**Relationship between self-reported adherence, medication collections and clinical variation in cystic fibrosis *White H, Huntington S, Shaw N, Wynn S, Pollard K, Peckham DG***

**Objectives:** In 2007 an electronic clinical record (ECR) was implemented within a Regional Adult CF unit (420 patients) coding for all variables of CF, captured at each contact. Longitudinal patterns of clinical variation have emerged that suggest a relationship between variation in lung function between treatments and overall adherence. Our aim was to 1) determine the accuracy of self-report adherence 2) explore the relationship between clinical variation and adherence.

**Methods:** Patients completed a self-report of adherence (CFQ-R) and consented to pharmacy script data collection ( previous 6 months). Coefficient of variation for FEV1 was calculated from all clinical contacts within the previous year. Age, gender, microbial status, disease severity, medication, lung function and anthropometric measures were collected. **Results**: 250 patients [age 29.7(±9.2) years, 58.6% (M), baseline BMI22.5 kg/m2 (±3.8), FEV1 61.3% (±25.1), FVC 79.4% (±23.1)] completed the study

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| Selected variables of adherence | Correlations with self-report adherence | Descriptive stats |
| Adherence Self-Report (using CFQ-R) (%) | Pharmacy collection  | Sig | FEV1 Coeff Variation | Sig | CRP coeff variation | Sig | Pharmacy discrepancy (%) | Sig |  |
| Total adherence | 77.7(±17.5) | 0.61 | p<0.001 | -0.16 | P<0.001 | 0.05 | p=0.20 | 14.3 | p<0.001 |  |
| Aerosol to thin mucus | 73.0(±37.8) | 0.51 | p<0.001 | -0.11 | p=0.06 | 0.15 | p=0.02 | 19.2 | p<0.001 |  |
| Aerosol to open airway | 82.3(±31.9) | 0.34 | P<0.005 | 0.001 | p=0.47 | 0.16 | p=0.025 | 4.5 | p=0.24 |  |
| Inhaler | 77.4(±35.4) | 0.51 | p<0.001 | -0.07 | p=0.21 | 0.12 | p=0.07 | 16.2 | p<0.001 |  |
| PERT | 91.4(±21.3) | 0.45 | p<0.001 | -0.21 | P=0.001 | -0.12 | p=0.04 | 23.6 | p<0.001 |  |
| Vitamins | 88.2(±27.2) | 0.46 | p<0.001 | -0.03 | P=0.35 | 0.15 | p=0.01 | 24.7 | p<0.001 |  |
| Oral nutrition supplements | 64.1(±39.8) | 0.51 | p<0.001 | -0.20 | P=0.01 | -0.06 | p=0.28 | 18.1 | p<0.001 |  |
| Oral antibiotics | 86.4(±26.6) | 0.32 | p<0.001 | -0.15 | P=0.01 | -0.08 | p=0.11 | 19.5 | p<0.001 |  |
| Nebulised antibiotics | 67.4(±9.1) | 0.55 | p<0.001 | -0.19 | P=0.01 | -0.04 | p=0.31 | 2.1 | P=0.43 |  |

 **Conclusion**: Self-report consistently exceeds medication collection. Longitudinal indices of lung function inversely relate to reported adherence, enabling investigation of FEV1 coefficient variation as a predictor of adherence in CF