1.12 Impulse Oscillometry is a useful alternative to spirometry in assessing lung function in people with and without airways disease, particularly in those who struggle to perform spirometry

Sophie Ritchie^{1,2}, Orla Smith¹, Helen Doherty¹, Patrick Kerr¹, Ciara Ottewill^{1,3,4}, Richard W Costello^{3,1} ¹Department of Medicine, Royal College of Surgeons of Ireland, Dublin, Ireland. ²Department of Medicine, University of Galway, Galway, Ireland. ³Department of Respiratory Medicine, Beaumont Hospital, Dublin, Ireland. ⁴HSE Communications, Dublin, Ireland

Background: Spirometry is a recommended test for patients with symptoms suggestive of asthma. However, it is technically challenging. This study investigated factors associated with patients failing to produce interpretable spirometry. Methods: We assessed the quality of spirometry among 52 communitybased patients being assessed for asthma in a clinical trial. The quality of FeNO(fractional exhaled nitric oxide), PEF (peak flow) and IOS (oscillometry) maneuvers and their associated clinical characteristics were compared between patients with interpretable and uninterpretable spirometry. Results: Among 52 participants, 5(10%) had uninterpretable post-bronchodilator spirometry. All of these were female. Though not significant, these patients had a lower median FeNO than those who could perform spirometry (10 vs 22, p = 0.084). There was no statistically significant in R₅, R₅₋₂₀ or Ax between groups, either pre or post-bronchodilator, and all bar one patient had interpretable iOS. Conclusion: This study suggests around 10% of patients in this cohort produced uninterpretable spirometry results. Despite this, oscillometry proved useful, demonstrating no difference between groups. Reassuringly as patients with interpretable IOS, in the absence of interpretable spirometry, had an R₅Z-score within normal values. All patients with uninterpretable spirometry were women, with trends suggesting lower FeNO than those with interpretable spirometry. Disclosures: Conflict of Interest: The Authors declare that they have no conflict of interest.