

Methods Consecutive admissions from six UK hospitals were identified from the DECAF derivation and validation studies.² All patients (n = 2,645) had definite COPD (including spirometric confirmation) and the primary reason for admission was AECOPD. DECAF indices (dyspnoea, eosinopenia, consolidation, acidemia and atrial fibrillation) and age were collected.

We captured the number of inpatient deaths per day of admission (compared to the total number of admissions on each day) and per day of death (compared to the total number of bed days for each day). Proportions were compared using Fisher's exact test. The association between period of admission (weekday/weekend) and mortality was assessed in a binary logistic regression model, including the DECAF indices and age.

Results Inpatient mortality was 9.3% (63/676) for those admitted on weekends, compared to 8.4% (165/1969) on weekdays (p = 0.47). For day of death, no clear difference in mortality was seen between weekdays and weekends although fewer deaths were seen on Fridays. Exacerbation severity was similar between weekday and weekend admissions (median DECAF score 2 vs. 2, p = 0.83). Following adjustment for baseline mortality risk, there was no association between weekend admission and inpatient death; OR 1.11 (0.79 to 1.56), p = 0.55.

Abstract P146 Table 1 Mortality by day of admission and day of death

	Mortality by day of admission		Mortality by day of death	
	Died/Admissions	%	Died	Days exposed to risk
Mon	38/436	8.7	38	412
Tue	33/434	7.6	34	407
Wed	23/349	6.6	33	396
Thu	39/372	10.5	40	402
Fri	32/378	8.5	20	394
Sat	26/306	8.5	32	400
Sun	37/370	10.0	31	405
Total	228/2645	8.6		

Discussion In a well-described population with an AECOPD, there is no relationship between inpatient mortality and day of admission or day of death, even after adjusting for baseline mortality risk.

REFERENCES

- 1 Becker DJ. *Expert Rev Pharmacoecon Outcomes Res* 2008.
- 2 Echevarria C, et al. *Thorax* 2016.

P147

EFFECT OF CANNABIS SMOKING ON RESPIRATORY SYMPTOMS AND LUNG FUNCTION: A STRUCTURED LITERATURE REVIEW

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Background With increasing cannabis use, physicians need to know more about its respiratory effects. However, there are few long term studies of cannabis smoking, due to legality issues and confounding effects of tobacco.

Aims We reviewed effect of chronic cannabis use on respiratory symptoms and lung function, particularly FEV1, FVC and FEV1/FVC ratio.

Methods 19 out of 256 English-language publications, prior to June 2015, from MEDLINE, Scopus, and Web of Science databases, reporting lung function in chronic cannabis users, were examined.

Results 11 cross-sectional studies and 8 observational cohort studies were included. All 9 studies (n = 11,848) examining respiratory symptoms reported an increase with cannabis smoking (odds ratio up to 3.0). 2 studies (n = 1,336) reported that quitting cannabis with/without tobacco reduced chronic bronchitis symptoms to those of never cannabis smokers.

8 studies (n = 9,939) reported no significant changes in FEV1/FVC; 6 (n = 3,722) found a significant decrease (0.5%–1.9%) in chronic marijuana only smokers compared to controls. While most reports omitted absolute FVC results, 3 large studies (n = 13,858) demonstrated increased FVC with marijuana smoking. 4 studies (n = 13, 674) found dose-related reductions in FEV1/FVC. 7 studies associated chronic cannabis smoking with other evidence of airflow obstruction [increased airway resistance in 3; (0.03 to 0.38 cm H₂O/L/s), reduced specific airway conductance in 4; (0.007 to 0.07 mL/s/cm H₂O/L)].

The larger studies (n = 13,858) suggested increased FVC may cause reduced FEV1/FVC chronically.¹ This contrasts with airflow obstruction in tobacco smoking. Anti-inflammatory or acute bronchodilator effects of cannabis, on top of chronic effects, may partly explain these results.

Conclusions Cannabis, like tobacco, smoking causes chronic bronchitis but increased FVC is more consistently found than reduced FEV1. No studies in marijuana smokers have found a linear decline in FEV1 with time. More work is needed to explain the differing effects on lung function and to examine effects on small airways, imaging and histology.

REFERENCE

- 1 Hancox RJ, et al. Effect of cannabis smoking on lung function: a population-based cohort study. *Eur Respir J* 2010;**35**:42–7.

Asthma Treatments and What Matters to Patients

P148

MAKING SENSE OF PATIENT-REPORTED CURRENTLY TREATED ASTHMA USING ROUTINELY COLLECTED DATA

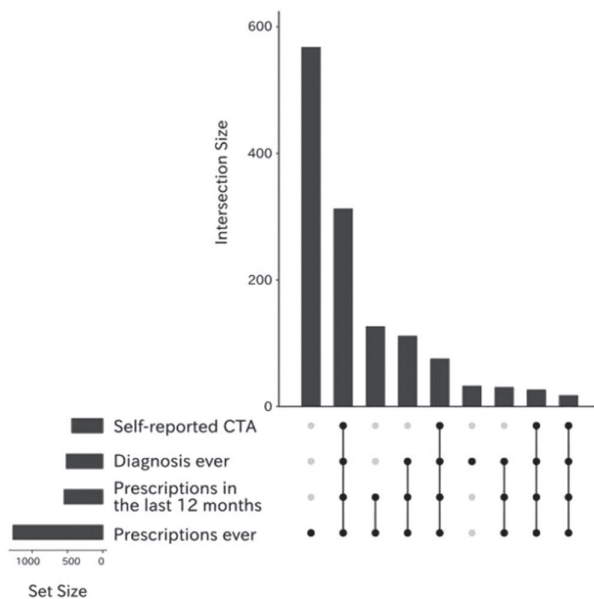
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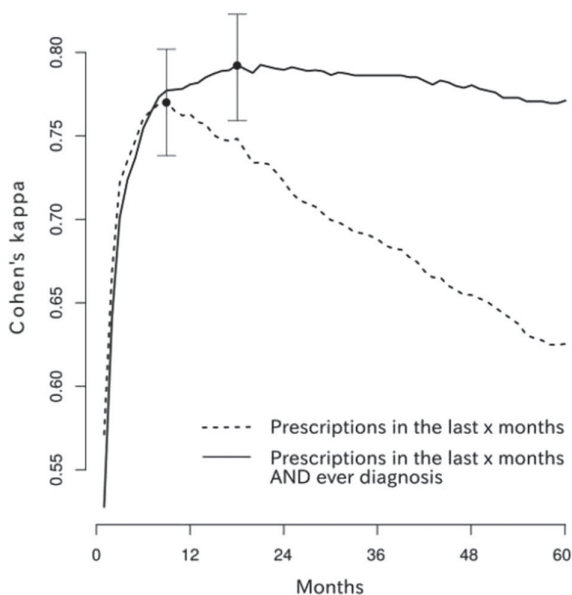
Introduction and objectives Currently treated asthma (CTA) is commonly assessed in epidemiological studies and is typically self-reported. We investigated how patient understanding of this label compared with objective measures extracted from routinely collected data.

Methods We used the Welsh Health Survey 2014 results for individuals aged 16+. Self-reported CTA was measured with the question: "Are you currently being treated for asthma?" We included those who had valid responses, are record-linked to the Secure Anonymised Information Linkage databank, and had complete GP practice registrations between 2009 and 2014. From the GP dataset, we queried their most recent prescriptions, if any, and whether they had ever recorded asthma diagnosis, and cross-tabulated these variables with self-reported CTA. We examined the concordance between self-reported CTA and each of 'ever

(A) Intersections between the study variables.



(B) Cohen's Kappa for concordance between self-reported CTA and recorded prescriptions over varying backward intervals with and without "ever diagnosis" condition.



Abstract 148 Figure 1

prescriptions', 'ever diagnosis', and 'having prescriptions in varying backward intervals from mid-2014', with the latter repeated by adding 'ever diagnosis'.

Results Of 4,291 eligible people, 10.2% self-reported CTA but, of these, 11.2% had no prescriptions in the past 12 months and 22.4% had no recorded asthma diagnosis ever. Figure 1A shows full intersections between the variables. For concordance between self-reported CTA and each of 'ever prescriptions' and 'ever diagnosis', Cohen's kappa was 0.42 and 0.68, respectively. For concordance between self-reported CTA and 'prescriptions in backward intervals', kappa was 0.76 for the 12-month interval but peaked to 0.77 at 9-months. After adding 'ever diagnosis', the kappa became 0.78 for the 12-month measure (which represents

the treated asthma criteria of the Quality of Outcomes Framework, QOF), and peaked to 0.79 at 18-months (Figure 1B).

Conclusion In Wales, self-reported currently treated asthma showed good concordance with the QOF treated asthma criteria but a slightly better concordance with 'any prescriptions in the last 18 months and ever diagnosis' measured from routine GP data. However, the concordance remains suboptimal, demonstrating that self-reported CTA should be used with caution, and objective measures from routinely collected health data are preferred.

P149 **DESIGNING A MANAGEMENT PLAN: A MIXED METHODS APPROACH TO EXPLORING PATIENT JOURNEYS IN CHILDREN WITH SEVERE AND RECURRENT WHEEZE**

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Introduction Management plans, while recommended nationally to reduce burden of asthma on individuals and healthcare systems, are poorly and infrequently used (BTS/SIGN 2014). Studies show a mismatch between patients' expectations and what professionals provide. (Ring *et al*, 2011).

Aim An exploration of health journeys of children with severe and recurrent wheeze: what makes a good management plan?

Methods Purposeful sampling techniques were used to recruit patients. A convergent mixed-methods design, comprised of semi-structured interviews and notes review, was used. Data was analysed using inductive thematic analysis and descriptive statistics.

Results Eleven children were recruited. Parents are motivated by symptoms and their own perceptions of wheeze to take action. They seek advice from multiple sources according to their own preferences, rather than symptom severity. The median number of admissions to A and E in the last two years was 3, and of GP consultations was 6.5; there was a negative correlation between these.

Barriers to self-management include lack of knowledge, confidence and appropriate resources. Notably, healthcare professionals influenced the ability and willingness to self-manage by either empowering patients or providing paternalistic instruction. There was occasionally poor communication of agreed actions between primary and secondary care, which confused patients. Not all A and E attendances were noted in the GP system, and only one of 5 requests for GP follow-up was carried out. It was noted that patients see A and E as 'specialist' and may not follow-up with a 'general' physician upon discharge.

Parents and children saw management plans as able to address key barriers. However, *no* notes in both GP and A and E mentioned providing a written plan.

Conclusion Our data suggests the need to 'nudge' parents to self-manage before escalating appropriately by modifying existing management plans. Plans should be personalised, for example to target management of key triggers. Crucially, patients and both primary and secondary healthcare professionals must work together to implement mutually acceptable plans.

We are using our data to create a mobile-based application which can be integrated into primary and secondary care, and is responsive to patients' desires. Preliminary results show this will be well-received, and is perceived to be superior to paper-based plans.