Supplementary Table 1

Concomitant respiratory medications during the in-hospital phase

Drug class	All	Metformin	Placebo	P-value
Inhaled/nebulised therapy	**(n=51*)**	**(n=33*)**	**(n=18)**	
Short-acting β-agonist	49 (96%)	31 (94%)	18 (100%)	0.287
Short-acting antimuscarinic	37 (73%)	23 (70%)	14 (78%)	0.537
Long-acting β-agonist (without ICS)	3 (6%)	2 (6%)	1 (6%)	0.942
Long-acting antimuscarinic	27 (53%)	19 (58%)	8 (44%)	0.369
ICS–LABA combination	46 (90%)	30 (91%)	16 (89%)	0.817
Systemic therapy	**(n=49†)**	**(n=31†)**	**(n=18)**	
Systemic corticosteroid	48 (98%)	30 (97%)	18 (100%)	0.441
Antibiotic	43 (88%)	29 (94%)	14 (78%)	0.105
Methylxanthine	17 (35%)	8 (26%)	9 (50%)	0.086
Mucolytic	37 (76%)	22 (71%)	15 (83%)	0.332
Leukotriene receptor antagonist	1 (2%)	1 (3%)	0 (0%)	0.441
Magnesium	1 (2%)	0 (0%)	1 (6%)	0.185

ICS, inhaled corticosteroid; LABA, long-acting β-agonist.

* Records of inhaled/nebulised medications were not available for one participant

† Records of acute systemic respiratory medications were not available for three participants

Supplementary Table 2

Characteristics of the study groups with respect to severity of airflow limitation

Characteristic*	*Summary metric**	**All (n=52)**	**Metformin (n=34)**	**Placebo (n=18)**	**P-value**
Spirometry not completed	*n (%[i])*	9 (17%)	7 (21%)	2 (11%)	0.470
FEV_1:FVC ratio ≥0.7	*n (%[ii])*	5 (12%)	4 (15%)	1 (6%)	0.642
FEV_1:FVC ratio <0.7	*n (%[ii])*	38 (88%)	23 (85%)	15 (94%)	
GOLD 1 (≥80% predicted)	*n (%[iii])*	1 (3%)	0 (0%)	1 (7%)	0.677
GOLD 2 (50–79% predicted)	*n (%[iii])*	10 (26%)	6 (26%)	4 (27%)	
GOLD 3 (30–49% predicted)	*n (%[iii])*	15 (39%)	10 (43%)	5 (33%)	
GOLD 4 (<30% predicted)	*n (%[iii])*	12 (32%)	7 (30%)	5 (33%)	
Best FEV_1† — % predicted	*mean±SD*	44±25	43±16	47±35	0.699

FEV_1, forced expiratory volume in 1 second, expressed as a percentage of the predicted value; FVC, forced vital capacity; GOLD, Global initiative for chronic Obstructive Lung Disease; SD, standard deviation

* The denominators for calculation of percentages are: *i.* all participants; *ii.* all participants who undertook spirometry; *iii.* all participants with obstructive spirometry (FEV_1:FVC ratio <0.7)

† The 'best' FEV_1 is the highest value recorded from the valid spirometry attempts made at hospital discharge and 1-month follow-up, among patients with FEV_1:FVC ratio <0.7.

Supplementary Table 3

Sensitivity analyses using alternative summary metrics of in-hospital blood glucose concentration

Summary metric	Mean (±SD)		Between-group difference (95% CI)	P-value
	Metformin group (n=34)	Placebo group (n=18)		
Mean pre-breakfast glucose concentration (mmol/L)	5.0±0.8	5.5±2.3	−0.6 (−1.4 to +0.3)	0.197
Peak capillary blood glucose concentration (mmol/L)	12.4±3.3	12.4±4.8	0.05 (−2.2 to +2.3)	0.966

SD, standard deviation; CI, confidence interval

Supplementary Table 4

Sensitivity analysis using subgroups defined by baseline (day 1) blood glucose concentration

Subgroup	Mean ±SD		Between-group difference (95% CI)	P-value
	Metformin group	Placebo group		
Participants with mean day 1 blood glucose concentration in lower 50th centile	6.8±0.6 (n=16)	6.6±0.6 (n=10)	−0.1 (−0.4 to +0.6)	0.604
Participants with mean day 1 blood glucose concentration in upper 50th centile	7.3±1.0 (n=18)	9.6±4.6 (n=8)	−2.3 (−6.1 to +1.5)	0.201
Participants with mean day 1 blood glucose concentration in upper 50th centile (excluding outlying observation*)	7.3±1.0 (n=18)	8.1±1.7 (n=7)	−0.8 (−2.4 to +0.8)	0.166

SD, standard deviation; CI, confidence interval

*Outlying observation in the placebo group with a mean blood glucose concentration more than 10 standard deviations from the overall cohort mean; see manuscript for further details.