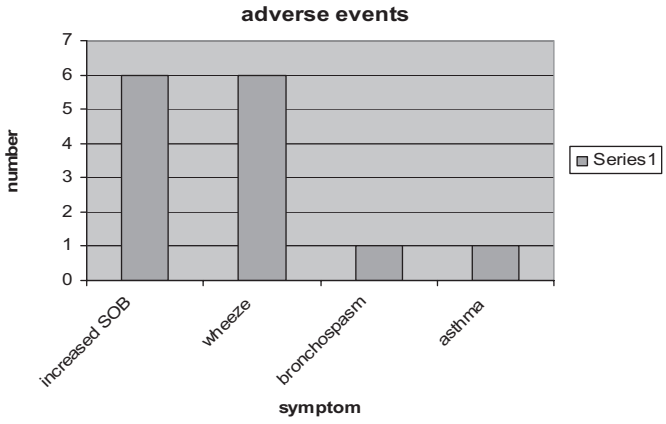
(89%), followed by nebivolol (40%), carvedilol (37%) and metoprolol (21%).

Conclusion Our results show that a diagnosis of COPD is not considered a contraindication to BB prescription by cardiologists with few reporting an increase in symptoms. We would suggest that all patients with COPD and HF should at least be considered for BB therapy while being mindful of potential adverse effects.



Abstract P48 Figure 1 Adverse events experienced as a result of β blocker prescription.

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P49 INTRA-SUBJECT VARIATION IN BREATH PROFILE OF EXHALED VOLATILE ORGANIC COMPOUNDS (EVOCS) IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

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Introduction Specific patterns of exhaled volatile compounds (eVOCs) have been described in a variety of diseases including lung cancer, tuberculosis and COPD, but there are no standardised and universally acceptable methods of sample collection, processing and data analysis. Moreover, there is little if any knowledge of repeatability of eVOCs profile. As part of a larger cohort study on eVOCs in COPD (ISRCTN82911859) we aimed to test the repeatability of eVOCs profiles.

Methods 118 COPD patients and 63 healthy controls provided three consecutive breath samples (one sample every 2 min). Subjects were all fasted for 4 h fasting and rested for 20 min rest in a closed room in our hospital before testing. Breath samples were collected by slow exhalation to vital capacity through Bio-Voc breath sampler® (Markes International, UK) which collected into two-bed carbon thermal desorption tubes. They were later analysed by gas chromatography-mass spectrometry (GC-MS). We selected Isoprene and Total eVOCs minus Isoprene as markers of variability. Isoprene is a ubiquitous eVOC linked to cholesterol metabolism, with levels linked to exertion patterns. Variation in the three repeat measurements was determined by a coefficient of variation over the samples (SD as % of mean) and dividing the area under the curve (AUC) in second and third measurement by the first sample. A single researcher took all samples and a single scientist ran the GC-MS.

Results There is substantial intra-individual variation in level of total VOCs and Isoprene and total VOC over three breaths in controls and COPD. Isoprene tended to fall in repeat sampling, most strongly in the controls, while total eVOCs increased in the second breath but fell in the third.

Discussion Intra-subject variation in eVOCs profile poses important challenges and normal ranges and acceptable limits of variation need to be set as repeatability is an important characteristic for any diagnostic test. These particular changes may reflect changes in eVOCs production due to increased oxidative stress or muscle metabolism or haemodynamic changes and metabolism induced by exhalation. Further research to explore eVOCs variability and its impact on their diagnostic potential is needed.

Abstract P49 Table 1

Coefficient of variation	COPD	Control	Overall	Range
Isoprene	23	26	24	2–64
TVOC-isoprene	40	40	40	12–104

% Change from reading 1	COPD 2/1	COPD 3/1	Control 2/1	Control 3/1
Isoprene				
Median	−7	−25	−24	−32
Mean (geometric)	−10	−26	−22	−37
TVOC-isoprene				
Median	+14	−6	+20	−30
Mean (geometric)	+9	−6	+3	–

TB: from diagnosis to management

P50 A SUMMARY OF STRAIN TYPING AND CLUSTERING OF TB IN LONDON IN 2010 AND AN ANALYSIS OF THE ASSOCIATED RISK FACTORS

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Since January 2010 prospective strain typing on all positive TB samples able to be cultured has occurred. Recent infection is presumed if the strain of TB isolated from the case is indistinguishable from one or more others in the population studied. Recently infected cases are likely to be part of clusters. All data are currently preliminary. In London from January to September 2010, 2679 cases were reported to the London TB Register, 36% of which were culture confirmed. Of those that were culture confirmed 37% were in a cluster. Adults were more likely to be culture confirmed than children (37% vs 23%). While children may be less likely to be culture confirmed, those who were culture confirmed were more likely to be clustered (and so recently infected). Comparing children (0–15 year olds) to young adults (16–24 year olds), 70% compared to 40% were clustered (OR 3.49, p=0.003). Overall more clustering was noted among males (39% vs 33%, OR 1.28, p=0.08), white (40%) and black-Caribbean (47%) ethnic groups, UK born cases (42% vs 36%), and those with pulmonary (45% vs 30%) and sputum smear positive disease (56% vs 38%). More clustering was seen with those who had social risk factors: history of drug use (46%), homelessness (49%), imprisonment (47%), and alcohol abuse (46%).