**Table 1. Characteristics of participants**

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|  | **Adult asthma cohorts** | **School aged asthma cohorts** | **Pre-school wheeze cohorts** |
|  | **Mild/ moderate**  | **Severe non-smoker**  | **Severe smokers**  | **Mild/ moderate**  | **Severe**  | **Mild/ moderate**  | **Severe**  |
| Participants number | 88 | 311 | 110 | 43 | 97 | 54 | 77 |
| Female | 44 (50.0) | 205 (65.9) | 56 (50.9) | 16 (37.2) | 46 (47.4) | 20 (37.0) | 27 (35.1) |
| Age, years | 41.66±1.65 | 51.01±0.8 | 54.51±1.08 | 11.26±0.48 | 12.21±0.31 | 3.46±0.16 | 3.56±0.14 |
| White ethnicity | 82 (93.2) | 277 (89.1) | 105 (95.5) | 32 (74.4) | 74 (76.3) | 49 (89.9) | 62 (80.5) |
| Smoking history, pack years | 4 (1,4) (n=13)  | 2 (1,4) (n=47) | 17.38 (10,26) (n=110) | 0 (0,0) (n=0) | 0 (0,0) (n=0) | 0 (0,0) (n=0) | 0 (0,0) (n=0) |
| BMI, kg/m2  | 25.73±0.47 | 29.11±0.36 | 29.59±0.6 | 19.21±0.5 | 21.52±0.5 | 15.99±0.15 | 16.56±0.25 |
| Age at diagnosis, years | 14 (6,32) | 20 (7,38) | 38 (20,48) | 2 (2,5) | 2 (1,4) | 1 (1,2) | 2 (1,2) |
| Asthma control  | 1.01±0.07 | 2.67±0.08 | 2.62±0.12 | 20.25±0.81  | 15.49±0.63  | 23±0.67 | 15.2±0.79 |
| Asthma quality of life | 5.84±0.1 | 4.48±0.07 | 4.44±0.13 | 5.8±0.19 | 4.77±0.15 | 6.04±0.18 | 4.27±0.18 |
| Exacerbations in previous year | 2 (1,3) | 2 (1,4) | 0 (0,1) | 1 (0,2) | 3 (2,5) | 2 (0,3) | 4 (1,6) |
| Inhaled corticosteroids | 87/88 (98.9%) | 310/311 (99.7%) | 110/110 (100%) | 43/43 (100.0%) | 97/97 (100.0%) | 24/54 (44.4%) | 75/77 (97.4%) |
| Oral corticosteroids | 0/88 (0%) | 135/295 (45.8%) | 46/103 (44.7%) | 0/43 (0.0%) | 23/97 (23.7%) | 0/54 (0.0%) | 4/77 (5.2%) |
| Any LABA | 2/88 (2.3%) | 305/309 (98.7%) | 109/110 (99.1%) | 25/43 (58.1%) | 94/97 (96.9%) | 0/54 (0.0%) | 34/77 (44.2%) |
| FEV1 % predicted | 89.5±1.86 (n=87) | 67.5±1.26 (n=308) | 67.2±1.84 (n=110) | 93.51±2.47 (n=42) | 88.68±2.15 (n=96) | 99.23±5.29 (n=10) | 104.34±3.21 (n=19) |
| FeNO, ppb | 25 (18−54) (n=87) | 26.5 (16−47) (n=290) | 23.5 (12−42) (n=104) | 35.84 (14–41) (n=38) | 33.5 (15.4–62.2) (n=92) | - | - |
| Co-existing disease |  |  |  |  |  |  |  |
|  *Diagnosed eczema* | 25/87 (28.7) | 107/308 (34.7) | 31/108 (28.7) | 28/43 (65.1) | 77/97 (79.4) | 32/54 (59.3) | 42/74 (56.8) |
|  *Diagnosed allergic rhinitis* | 42/82 (51.2) | 164/291 (56.4) | 44/108 (40.7) | 29/41 (70.7) | 61/95 (64.2) | 11/51 (21.6) | 22/69 (31.9) |
|  *Diagnosed hay fever* | 46/85 (54.1) | 135/298 (45.3) | 51/107 (47.7) | 33/43 (76.7) | 75/93 (80.7) | 13/50 (26.0) | 30/68 (44.1) |
|  *Possible food allergy* | 5/86 (5.8) | 25/286 (8.7) | 3/105 (2.9) | 12/41 (29.3) | 28/92 (30.4) | 8/48 (16.7) | 7/74 (9.5) |
|  *Highly likely food allergy* | 1/86 (1.2) | 8/286 (2.8) | 2/105 (1.9) | 8/41 (19.5) | 15/92 (16.3) | 2/48 (4.2) | 2/74 (2.7) |
| Total IgE, kU IgE/l | 23 (9,66) | 120 (45,348) | 126 (57,350) | 615 (240,985) | 560 (120,1606) | 74 (16,195) | 71 (30,209) |
| Allergic sensitisation | 78/87 (89.7) | 231/287 (80.5) | 66/99 (66.6) | 35/39 (89.7) | 79/89 (88.8) | 20/48 (41.7) | 27/63 (42.9) |
| Median number of sensitisations (range) | 1 (0-6) | 3 (0-6) | 1 (0-6) | 4 (0-6) | 4 (0-6) | 0 (0-6) | 0 (0-5) |
| Specific allergic sensitization: |  |  |  |  |  |  |  |
|  *Tree pollen mixture* | 33/67 (49.6) | 90/208 (43.3) | 28/82 (34.1) | 22/38 (57.9) | 46/85 (54.1) |  7/50 (14.0) | 9/65 (13.9) |
|  *Grass pollen mixture* | 56/81 (69.1) | 119/260 (45.8) | 32/92 (34.8) | 30/40 (75.0) | 57/90 (63.3) | 10/50 (20.0) | 9/69 (13.0) |
|  *Domestic dog* | 47/76 (61.8) | 98/251 (39.0) | 27/89 (30.3) | 23/39 (59.0) | 55/88 (62.5) | 15/52 (28.9) | 8/67 (11.9) |
|  *Domestic cat*  | 54/81 (66.7) | 115/260 (44.2) | 25/86 (29.1) | 24/39 (61.5) | 58/87 (66.7) | 15/52 (28.9) | 11/69 (15.9) |
|  *D. pteronyssinus or D. farinae* | 53/79 (67.1) | 143/274 (52.2) | 41/96 (42.7) | 28/40 (70.0) | 59/90 (65.6) | 8/52 (15.4) | 21/67 (31.3) |
|  *Aspergillus fumigatus* | 24/73 (32.9) | 68/242 (28.1) | 29/88 (33.0) | 16/38 (42.1) | 37/87 (42.5) | 4/48 (8.3) | 5/63 (7.9) |

Values represent n/N(%), mean (+/- standard error) or median (25th, 75th centiles) for each cohort. Where relevant, number (n) of observations presented. Severe non-smoking participants were non-smokers for at least the past 12 months and have a pack history of ≤5 pack years (pack years = number cigarettes smoked/day x number of years smoked / 20). Asthma control assessed using ACQ7 (≥18 years), ACT (>12 years) or CACT (≤12 years). Asthma related quality of life assessed using AQLQ, PAQLQ or PACQLQ according to age. Eczema, allergic rhinitis and hay fever diagnosed by a doctor reported by participants or parents (updated since publication of baseline papers18,19 Possible food allergy defined as symptoms of food allergy plus evidence of sensitisation. Symptoms of food allergy refers to symptoms of urticaria, angioedema, pruritus, throat tightness, stridor, chest tightness or wheeze within two hours of contact with food. Highly likely food allergy defined as symptoms of food allergy plus a ≥5mm skin prick test wheal or a specific IgE level ≥ 10.0 kU/l. Allergic sensitisation data updated since publication of baseline papers [4,5] with serum specific IgE assays run on frozen samples were data was previously missing. Sensitisation defined as positive specific IgE (≥0.35kU/L) or positive skin prick test (≥3mm). Atopy defined as any positive specific IgE (≥0.35kU/L) or skin prick test (≥3mm).