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**Title:** Accuracy in assessment of acute asthma needs improved to avoid potential adverse outcomes

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**Body:** Introduction Despite comprehensive BTS Asthma Guidelines (2011 revision), there are up to 1200 deaths annually in the UK, 90% due to identifiable and preventable disease, management and psychosocial factors. We retrospectively compared management of acute asthma admissions in a city centre hospital for 1 year (2010) with BTS guidelines to identify key areas for service improvement. Results Data was obtained for 72/106 admissions. The majority of admissions were female (70.8%), during winter months (63.9%), and outside normal working hours (65.3%; fig 1A). Initial peak expiratory flow rate (PEFR) and severity guide management decisions. While 79.2% had a best previous PEFR documented, pre- and post treatment PEFR were recorded in only 65.3% and 36.1% respectively. No severity was recorded in 68.1% and there was a tendency to underestimate it (fig 1B). In spite of this 91.7% of admissions were appropriate according to BTS criteria (fig 1C) and there were no subsequent deteriorations resulting in death. Magnesium sulphate is often used to treat severe asthma, and was used appropriately in 75% of patients (fig 1D). Conclusions In keeping with previous data (Heaney, BTS adult asthma audit 2010) initial PEFR and severity, key aids to decision making in acute asthma, were routinely not recorded or underestimated. The importance of accurate initial assessment in acute asthma needs to be reinforced to avoid potential adverse outcomes.