-value	Unadjusted Odds Ratio (95% CI)	Adjusted* Odds Ratio (95% CI)
ICS compliant at baseline	24.6%	17.8%	p<0.05		
ICS compliant in follow-up	37.6%	38.6%	p>0.1	1.04 (0.76-1.43)	1.58 (1.03-2.42)
LABA compliant	28.6%	38.6%	p<0.01	1.57 (1.14-2.17)	2.52 (1.65-3.84)

*Adjusting for date, age, gender, baseline SABA daily dosage, ICS dosage and compliance, oral steroids, asthma consultations and OPD hospital attendances for asthma.

Conclusions: Patients receiving ICS via a DPI and whose first change is a combination ICS/LABA DPI achieved greater ICS and LABA compliance than patients who received additional LABA as a separate LABA inhaler.

29. The value of the BODE-index in a primary care population

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Introduction: Severe COPD is seen as a multicomponent disease, which is reflected in the prediction of the mortality risk of severe COPD by the BODE-index. This index encompasses nutritional status (BMI), airway obstruction (FEV_1), dyspnoea severity (MRC), and exercise tolerance (6-MWD). However this multicomponent disease severity index (BODE, range 0-10 points) has been developed on predominantly severe patients. In primary care mostly patients with mild to moderate disease severity (GOLD stages 1 and 2) are treated, about 80% of all patients with COPD. This study aims at investigating if (components of) the BODE-index could also be used in predicting the prognosis of the disease in patients with COPD treated in primary care.
Methods: For this cross-sectional study we used spirometric and patient-data from the diagnostic centre SHL in the Netherlands. All patients fulfilling the criteria: $FEV_1/FVC < 0.70$ (post) and ≥40 years old where selected and graded according to the GOLD criteria. Next the prevalence in this population of BMI ≤21, MRC-score 3, 4 and 5 where counted. With these data a BOD-index (BMI, obstruction and dyspnoea) was calculated (score 0-7 point).
Results: Data from 2.023 patients where analysed. The majority was classified as GOLD stages 1 and 2 (76%). Only 9.3% had a BMI ≤21. A MRC score of 3 was only present in 9.6% of GOLD1 and 24.1% of GOLD 2, a MRC-score of 4 or 5 was hardly seen (1.9%). 79.6% of GOLD 1 scored 0 points on the BOD-index, of GOLD 2 41.9% had a score of 1 and 19.3% ≥2 points. In patients with GOLD stages 3 and 4, 68.3% had a BOD score of ≥2.
Conclusion: On the base of 3 out 4 components of the BODE-index the majority of GOLD 1 and 2 patients are in the lowest quartile of the index (0-2 points, 97.3%). However, an important missing factor is data on the exercise tolerance of these patients. Reviewing current literature it is not expected that a substantial group of COPD GOLD 1 and 2 patients will meet the threshold for this criterium (not being able to walk 350 m in 6 minutes). We conclude that the BODE index is not useful for COPD GOLD 1 and 2.

30. GAL severity scale for patients with moderate to severe COPD exacerbations

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Objective: Hospital admission and management of patients with Chronic Obstructive Pulmonary Disease (COPD) is based on carrying-out various tests, however there isnt a scale for determining or predicting short-term effects of or optimising decisions made in this group of patients. The final objective of this study is to create and validate a new scale for the stratification of patients with acute exacerbations of COPD in the Emergency Department (ED).
Patients and Methods: In previous studies we produced 8 variables with independent impact on short-term intrahospital mortality and then we conducted an observational pilot study, applying in longitudinal and prospective form, in which 47 patients with previous diagnosis of COPD were selected in the ED if they had moderate or severe exacerbations. A new scale with these items was applied and validation of parameters were performed. Survival analyses were also conducted at various cut-off points.
Results: The GAL score showed significant parameters of validity, with significant power of discrimination between moderate and severe cases of COPD. (ROC curve area of 0.957, CI 95%: 0.901-1.013) taking a cut-off point in 40 with a maximum of 100. The probability of survival in patients with a score above 40 points was significantly reduced (log rank 15,336, p=0,0001).
Conclusions: Our results supports the need for larger studies utilising our scale (GAL score) in patients with moderate and severe exacerbations of COPD.

31. Anxiety level of the people who take care of asthmatic patients and the difficulties they face

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It is estimated that there are approximately 4 million asthmatic patients in Turkey. Asthma is required a close care and careful nursing for the patients.
Objective: This research was carried out to determine anxiety level people who take care of asthmatic patients (PTCA) and the difficulties they face.
Method: Forty PTCAs participated in the study in Akdeniz University Hospital between September 2007 and January 2008. A personal data form and the State and Trait Anxiety Inventory were completed by each participant.
Results: Mean age was 60.4±16.68 years and 77.5% was female. Percentage allocation of PTCAs regarding socioeconomic characteristics was as follows: (72.5%) married, (45%) high school graduate, (52.5%) house wife, (62.5%) unemployed, (75%) middle-income class, (40%) patient's spouse, (65%) housemate with the patient. Common difficulties they face were treatment related problems (22.5%), bureaucratic referral system problems (20%), long waiting time in outpatient clinics (32.5%), transport difficulties (27.5%), lack of a consulting person for information (15%), loneliness (22.5%), sadness (22.5%), hopelessness and worry (27.5%), weakness (17.5%), anger (7.5%), lack of private leisure time (20%), lack of time for other family members (17.5%), and obligation to stay at home all the time (10%). The mean scores for state and trait anxiety in the study group were 38.33±5.576, and 42.73±7.118 respectively. The state anxiety level was mild in 57.5% (n=23) and moderate in 42.5% (n=17). The trait anxiety level was mild in 42.5% (n=17) and moderate in 57.5% (n=23).
Conclusion: The PTCAs face some serious physical and mental problems. Arrangements like special transport facilities or priorities in waiting rooms and some psychological consulting services should be considered for their physical and mental health.

32. Smoking habits and knowledge about the effects of smoking among high school students in Greece

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Background: Smoking in Greece is a serious threat to public health. It is estimated that three out of ten young Greeks have smoked once before the age of thirteen1-2. The group of school students is subjected to change and school seems an ideal place for both preventive and smoking cessation programs.
Aim: The aim of this study was to investigate into the smoking habits and the level of knowledge regarding the negative effects of smoking among high school students in Greece.
Methods: 1280, high-school students of both sexes, aged between 11-15 years, (Median 12,8±2) from 12 different Schools of Achaia & Ilia Regions of Peloponnese Greece were asked to complete a confidential standardised questionnaire regarding their own and their families and friends smoking status.
Results: 61% of the participants reported having ever smoked, while 35% reported current smoking status and 12% daily tobacco use. 9.1% of smokers reported smoking at home with the tolerance of their parents. The majority of students were able to smoke at school. All students were aware that smoking causes lung cancer and premature death, while 78% of female students were concerned of the cosmetic effects of smoking (Bad breath, yellow teeth, wrinkles etc.). Only 30% were aware that smoking causes COPD and 21% wee afraid that smoking causes impotence.
Conclusions: Smoking prevalence was observed to be elevated within this group of school students from Northern and Western Peloponnese. Health education programmes addressing both students and families should be urgently established so as to prevent the addiction of greek school children to nicotine.

33. The effect of passive smoking on children's respiratory symptoms and pulmonary function in Braga, Portugal

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Aim: Assessment of smoking behaviours at home and their influence on respiratory symptoms, diseases and pulmonary function in children between 8 and 10 years old.
Type of Study: Observational cross-sectional analytical study.
Local: Primary school of Maximinos.
Population: Children ranging from 8 to 10 years old, belonging to Braga's primary schools.
Methods: In this study parents or guardians answered a questionnaire on their smoking behaviours and their children's respiratory health. Children's pulmonary function was measured spirometrically, including FEV_1, FVC, FEF_{25}, FEF_{50}, FEF_{25-75} and FEV_1/FVC parameters.
Results: Of the 105 children screened, 47.6% have, at least, one family member presently smoking. In the group of children with exposure to environmental tobacco smoke, 87.5% presents cough and sputum, 53.8% have, at least, one symptom of asthma and 69.0% have symptoms of rhinitis. Among the patients with physician-diagnosed bronchitis, asthma and rhinitis, 100%, 33.3% and 72.7% have history of tobacco exposure, respectively. The comparison between children never exposed and exposed to tobacco smoke in their home shows that the latter group have lower values of FEV_1, FEF_{25}, FEF_{50}, FEF_{25-75} and FEV_1/FVC; these parameters also present a decreasing tendency with the increase of environmental tobacco smoke exposure.
Conclusions: Environmental tobacco smoke is a serious and substantial public health concern, with particular impact on respiratory health of children. Therefore, it is crucial to develop strategies in order to minimise the children's involuntary exposure to environmental tobacco smoke. These efforts should focus on parent's instruction and their commitment with health promotion and education.

34. Do asthma guidelines need rewriting for add-on therapy in asthma - results of a 2 year randomised pragmatic equivalence trial of leukotriene antagonists (LTRAs) and long-acting beta agonists (LABAs) with inhaled corticosteroids (ICS) in primary care

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Background: Relative effectiveness of LTRAs and LABAs prescribed as add-on therapy to ICS is unclear.
Aim: Test the null hypothesis that LTRA provides equivalent improvements in Juniper Mini Asthma Quality of Life Questionnaire (mAQLQ), Asthma Control Questionnaire (ACQ), and % predicted peak expiratory flow (%PEF) at least equal to adding a LABA in asthmatic patients aged >11 years.
Study Design and Methods: Pragmatic, single-blind (to study staff), randomised controlled trial comparing LTRA versus LABA as add-on therapy to ICS was used. Drug/device choices were made according to normal clinical practice. Asthmatic patients (%PEF >50%), uncontrolled on ICS, were recruited from general practice. Outcomes (mAQLQ, ACQ and %PEF) were measured at baseline (time 0), 2, 6, 12, 18 and 24 months post-randomisation. Study was powered for equivalence based on difference in mAQLQ of <0.3.
Results: 352 patients were recruited and 340 (164 LTRA, 176 LABA) (%PEF mean (SD) 88.01(17.69)) completed the study. No differences were found in AQLQ (difference (95%CI): 0.14(-0.05-0.33)), ACQ (-0.08(-0.24-0.07)) or %PEF (1.46(-0.95-3.87)).

		Time (months)					
		0	2	6	12	18	24
AQLQ Mean (SD)	ICS	4.41 (1.07)	5.04 (1.11)	5.15 (1.04)	5.18 (1.06)	5.30 (1.10)	5.44 (1.08)
	LTRA	4.64 (1.11)	5.10 (1.16)	5.30 (1.17)	5.27 (1.19)	5.35 (1.04)	5.45 (1.15)
ACQ Mean (SD	ICS	2.14 (0.89)	1.60 (0.98)	1.45 (0.89)	1.47 (0.86)	1.39 (0.92)	1.32 (0.91)
	LTRA	2.02 (0.90)	1.61 (1.00)	1.39 (0.95)	1.37 (0.87)	1.33 (0.89)	1.28 (0.95)
%PEF Mean (SD)	ICS	87.0 (17.9)	91.6 (17.8)	93.2 (17.6)	93.6 (17.6)	91.4 (18.3)	89.7 (18.5)
	LTRA	89.2 (17.4)	92.8 (18.6)	92.2 (17.7)	93.3 (14.9)	92.4 (19.0)	90.3 (17.5)

Conclusions: Asthma guidelines merit review to reflect equivalence of LTRA to LABA as add-on to ICS.

35. Community-acquired pneumonia caused by Legionella pneumophila in South Cordoba health district (2003-2007)

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Introduction: Legionella pneumophila is the second cause of severe community acquired pneumonia (CAP). Over the last few years, all adult patients diagnosed at Primary Health Care Centres of South Cordoba Health District with sever chest infection and at least one risk factor for Legionella infection are referred to Infanta Margarita Hospital. Routine rapid urine antigen assay for detection of Streptococcus pneumoniae and Legionella pneumophila is done for all referred patients.
Objective: Our study aimed at identification of the epidemiological characteristics of CAP caused by Legionella pneumophila in South Cordoba Health District over the last 5 years.
Methodology: All clinical records of patients with CAP caused by Legionella pneumophila were reviewed, as a part of our surveillance program, from January 2003 to December 2007. Diagnosis of CAP caused by Legionella pneumophila was based on clinical criteria and confirmatory laboratory results.
Results: Of the 21 identified patients, 3, 1, 3, 8 and 6 were diagnosed during 2003, 2004, 2005, 2006, and 2007 respectively. Most of cases were males (80.9.7%) and the mean age was 60.6 + 18.3 years (range 36 – 91). Eighteen patients (86%) were admitted at Infanta Margarita Hospital with full recovery. The remaining 3 patients were admitted at De La Merced Hospital, Montilla Hospital and Reina Sofia University Hospital, without any fatal prognosis.
Discussion and Conclusion: Routine rapid urine antigen assay is an efficient system for early diagnosis of CAP caused by Legionella pneumophila, especially in warm countries like Spain. Early diagnosis has ensured better prognosis with full recovery of all cases.

36. An exploration of reasons for low physical activity levels among children with asthma

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Background: Physical activity levels among children are low and falling. This is especially a problem for children and young people with asthma. The very existence of asthma can deter children from participating, and parents and school staff from engaging them, in physical activity (National Asthma Campaign Scotland 2001). Yet exercise is essential for their overall health and wellbeing.
Aims: The aim of this study was to explore the children's, family members' and schools' explanations for levels of physical activity.
Methods: The study employed a qualitative research design. Thirty children and their parents were interviewed (in depth and separately). Twelve focus groups were conducted in schools with peers and school staff. A total of 74 children and 28 members of staff took part in the focus groups. Data was analysed using framework analysis and facilitated by Nivo software.
Results: The study found that beliefs about capability and safety were critical in determining both children and parent's motivation to participate in exercise and physical activity. In turn how children and parents managed taking part in activity depended upon their illness beliefs about the 'triggers' of asthma and the social value they placed on the particular activity.
Conclusion: The findings should form the basis of an intervention program aimed at initiating and sustaining increases in activity among children with asthma.

37. Outcomes with fixed combinations versus separate inhaler use

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Aim: To compare asthma control in patients stepped-up from inhaled corticosteroid (ICS) alone to ICS plus long acting β2 agonists (LABA) as either combination inhalers or separate inhalers over a 12-month period.
Study Design and Methods: Patients with an asthma diagnosis, treated with ICS alone and whose first change in treatment was addition of LABA were identified from the General Practice Research Database. Patients prescribed a combination LABA/ICS inhaler and who used only combination inhalers for the following 12-months were allocated to the combination cohort. Patients prescribed only separates in the year after LABA addition were allocated to the separate inhalers cohort. Cohorts were compared in terms of successful asthma control (defined as no hospital attendances for asthma, no oral steroids prescriptions and average daily dosage of salbutamol ≤100mcg or terbutaline ≤250mcg) using logistic regression and chi-squared tests.
Results: 7515 patients were identified.

	Separates (n=6029)	Combinations (n=1486)	p-value	Adjusted* Odds Ratio (95%CI)
Successful asthma control	25.1%	36.4%	p<0.001	1.56 (1.37-1.77)
No Oral steroids	73.3%	81.2%	p<0.001	1.40 (1.20-1.63)
SABA dosage: % meeting target	27.2%	40.8%	p<0.001	1.45 (1.28-1.64)
No Asthma hospital admissions	99.3%	99.8%	p<0.05	2.00 (0.61-6.62)
No asthma A&E admissions	100%	100%		
No asthma out-patient attendances	97.6%	99.1%	p<0.001	2.20 (1.26-3.83)

*Adjusting for age, baseline SABA daily dosage, ICS daily dosage, oral steroids, asthma consultations, hospital admission for asthma and ICS compliance

Conclusions: Asthma patients started on ICS of any dose who then receive additional LABA via an ICS/LABA combination achieve better asthma control than patients receiving additional LABA as a separate inhaler.

38. Respiratory physiotherapy at home in COPD patients

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Introduction: The new rehabilitation plan of 2006 in the department of health of our community involves treating diseases related to a new list of pathologies, among which appears to address the treatment of COPD.
Aims: Raise awareness about the treatment of respiratory physiotherapy home with COPD patients.

Investigate if is more appropriate to deal with COPD patient at home or in the primary care centre.
Methodology: Exhaustive review of physiotherapy treatment of COPD at home.

Show and describe this treatment by audiovisual material and / or photography.

Conducting a update of recent articles published concerning COPD and / or respiratory physiotherapy.
Results: The treatment of respiratory physiotherapy at home for a COPD patient consists of a purely physiotherapy techniques and the other based on aerobic exercise.

These two parts are easy to apply at the home of the patient, the degree of implementation will depend on the degree of adherence to treatment for the sick.

The completion of the update and subsequent analyses reveal different conclusions.
Conclusions: In the short term rehabilitation programmes in primary care centres have better results than that programs homemade. The long-term programme made at home gives superior results, primarily due to the record when it comes to doing the exercises.

39. Implementation of, and adherence to, guideline recommendations for community-acquired pneumonia (CAP) in our emergency room

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Objective: To evaluate the correct use of the guidelines (Scale Fine) in CAP.
Methods: We performed a retrospective study of 77 patients who had come to the emergency room of our hospital with a diagnosis of CAP (radiographically confirmed) during February and March 2007. We searched risk factors associated and comorbidities, using blood test, serologic test, sputum culture, antibiotic treatment, complication, and stay in hospital.
Results: 84% (65 cases) achieved accurately Fine Scale, required hospitalisation 67.5%, with a mean stay in hospital of 12.6 days; 63.6% were males. 51.9% were serologic test negatives, and 38.5% positives. 19.1% Streptococo Pneumoniae was the more frequent isolate pathogen. The antibiotic treatment more used was (48.11%) β-lactam/ β-lactamase inhibitor (29.8%) Levofloxacin, particularly in patients diagnosed of CORP (53.2%), followed of β-lactam and macrolide (14.3%). Ulcerative colitis was the complication that appeared more often (6.5%). Comorbidities found (18.18%) CORP, (12.98%) neoplastic disease, (3.89%) VIH, (3.9%) pulmonary tuberculosis.
Conclusions: Criteria of hospital admission and empirical antibiotic use stablished in the guidelines are followed in a high proportion. β-lactam was the antibiotic more often used. Microbiological diagnosis was possible only in a few cases.

40. Usefulness of a patient symptom diary in acute exacerbations of chronic bronchitis

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Aim: The objective of the ESAB study (Evolution of Symptoms in Chronic Bronchitis) was to assess the usefulness of a patient's diary of symptoms for monitoring the evolution of an acute exacerbation of chronic bronchitis (AECB).
Methods: Multicentre, observational study in outpatients with AECB. Patients had to fill out a diary of symptoms every day before bedtime, during 10 days after presentation of AECB. The diary consisted of: general status (from 0 to 4), breathing (0-4), coughing (0-3), sputum consistence (0-4), sputum colour (0-3), volume of sputum (0-4), and symptom scale (0-5). Its score ranged from 0 (best) to 27 (worse). An visit was performed at day 15 to collect patient's diaries.
Results: 786 out of 1,101 patients returned the diary (71.4%). The most frequent symptoms were increase of expectoration (91%) and increase in dyspnoea (87.3%). Up to 62.3% of the AECB were Anthonisen's type I. 84.9% presented a change in sputum colour to yellowish or yellow–greenish. Patients with type 1 exacerbation presented a higher score at day 1 (type I: 22 ± 3.9; type II: 19.6 ± 4.1; type III: 17.2 ± 4.7; p<0.001). Patients who were considered as cured at day 10 presented a lower score at day 1 (20.7 ± 4.3)

vs. those who failed (21.8 ± 4.2). Interestingly, a greater difference was observed at day 4 (cured: 15.2 ± 4.4, failed: 18 ± 4.2; p<0.001).
Conclusions: A symptom diary seems to be a valuable tool to identify patients with AECB that could fail.

41. Nicotine dependence and smoking abstinence among patients with severe COPD in a rural smoking cessation health centre in Greece

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Aim: Little is known on the smoking behaviour of patients with COPD within Greek Primary Care. This study reports on the evaluation of nicotine dependence in patients with severe COPD who attended a smoking cessation centre in a rural primary care setting in Greece.
Patients and Methods: All smokers with severe COPD attending the Smoking Cessation Clinic of the Health Center of Varda-Ilias. (n=112, 97% male, mean age 72.5 ± 8.2 yrs, smokers of 39±8 pack-years) were eligible for the study. All patients were evaluated with the Fagerström Test for nicotine dependence and received the same consultation therapy and nicotine replacement therapy and/or bupropion.
Results: High nicotine dependence (Fagerström Test score ≥ 7) was found in 69.6% of the patients. (n=78 Group A), medium nicotine dependence (Fagerström Test score 4-6) in 15.8% (n=17, Group B) and low nicotine dependence (Fagerström Test score ≤3) in 15.8% (n=17, Group C). In total 68.8% (n= 77) had quit smoking within the first 3 months of treatment and 52.7% (n=59) within a 6 month period. 38.4% (n=43 patients) remained non-smokers after a one year period. The greater consistency in abstinence from smoking after a one year period were observed in Groups B and C both with 76.5% of participants still non smokers (n=13), while the patients of Group A that remained non-smokers was notably lower (21.8%, n=17).
Conclusions: High levels of nicotine dependence was noted among smokers with severe COPD in rural Greece. High nicotine dependent patients with severe COPD seemed to have a low probability of quitting smoking and this may have an impact on smoking cessation programs in primary care.

42. Impact of nurse educators on medication adherence in patients with asthma: A randomised controlled trial

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Background: One of the reasons contributing to poor control of asthma is failure of medication adherence. Asthma nurse educators may play an important role in improving adherence.
Objective: To examine the impact of asthma nurse educators on medication adherence in patients with asthma.
Methodology: This was a randomised control study. Consecutive patients with mild to moderate asthma attending a primary care clinic were recruited into the study. They were randomly assigned to usual care or usual care plus education from trained asthma nurses on a 4:1 basis respectively.

A self-administered questionnaire capturing demographic profile and adherence to medication was applied to all participants. Intervention by nurses included education on asthma and inhaler technique at baseline, 6 months and one year. Answers to questions on adherence were captured for the same periods.
Results: 132 patients participated.(Mean age 41.6 years [SD±10.9] 71.4% females). At baseline, 56.5% in the nurse education group and 37.8% of the usual care group reported as having missed their medication. At the end of 6 months, there was no significant difference in adherence rates between the two groups. (50% of the intervention and 53% of usual care group missed their medication p=0.36) At 1 year, 70% and 52.8% of the intervention and usual care group respectively missed their medication.
Conclusion: The addition of asthma nurse educators on the top of usual care did not seem to have improved medication adherence in patients with mild to moderate asthma. Further studies are needed to determine the reasons for this finding.

43. A qualitative study of factors affecting family physicians' prescription of written asthma action plan in primary care in Singapore

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Introduction: Written asthma action plan (WAAP) is evidence-based written instruction to patients to adjust medications according to their asthma control. It has been adopted in Singapore polyclinics and restructured hospitals in the past few years. However, no precedent local study has been carried out to determine the use and impact of WAAP in primary care, where asthmatic patients can choose to be treated by family physicians (FP) at public polyclinics or private general practitioner (GP) clinics.
Objective: This qualitative study explored FPs' views of WAAP and its implementation in primary care in Singapore.
Method: Qualitative data was obtained from 29 FPs from polyclinics, GP clinics or locum doctors at five separate focus group discussions. The data was coded using NVivo-7 software, audited and analysed to identify emergent themes.
Results: The FPs generally perceived usefulness of WAAP. Whilst WAAP was widely used in polyclinics, GPs rarely used it. Even in polyclinics, usage varied and was associated with FPs' training & practice of WAAP and task substitution to nurses. They perceived that WAAP would benefit only selected motivated patients who could understand and use it. They were hampered by language barriers in educating their multi-racial patients and perceived lack of time related to patient loads in polyclinics. The GPs lacked training & practice, role model and relied on verbal instructions as a personalised form of care delivery.
Conclusion: FPs generally perceived WAAP as useful but implementation was hampered by lack of training and practice, language barriers and perceived benefits for patients.

44. Current definition for obstruction causes substantial COPD overdiagnosis in primary care

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Aim: To establish agreement between two recommended definitions for airflow obstruction in symptomatic adults referred for spirometry by their general practitioner.
Methods: We analysed routine diagnostic spirometry tests of 14,056 adults with respiratory symptoms referred for spirometry. We looked at differences in clinical interpretation between a fixed 0.70 FEV_1/FVC cut-point and a sex and age specific lower limit of normal (LLN) cut-point for this ratio.
Results: 53% of all subjects were females, 69% were current or former smokers. Mean postbronchodilator FEV_1/FVC was 0.73 (SD 0.13) for males and 0.78 (SD 0.11) for females. Sensitivity of the fixed cut-point relative to the LLN cut-point definition was 97.7%, specificity 91.2%, positive predictive value 72.0%, and negative predictive value 99.4%. For a subgroup of 50+ (ex-) smokers corresponding figures were: 100%; 82.0%; 69.2%, and 100%. Proportions of false positive diagnoses when using the fixed cut-point increased with age: 8.9% for 31-40 years 15.5% for 41-50 years, 23.9% or 51-60 years, 33.2% for 61-70 years, 38.7% for 71-80 years, and 42.7% for ≥81 years (Chi-squared test: p<0.001).
Conclusion: The current clinical guideline-recommended 0.70 fixed FEV_1/FVC cut-off value leads to substantial overdiagnosis of obstruction in middle-aged and elderly patients in primary care.

45. Monitoring of COPD; a review of current guidelines

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Introduction: The goals for the management of chronic obstructive pulmonary disease (COPD) are to delay the process of disease progression and alleviate its manifestations. The follow-up of the patients' physical and mental condition is part of best practice management when monitoring routines results in information that contributes to the achievement of management goals. However, the recommendations on monitoring procedures may differ between guidelines and may not be based on scientific evidence.
Aim: The aim of this study was to review the current guideline recommendations on monitoring routines for COPD and the levels of evidence of these recommendations.
Methods: Clinical practice guidelines on COPD were identified by a Medline search, Internet search and expanded by experts in the respiratory field. The retrieved guidelines COPD were analysed on recommended monitoring routines. For the recommended monitoring routines, the evidence according to the guidelines was summarised.
Results: Eighteen clinical practice guidelines on the management of COPD were analysed. The follow-up of lung function indices was the most frequently recommended monitoring routine. Moreover, the majority of the guidelines recommended monitoring of symptoms, exercise tolerance, comorbidity, and smoking habits. In none of the guidelines the recommended monitoring routines were evidence based.
Conclusion: Some monitoring routines were recommended frequently, especially follow-up of lung function indices. However evidence to support the guideline recommendations for the monitoring of patients with COPD is currently missing. The effect of monitoring on the patient care process and outcomes should be assessed.

46. Do fish and cod liver oil consumption during pregnancy and the first year of life prevent allergic disease at 2 years of age? A prospective birth cohort study

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Background: There are conflicting results regarding the role n-3 polyunsaturated fatty acids (n-3 PUFAs) and fish might play in primary prevention of allergic diseases. The aim was to investigate the association of cod liver oil supplementation (rich in n-3 PUFAs), consumption of fish during pregnancy and the first year of life and allergic disease at 2 years.
Methods: From the Prevention of Allergy among Children in Trondheim study (PACT) 2748 children were followed prospectively from 1 year to approximately 2 years of age. The primary outcome variable was allergic disease at 2 years. To prevent disease modification of diet, children with allergic disease before 1 year of age were excluded from the final multivariate logistic regression analyses.
Results: Mean age for introducing fish in the diet was 9.2 months. A reduced risk of developing allergic disease was found if the child was eating fish once a week or more compared to less than once a week, adjusted odds ratio (aOR) of 0.69 (CI 95% 0.48-1.00 p=0.050). The association for lean fish was stronger, aOR 0.67 (CI 95% 0.46-0.97 p=0.035). We found no association between mother's diet, children's intake of cod liver oil first year of life and allergic disease at 2 years.
Conclusion: Fish consumption *per se* in infancy is more important than maternal diet during pregnancy in preventing allergic disease in childhood. The role of n-3 PUFAs in preventing allergic disease is questionable.

47. The value of self-report assessment of adherence, rhinitis and smoking in relation to asthma control

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The majority of adults with asthma fail to achieve good control of the disease, despite the availability of effective treatments. Regular review of asthma should focus on identifying poor control and its modifiable causes.

The *aim* of this study was to explore the utility of simple, self-report measures of inhaled corticosteroid (ICS) adherence, degree of rhinitis and smoking status and their association with asthma control.
Method: 3916 patients prescribed ICS for asthma at 85 UK practices completed a Minimum Asthma Assessment Tool (MAAT). This includes brief validated questionnaire measures of control (Asthma Control Questionnaire; ACQ) and adherence (Medication Adherence Report Scale), a two-item measure of smoking status and a single-item measure of rhinitis.
Results: Multiple logistic regression revealed that poor asthma control (ACQ >1.5) was associated with reported rhinitis (OR = 4.47; 95% CI: 3.55-5.62), smoking (OR = 4.13; 95% CI: 3.42-4.99) and low adherence to ICS (OR = 1.40; 95% CI: 1.21-1.61). The degree of rhinitis was important, with patients who reported severe rhinitis exhibiting poorer asthma control than those who reported mild rhinitis ($t(3121)=10.6$, $p<.001$). There was a relationship between the reported number of cigarettes smoked each day and asthma control, with control decreasing as the number of cigarettes increased ($F(4,866) = 17.8$, $p<.001$).
In *conclusion*, poor asthma control is strongly associated with self-reported rhinitis, smoking and adherence. These potentially modifiable predictors of poor asthma control can be identified through a brief self-report questionnaire, which could be used routinely in clinical practice as part of asthma review.

48. Evaluation of the symptoms of asthmatic patients

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Chronic disease management targets improving quality of life of patients, and decreasing work-loss and costs. It is important to evaluate the symptoms and to give efforts to relieve them in asthmatics.
The *aim* of this study was to evaluate symptoms of the asthmatic patients.
Method: It was carried out among 110 asthmatics in Akdeniz University Hospital between January and September 2007. A personal data form and questionnaire asking the presence of symptoms prepared by the researchers was completed by the participants.
Results: Mean age was 53.4±14.51 years and 59.1% was female. Socioeconomic characteristics in study group were as follows: (85.5%) married, (39.1%) primary school graduate, (40.9%) house wife. The duration of the disease was 1-13 years in 70% and 64.5% had experienced at least one serious attack throughout the last year. Distribution of symptoms that the patients had in the last 3 months was as follows: mild to moderate dyspnoea(61%), frequent and serious dyspnoea (39%), frequent and serious fatigue and weakness (45%), mild loss of appetite (25%), mild cough (50%), sleep disturbances (49%), activity limitation (60%), expectoration with a small amount of sputum (53%), and chest pain (49%). Disease duration is less than 1 year in 28%, and 1-6 years in 32%. Of the patients, 62% was under regular drug therapy, 79% had no education on asthma and its treatment and 49% need the care of their families at home. Frequency of symptoms experienced throughout the last 3 months is high and far from the "zero symptom" target. Symptoms should be relieved or decreased to a level that does not cause life quality losses.

49. Multifaceted educational intervention to optimise the management of patients with COPD in primary care practice in Québec and Ontario: CAGE Study

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Purpose: Chronic obstructive pulmonary disease (COPD) management in primary care remains suboptimal. The CAGE study is a prospective, cross-sectional study in Québec and Ontario that was undertaken to evaluate a multifaceted educational intervention (MEI) on the practice patterns in COPD.
Methods: Primary care physicians each recruited up to 8 successive COPD patients in four 8-week cycles. MEI was provided in three stages: (1) passive dissemination of Canadian COPD Guidelines after cycle 1; (2) 45-minute small group advisor-led teleconferences after cycle 2, and (3) 1:1 academic detailing incorporating audit and feedback on practice patterns after cycle 3. Discrepancies between practice and guidelines were measured after each MEI stage.
Results: 167 physicians recruited 3,585 consecutive COPD patients (57% male). Mean age was 69 years; 45% were current smokers. 38% of patients had stable COPD of moderate severity, 34% had mild disease. At baseline, 66% of patients had at least one gap between prescribed pharmacological treatment and COPD guidelines. After the three MEI stages, this percentage decreased to 58% ($p<0.05$).
Conclusion: Traditional educational interventions such as passive dissemination of guidelines had limited impact on reducing the overall care gap in COPD management. Academic detailing by peers seems to be the most effective educational intervention. Hypotheses derived from this study will need to be further evaluated in a controlled study.

50. Changes in self-reported risk factors for allergic disease in the PACT-study - A controlled interventional cohort study

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Background: Methods and strategies to bring about changes in life-style related risk-factors for allergic diseases in childhood is a major public health matter and needs to be implemented and evaluated in a community-wide real life setting.
Methods: The Prevention of Allergy among Children in Trondheim (PACT) study invited all GPs, midwives and public health nurses in the community to a real-life, controlled life-style intervention trial on consumption of cod liver oil and oily fish, parental smoking behaviour and indoor humidity. The interventions were implemented repeatedly from pregnancy until two years post partum, including 2852 in an intervention cohort and 7845 in a control cohort. Risk-factor exposure and behaviour were registered repeatedly by parental administered questionnaires.Results: During pregnancy 4.3% in the control cohort and 7.6% in the intervention cohort ate oily fish at least twice a week (adjusted data) Absolute risk reduction (ARR) was : 3.3%. During breastfeeding the intake was 4.1% and 8.3% in the control and intervention cohorts, respectively (ARR = 4.1%). Cod liver oil was consumed four times a week or more by 43.0% in the control cohort and 64.3% in the intervention cohort during pregnancy (ARR = 21.3%), and by 32.5% and 48.0% (ARR = 15.5%) during breast-feeding, respectively. The incidence of maternal tobacco smoking during pregnancy was 10.4% in the control cohort versus 6.0% in the intervention cohort (ARR = 4.4%), and during breast-feeding 16.7% and 9.6% (ARR = 7.1%). Interventions to reduce indoor humidity had no significant effect on behaviour. Among the children there was only a difference between the cohorts related to consumption of cod liver oil, 38.5% versus 46.1% (ARR = 7.6%) first year of life and 34.8% versus 41.8% (ARR = 7.0%) during second year of life.
Conclusions: Structured interventional programs can be adapted and implemented in ordinary primary health care within existing limits of cost and time use. Health professionals in primary health care can cooperate in a real-life setting to bring about pre- and postnatal changes in life-style and risk/protective parental behaviour to reduce assumed risk for allergic disease in childhood.

51. Quality of life in asthmatic patients

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Asthma is known to limit individual's physical, emotional and social functions, and decrease the life satisfaction and the quality of life. It is estimated that there are approximately 4 million asthmatic patients in Turkey.

The *aim* of this study was to investigate the quality of life in asthmatic patients.
Method: It was carried out among 110 asthmatic patients who applied to Akdeniz University Hospital between January 1st 2007 and September 1st 2007. Each participant completed a personal data form and the SF 36 the Quality of Life Questionnaire.
Results: Mean age of the participants is 53.4±14.51 and 59.1% was female. Percentage allocation of the participants according to socioeconomic characteristics was as follows: 85.5% married, 39.1% graduated from primary school, 40.9% house wife. The duration of the disease was 1-13 years in 70% and 64.5% had experienced at least one serious attack throughout the last 12 months. Mean overall score of quality of life is 81.87±13.26. The mean scores in subgroups of SF-36 were 33.95±8.23 in "physical functioning", 17.12± 3.25 in "general health", and 40.85±3.18 in "vitality". Although overall quality of life score was found high among our participants, general health, physical functioning and vitality scores were found above the average. In *conclusion*, the quality of life among asthmatic patients was low at least for some certain aspects of SF-36. Improving individual self-care skills, supporting compliance to advised therapy and care and socio-emotional support may help increase the life quality of asthmatic patients.

52. Improving quality of COPD care by integrating the primary care setting

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Aim: Introduction of a diagnosis based costing method (DBC) as part of a new organisational model for improving the quality of COPD care within the existing budget restraints, to be implemented in the primary care in the region of Maastricht/Heuvelland.
Method of the COPD DBC: Health plans contract with GPs who coordinate the delivery of COPD care within the primary care setting. Evidence-based medical guidelines and evidence about the organisation of integrated COPD care were used to outline care in a multidisciplinary protocol. In the existing disease management model, transfer of care for patients with COPD to the primary care nurse specialist has been proven justifiable in terms of patient outcomes and cost-effectiveness. The DBC-method builds on this disease management protocol of COPD, used in this region.
Results: Main components of the disease management model are the registration of the patients (N = 6.000) over the different care modules (GOLD 1:1.680 (28%); GOLD 2: 3.240 (54%); GOLD 3: 900 (15%); GOLD 4: 180 (3%)), the mean scores of outcome and process indicators such as FEV_1%, FVC, VVMi, BMI, smoking status, exacerbations and use of inhaled drugs and information about the care process, patients' self-management and guidelines applied in practice.
Conclusions: Working conform an integrated care model has been adopted by professionals in the primary care setting and by patients. Moreover, agreement has now been reached in the process of care delivery, the indicators for performance based costing and the collection of data for care and research purposes for the entire region. Patient outcomes, cost-effectiveness and benefits of COPD disease management will be presented.

53. Multicentre initiatives to improve quality of chronic obstructive pulmonary disease (COPD) in aragon

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Objectives:
- Describing the quality of the diagnosis of patients with COPD according to GOLD.
- Comparing the fulfilment level among the different centres choosing a benchmark when appropriate.
- Knowing the symptoms that guided us to the diagnosis of COPD.

Methodology: Descriptive study of quality standards and variables associated with the defects found.

Patients between 40 and 70 years included in the Chronic Obstructive Pulmonary Disease (COPD) program of 10 health centres of Aragon in 2006 were included.

Random selection of 50 patients per centre. Data source were the clinical histories.

One reviewer in each centre, internal retrospective evaluation.

Spiros have been evaluated by one only expert. Before this, kappa coefficient was applied to 30 histories by another expert observer

Results: 8 of the 10 centres recruited answered the sent questionnaire. The overall prevalence was 1.65. 5 centres had done formation courses. 4 centres provided diagnostic spirometries. The validity was 9% in Centre D, 20% in centre S, 39% in centre SP y 40% in centre A. More than 50% of the centres carried out the diagnosis in their own health centre. The diagnosis was made by spirometry in 55.3%. The overall percentage of patients with dyspnoea was 49.5%.

Conclusions: Emphasises the low prevalence of COPD found. Rare diagnosis performed with spirometry in health centres as well as a rare validity of it. High percentage of patients with dyspnoea at the time of diagnosis, what suggests a late diagnosis.

54. Types of COPD patients treated in a primary care physiotherapy unit

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Aims: Due to the incidence of chronic obstructive pulmonary disease (COPD) in primary care, we have seen fit to assess the effectiveness of physiotherapy treatment protocols within the multidisciplinary action.

Methodology: To accomplish this task, we have made a collection of data from January 2001 to April 2006 the clinical history of the physiotherapy unit of the primary care centre, patients with COPD.

Results:
1. The average age of patients is 75 years.
2. 77% of patients referred come from the family doctor.
3. In terms of treatment, the 62% of the patients have had enough with the rise of vital capacity (VC) and the retraining effort, 15% have been added to enhance the mobility of the thoracic cage, the remaining 15% also has added expectoration directed, and only 8% had had enough with the rise of VC iand automation ventilatory correct pattern.
4. It should be said that significant improvements have been achieved in 47% of cases with 10 sessions, in 38% with 15 sessions and 15% with 8 sessions.

Conclusions: We can say that the patient type treated in our physiotherapy unit is elderly, derived by the family doctor and, because of his physical condition, he is usually attended at home. The treatment is based mainly on the increase in VC and for the retraining effort is required an average of 10 sessions.

55. Childhood asthma: A challenge for primary care physicians in developing countries

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Introduction: Asthma in children is effectively a different disease from adult asthma. Community and primary care settings are where most asthma is diagnosed and managed. Childhood asthma is not different and reviewing the issue is very important.

Aim: To highlight the real-life practice of childhood asthma in the developing countries like Bangladesh.

Method: Search of recently published literatures and sharing our experience.

Results: The challenges of childhood asthma management in primary care setting in our country are: diagnosis of asthma under-five groups, identifying and managing associated illness, misbelieves on asthma in community, prescribing inhaler devices, evaluating and managing symptoms, objective measurements, cost of treatment and delivery of drugs. Poor understanding and training on the paediatric principles makes the situation difficult for the primary care practitioners. As such we felt the need for the infusion of in-depth knowledge and skill on paediatric asthma to us.

Discussion: The common symptoms of asthma are cough, wheeze, chest tightness and breathlessness. In fact all children cough, probably around 50% wheeze in some way or other before they reach their school age, but most children are normal. In our culture 'beathlessness' is the terms commonly used for both asthma and COPD. Parents are resistant to accept the diagnosis of asthma. They also mean the 'use inhaled drug' as the 'diagnosis of asthma' and as such they deny using inhaled drugs even for the therapeutic trial. Here we take different strategy by replacing oral therapy e.g. Montelukast in place of Inhaled corticosteroids.