

SUPPLEMENTARY TABLES

Table S1. Antibiotic resistance of bacteria isolated from the nasopharyngeal swabs collected at enrolment , 48 weeks and 72 weeks from participants taking azithromycin or placebo.

Carriage	Baseline			48 weeks			72 weeks		
	AZM	Placebo	P values	AZM	Placebo	P	AZM	Placebo	P values
	(n=168) ¹	(n=171) ¹		(n=159) ²	(n=153) ²	values	(n=118) ³	(n=105) ³	
<i>Streptococcus pneumoniae (SP)</i>									
Azithromycin resistant SP	8/71 (11%)	10/81 (12%)	1	18/29 (62%)	8/63 (13%)	<0.001	8/37 (22%)	7/37 (19%)	1
Tetracycline resistant SP	13/70 (19%)	14/81 (17%)	0.835	18/29 (60%)	13/63 (21%)	<0.001	11/37 (30%)	13/37 (35%)	0.804
Cotrimoxazole resistant SP	68/70 (97%)	76/81 (93%)	0.451	28/29 (97%)	62/63 (98%)	0.533	36/37 (97%)	35/37 (95%)	1
⁴ Penicillin non-susceptible SP	26/70 (37%)	27/81 (33%)	0.733	16/29 (55%)	23/63 (37%)	0.114	15/37(41%)	15/37 (41%)	1
<i>Staphylococcus aureus (SA)</i>									
Azithromycin resistant SA	1/44 (2%)	2/36 (6%)	0.586	31/34 (91%)	1/31 (3%)	<0.001	9/20 (45%)	0/26 (0%)	<0.001
Tetracycline resistant SA	8/44 (18%)	4/36 (11%)	0.532	12/34 (35%)	4/31 (13%)	0.046	5/20 (25%)	1/26 (4%)	0.072
Cotrimoxazole resistant SA	30/44 (68%)	26/36 (72%)	0.808	21/34 (62%)	24/31 (77%)	0.192	11/20 (55%)	20/26 (77%)	0.204
Penicillin resistant SA	37/44 (84%)	31/36 (86%)	1	33/34 (97%)	26/31 (84%)	0.095	20/20 (100%)	20/26 (77%)	0.029
Methicillin resistant SA	1/44 (2%)	1/36 (3%)	1	2/34 (6%)	2/31 (6%)	1	0/20 (0%)	0/26 (0%)	1
Clindamycin resistant SA	0/44 (0%)	1/36 (3%)	0.45	27/34 (79%)	1/31 (3%)	<0.001	9/20 (45%)	0/26 (0%)	<0.001
<i>Haemophilus influenzae (HI)</i>									
Azithromycin resistant HI	0/21 (0%)	0/18 (0%)	NA	1/10 (10%)	1/24 (4%)	NA	0/13 (0%)	0/8 (0%)	NA
Tetracycline resistant HI	3/21 (14%)	2/18 (11%)	1	1/10 (10%)	1/24 (4%)	0.508	1/13 (8%)	0/9 (0%)	1
Cotrimoxazole resistant HI	19/21 (90%)	18/18 (100%)	0.490	10/10 (100%)	24/24 (100%)	1	10/13 (77%)	9/9 (100%)	0.240
Ampicillin resistant HI	1/21 (5%)	0/18 (0%)	1	0/10 (0%)	0/24 (0%)	1	0/13 (0%)	0/9 (0%)	1

Amoxicillin-clavulanate resistant HI	1/21 (5%)	0/18 (0%)	1	0/10 (0%)	0/24 (0%)	1	1/13 (8%)	0/9 (0%)	1
Cefuroxime resistant HI	0/21 (0%)	0/18 (0%)	NA	0/10 (0%)	0/24 (0%)	NA	0/13 (0%)	0/9 (0%)	NA
<i>Moraxella catarrhalis (MC)</i>									
Azithromycin resistant MC	1/25 (4%)	0/21 (0%)	1	0/7 (0%)	0/16 (0%)	1	0/8 (0%)	0/7 (0%)	1
Tetracycline resistant MC	2/25 (8%)	4/21 (19%)	0.390	0/7 (0%)	1/16 (6%)	1	0/8 (0%)	0/7 (0%)	1
Cotrimoxazole resistant MC	13/25 (52%)	11/21 (52%)	1	5/7 (71%)	8/16 (50%)	0.405	4/8 (50%)	4/7 (57%)	1
Amoxicillin-clavulanate resistant MC	0/25 (0%)	0/21 (0%)	1	0/7 (0%)	0/16 (0%)	1	0/8 (0%)	1/7 (14%)	0.467
All four bacteria									
Macrolide resistant (any)	10 (6%)	12 (7%)	0.826	45 (30%)	10 (7%)	<0.001	17 (15%)	7 (7%)	0.011
Tetracycline resistant (any)	24 (14%)	23 (14%)	0.742	30 (20%)	18 (13%)	<0.001	16 (14%)	13(12%)	0.392

¹Samples not collected from five and three participants in AZM and placebo group at baseline respectively. ²Samples not collected from five and seven participants in AZM and placebo group at 48 weeks respectively. ³Samples not collected from 16 and 15 participants in AZM and placebo group at 72 weeks respectively. ⁴Oxacillin used as surrogate for penicillin. Fishers exact test used to compare proportions.

Table S2. Antibiotic resistance of bacteria isolated from the sputa collected at enrolment , 48 weeks and 72 weeks from participants taking azithromycin or placebo.

Carriage	Baseline			48 weeks			72 weeks		
	AZM (n=166) ¹	Placebo (n=164) ¹	P values	AZM (n=148) ²	Placebo (n=143) ²	P values	AZM (n=116) ³	Placebo (n=106) ³	P values
<i>Streptococcus pneumoniae (SP)</i>									
Azithromycin resistant SP	2/41 (5%)	2/36 (6%)	1	5/16 (31%)	2/32 (6%)	0.033	2/20 (10%)	3/26 (12%)	1
Tetracycline resistant SP	4/41 (10%)	6/35 (17%)	0.499	4/16 (25%)	7/32 (22%)	1	3/20 (15%)	8/26 (31%)	0.302
Cotrimoxazole resistant SP	38/41 (93%)	32/36 (89%)	0.699	14/16 (88%)	31/32 (97%)	0.254	20/20 (100%)	25/26 (96%)	1
⁴ Penicillin non-susceptible SP	13/41 (32%)	9/36 (25%)	0.616	6/16 (38%)	11/32 (34%)	1	6/20 (30%)	13/26 (50%)	0.232
<i>Staphylococcus aureus (SA)</i>									
Azithromycin resistant SA	7/49 (14%)	5/45 (11%)	0.762	30/45 (67%)	3/37 (8%)	<0.001	16/40 (40%)	4/37 (11%)	0.004
Tetracycline resistant SA	12/49 (24%)	5/45 (11%)	0.113	21/45 (47%)	6/37 (16%)	0.005	9/40 (23%)	5/37 (14%)	0.382
Cotrimoxazole resistant SA	33/49 (67%)	28/45 (62%)	0.668	31/45 (69%)	23/37 (62%)	0.641	23/40 (58%)	24/37 (65%)	0.641
Penicillin resistant SA	45/49 (92%)	41/45 (91%)	1	43/45 (96%)	34/37 (92%)	0.654	35/40 (86%)	32/37 (86%)	1
Methicillin resistant SA	1/49 (2%)	1/45 (2%)	1	4/45 (8%)	2/37 (5%)	0.685	1/40 (3%)	1/37 (3%)	1
Clindamycin resistant SA	4/49 (8%)	2/45 (4%)	0.679	25/45 (56%)	2/37 (5%)	<0.001	13/40 (33%)	3/37 (8%)	0.011
<i>Haemophilus influenzae (HI)</i>									
Azithromycin resistant HI	0/4 (0%)	0/7 (0%)	1	1/3 (33%)	0/19 (0%)	0.136	0/6 (0%)	0/9 (0%)	1
Tetracycline resistant HI	0/4 (0%)	1/7 (14%)	1	0/3 (0%)	2/19 (11%)	1	0/6 (0%)	1/9 (11%)	1
Cotrimoxazole resistant HI	3/4 (75%)	7/7 (100%)	0.364	3/3 (100%)	19/19 (100%)	1	5/6 (83%)	9/9 (100%)	0.4
Ampicillin resistant HI	0/4 (0%)	0/7 (0%)	NA	0/3 (0%)	0/19 (0%)	NA	0/6 (0%)	0/9 (0%)	NA
Amoxicillin-clavulanate resistant	0/4 (0%)	0/7 (0%)	NA	0/3 (0%)	1/19 (5%)	1	0/6 (0%)	0/9 (0%)	NA

HI

Cefuroxime resistant HI	0/4 (0%)	0/7 (0%)	NA	0/3 (0%)	0/19 (0%)	NA	0/6 (0%)	0/9 (0%)	NA
<i>Moraxella catarrhalis (MC)</i>									
Azithromycin resistant MC	0/15 (0%)	0/15 (0%)	1	1/4 (25%)	0/14 (0%)	0.222	0/7 (0%)	1/7% (14%)	1
Tetracycline resistant MC	1/15 (7%)	4/15 (27%)	0.330	0/4 (0%)	1/14 (7%)	1	0/7 (0%)	0/7 (0%)	1
Cotrimoxazole resistant MC	7/15 (47%)	9/15 (60%)	0.715	0/4 (0%)	1/14 (7%)	1	1/7% (14%)	1/7% (14%)	1
Amoxicillin-clavulanate resistant MC	0/15 (0%)	0/15 (0%)	NA	0/4 (0%)	0/14 (0%)	NA	0/7 (0%)	0/7 (0%)	NA
All four bacteria									
Macrolide resistant (any)	9 (5%)	7 (4%)	0.795	36 (24%)	5 (3%)	<0.001	18 (16%)	8 (8%)	0.025
Tetracycline resistant (any)	17 (10%)	16 (10%)	1	25 (17%)	15 (10%)	0.008	12 (10%)	13 (12%)	1

¹Samples not collected from seven and 10 participants in AZM and placebo group at baseline respectively. ²Samples not collected from 16 and 17 participants in AZM and placebo group at 48 weeks respectively. ³Samples not collected from 18 and 14 participants in AZM and placebo group at 72 weeks respectively. ⁴Oxacillin used as surrogate for penicillin. Fishers exact test used to compare proportions.

Table S3: Nasopharyngeal and sputum bacterial carriage at enrolment, 48 weeks and 72 weeks in participants taking azithromycin, by adherence to azithromycin

NASOPHARYNGEAL SWABS													
	Baseline (n=168) ¹			48 weeks (n=159) ²				72 weeks (n=118) ³					
	Total (n=168)	Adherent (n=124) ¹	Non- adherent (n=44) ¹	Total (n=159)	Adherent (n=122) ²	Non- adherent (n=37)	aOR (95%CI)	P value	Total (n=118)	Adherent (n=94) ³	Non- adherent (n=24) ³	aOR (95%CI)	P value
<i>Streptococcus pneumoniae</i>	74 (44%)	58 (47%)	16 (36%)	29 (18%)	22 (18%)	7 (19%)	1.5 [0.4-5.2]	0.529	41 (35%)	34 (36%)	7 (29%)	1.4 [0.4-4.8]	0.554
<i>Staphylococcus aureus</i>	45 (27%)	33 (27%)	12 (27%)	34 (21%)	20 (16%)	14 (38%)	0.4 [0.1-1.2]	0.609	23 (19%)	19 (20%)	4 (17%)	2.2 [0.5-9.6]	0.293
<i>Haemophilus influenzae</i>	21 (13%)	15 (12%)	6 (14%)	11 (7%)	8 (7%)	3 (8%)	0.8 [0.2-4.0]	0.814	13 (11%)	10 (11%)	3 (13%)	0.9 [0.2-4.5]	0.975

<i>Moraxella catarrhalis</i>	26 (15%)	18 (15%)	8 (18%)	7 (4%)	4 (3%)	3 (8%)	0.6 [0.1-3.4]	0.537	9 (8%)	4 (4%)	5 (21%)	0.2 [0.0-0.98]	0.048
Bacterial carriage (any)	107 (64%)	78 (61%)	29 (63%)	63 (43%)	45 (35%)	18 (49%)	1.1 [0.4-2.6]	0.912	61 (53%)	49 (48%)	12 (39%)	1.7 [0.6-5.1]	0.310

SPUTUM

	Baseline (n=166) ¹			48 weeks (n=148) ²				72 weeks (n=116) ³					
	Total (n=166) ⁴	Adherent (n=122) ⁴	Non- adherent (n=44) ⁴	Total (n=148) ⁵	Adherent (n=114) ⁵	Non- adherent (n=34) ⁵	aOR (95%CI)	P values	Total (n=117) ⁶	Adherent (n=93) ⁶	Non- adherent (n=24) ⁶	aOR (95%CI)	P values
<i>Streptococcus pneumoniae</i>	43 (26%)	36 (30%)	7 (16%)	17 (11%)	13 (11%)	4 (12%)	0.6 [0.2-2.6]	0.491	20 (17%)	16 (17%)	4 (17%)	0.8 [0.2-3.1]	0.750
<i>Staphylococcus aureus</i>	51 (31%)	40 (33%)	11 (25%)	46 (31%)	29 (25%)	17 (50%)	0.2 [0.1-0.6]	0.004	40 (34%)	32 (34%)	8 (33%)	1.0 [0.3-3.6]	0.972
<i>Haemophilus influenzae</i>	4 (2%)	2 (2%)	2 (5%)	3 (2%)	2 (2%)	1 (3%)	0.6 [0.0-14.2]	0.756	6 (5%)	5 (5%)	1 (4%)	5.4 [0.3-83.7]	0.229
<i>Moraxella catarrhalis</i>	15 (9%)	11 (9%)	4 (9%)	4 (3%)	2 (2%)	2 (6%)	0.3 [0.0-2.6]	0.257	7 (6%)	5 (5%)	2 (8%)	0.9 [0.1-6.7]	0.896
Bacterial carriage (any)	82 (49%)	60 (47%)	22 (48%)	62 (42%)	41 (32%)	21 (57%)	0.2 [0.1-0.6]	0.003	56 (48%)	45 (44%)	11 (35%)	1.3 [0.4-4.0]	0.634

¹Samples not collected from three and two participants in adherent and non-adherent group at baseline respectively. ²Samples not collected from five participants in adherent at 48 weeks. ³Samples not collected from nine and seven participants in adherent and non-adherent group at 72 weeks respectively. ⁴Samples not collected from five and two participants in adherent and non-adherent group at baseline respectively. ⁵Samples not collected from 13 and three participants in adherent and non-adherent groups at 48 weeks respectively. ⁶Samples not collected from 11 and seven participants in adherent and non-adherent group at 72 weeks respectively. aOR= adjusted Odd Ratio. Comparisons of bacterial carriage between trial arms at all visits were conducted using mixed-effects logistic regression models, including a random effect for participants. Models were adjusted for site, sex, age category, HIV viral load at enrolment, the season of sampling and visit. A trial arm by time interaction term was included in models to compare trial arms at 48 and 72 weeks, without a trial arm main effect term.

Table S4: Antibiotic resistance of nasopharyngeal bacterial isolates at enrolment , 48 weeks and 72 weeks in participants taking azithromycin, by adherence to azithromycin

	Baseline (n=168) ¹				48 weeks(n=159) ²				72 weeks (n=118) ³			
	Total (n=168)	Adherent (n=122) ¹	Non- adherent (n=44) ¹	P values	Total (n=159)	Adherent (n=122) ²	Non- adherent (n=37)	P values	Total (n=118)	Adherent (n=94) ³	Non- adherent (n=24) ³	P values
<i>Streptococcus pneumoniae (SP)</i>												
Azithromycin resistant SP	8/71 (11%)	6/56 (11%)	2/15 (13%)	0.673	18/29 (62%)	14/22 (64%)	4/7 (57%)	1	8/37 (22%)	7/30 (23%)	1/7 (14%)	1
Tetracycline resistant SP	13/70 (19%)	8/55 (15%)	5/15 (33%)	0.133	18/29 (62%)	14/22 (64%)	4/7 (57%)	1	11/37 (30%)	9/30 (30%)	2/7 (29%)	1
Cotrimoxazole resistant SP	68/70 (97%)	53/55 (96%)	15/15 (100%)	1	28/29 (97%)	21/22 (95%)	7/7 (100%)	1	36/37 (97%)	29/30 (97%)	7/7 (100%)	1
⁴ Penicillin non-susceptible SP	26/70 (37%)	20/55 (36%)	6/15 (40%)	1	16/29 (55%)	12/22 (54%)	4/7 (57%)	1	15/37(41%)	12/30(40%)	3/7 (43%)	1
<i>Staphylococcus aureus (SA)</i>												
Azithromycin resistant SA	1/44 (2%)	1/33 (3%)	0/11 (0%)	1	31/34 (91%)	18/20 (90%)	13/14 (93%)	1	9/20 (45%)	7/17 (41%)	2/3 (67%)	0.566
Tetracycline resistant SA	8/44 (18%)	6/33 (18%)	2/11 (18%)	1	12/34 (35%)	6/20 (30%)	6/14 (43%)	0.487	5/20 (25%)	4/17 (24%)	1/3 (33%)	1
Cotrimoxazole resistant SA	30/44 (68%)	22/33 (67%)	8/11 (72%)	1	21/34 (62%)	12/20 (60%)	9/14 (64%)	1	11/20 (55%)	9/17 (53%)	2/3 (67%)	1
Penicillin resistant SA	37/44 (84%)	28/33 (84%)	9/11 (82%)	1	33/34 (97%)	20/20 (100%)	13/14 (93%)	0.412	20/20 (100%)	17/17 (100%)	3/3 (100%)	1
Methicillin resistant SA	1/44 (2%)	1/33 (3%)	0/11 (0%)	1	2/34 (6%)	1/20 (5%)	1/14 (7%)	1	0/20 (0%)	0/17 (0%)	0/3 (0%)	1
Clindamycin resistant SA	0/44 (0%)	0/33 (0%)	0/11 (0%)	1	27/34 (79%)	17/20 (85%)	10/14 (71%)	0.4099	9/20 (45%)	7/17 (41%)	2/3 (67%)	0.566
<i>Haemophilus influenzae (HI)</i>												
Azithromycin resistant HI	0/21 (0%)	0/15 (0%)	0/6 (0%)	NA	1/10 (10%)	1/7 (14%)	0/3 (0%)	NA	0/13 (0%)	0/10 (0%)	0/3 (0%)	NA
Tetracycline resistant HI	3/21 (14%)	3/15 (20%)	0/6 (0%)	0.526	1/10 (10%)	1/7 (14%)	0/3 (0%)	1	1/13 (8%)	1/10 (10%)	0/3 (0%)	1

Cotrimoxazole resistant HI	19/21 (90%)	14/15 (93%)	5/6 (83%)	0-5	10/10 (100%)	7/7 (100%)	3/3 (100%)	1	10/13 (77%)	7/10 (70%)	3/3 (100%)	0-528
Ampicillin resistant HI	1/21 (5%)	1/15 (67%)	0/6 (0%)	1	0/10 (0%)	0/7 (0%)	0/3 (0%)	1	0/13 (0%)	0/10 (0%)	0/3 (0%)	1
Amoxicillin-clavulanate resistant HI	1/21 (5%)	1/15 (7%)	0/6 (0%)	1	0/10 (0%)	0/7 (0%)	0/3 (0%)	1	1/13 (8%)	1/10 (10%)	0/3 (0%)	1
Cefuroxime resistant HI	0/21 (0%)	0/15 (0%)	0/6 (0%)	NA	0/10 (0%)	0/7 (0%)	0/3 (0%)	NA	0/13 (0%)	1/10 (10%)	0/3 (0%)	NA
<i>Moraxella catarrhalis (MC)</i>												
Azithromycin resistant MC	1/25 (4%)	1/17 (6%)	0/8 (0%)	1	0/7 (0%)	0/4 (0%)	0/3 (0%)	1	0/8 (0%)	0/3(0%)	0/5 (0%)	1
Tetracycline resistant MC	2/25 (8%)	0/17 (0%)	2/8 (25%)	0-093	0/7 (0%)	0/4 (0%)	0/3 (0%)	1	0/8 (0%)	0/3 (0%)	0/5 (0%)	1
Cotrimoxazole resistant MC	13/25 (52%)	7/17 (41%)	6/8 (75%)	0-202	5/7 (71%)	3/4 (75%)	2/3 (67%)	1	4/8 (50%)	2/3 (67%)	2/5 (40%)	1
Amoxicillin-clavulanate resistant MC	0/25 (0%)	0/17 (0%)	0/8 (0%)	1	0/7 (0%)	0/4 (0%)	0/3 (0%)	1	0/8 (0%)	0/3 (0%)	0/5 (0%)	1
All four bacteria												
Macrolide resistant (any)	10 (6%)	8 (6%)	2 (7%)	1	45 (30%)	30 (68%)	15 (83%)	0-348	17 (15%)	14 (32%)	3 (27%)	1
Tetracycline resistant (any)	24 (14%)	17 (22%)	7 (25%)	0-797	30 (20%)	21 (48%)	9 (50%)	1	16 (14%)	13 (30%)	3 (27%)	1

¹Samples not collected from three and two participants in adherent and non-adherent group at baseline respectively. ²Samples not collected from five participants in adherent at 48 weeks. ³Samples not collected from nine and seven participants in adherent and non-adherent group at 72 weeks respectively. ⁴Oxacillin used as surrogate for penicillin. NA is Not applicable. Fishers exact test used to compare proportions.

Table S5: Sputum carriage and antibiotic resistance at enrolment , 48 weeks and 72 weeks in participants taking azithromycin, by adherence to azithromycin

Carriage	Baseline (n=166) ¹				48 weeks				72 weeks			
	Total (n=166) ¹	Adherent (n=122) ¹	Non- adherent (n=44) ¹	P values	Total (n=148) ²	Adherent (n=114) ²	Non-adherent (n=34) ²	P values	Total (n=117) ³	Adherent (n=93) ³	Non- adherent (n=24) ³	P values

<i>Streptococcus pneumoniae (SP)</i>												
Azithromycin resistant SP	2/41 (5%)	2/34 (6%)	0/7 (0%)	1	5/16 (31%)	4/12 (33%)	1/4 (25%)	1	2/20 (10%)	2/16 (13%)	0/4 (0%)	1
Tetracycline resistant SP	4/41 (10%)	4/34 (12%)	0/7 (0%)	1	4/16 (25%)	3/12 (25%)	1/4 (25%)	1	3/20 (15%)	1/16 (6%)	2/4 (50%)	0-088
Cotrimoxazole resistant SP	38/41 (93%)	31/34 (91%)	7/7 (100%)	1	14/16 (88%)	10/12 (83%)	4/4 (100%)	1	20/20 (100%)	16/16 (100%)	4/4 (100%)	1
⁴ Penicillin non-susceptible SP	13/41 (32%)	12/34 (35%)	1/7 (14%)	0-399	6/16 (38%)	4/12 (33%)	2/4 (50%)	0-604	6/20 (30%)	5/16 (31%)	1/4 (25%)	1
<i>Staphylococcus aureus (SA)</i>												
Azithromycin resistant SA	7/49 (14%)	5/38 (13%)	2/11 (18%)	0-647	30/45 (67%)	17/29 (59%)	13/16 (81%)	0-189	16/40 (40%)	13/32 (41%)	3/8 (38%)	1
Tetracycline resistant SA	12/49 (24%)	9/38 (24%)	3/11 (27%)	1	21/45 (47%)	15/29 (52%)	6/16 (38%)	0-533	9/40 (23%)	8/32 (25%)	1/8 (13%)	0-655
Cotrimoxazole resistant SA	33/49 (67%)	27/38 (71%)	6/11 (54%)	0-466	31/45 (69%)	21/29 (72%)	10/16 (63%)	0-519	23/40 (58%)	18/32 (56%)	5/8 (63%)	1
Penicillin resistant SA	45/49 (92%)	36/38 (95%)	9/11 (81%)	0-214	43/45 (96%)	27/29 (93%)	16/16 (100%)	0-531	35/40 (86%)	27/32 (84%)	8/8 (100%)	0-563
Methicillin resistant SA	1/49 (2%)	1/38 (3%)	0/11 (0%)	1	4/45 (8%)	2/29 (7%)	2/16 (13%)	0-608	1/40 (3%)	1/32 (3%)	0/8 (0%)	1
Clindamycin resistant SA	4/49 (8%)	3/38 (8%)	1/11 (9%)	1	25/45 (56%)	14/29 (48%)	11/16 (69%)	0-224	13/40 (33%)	11/32 (34%)	2/8 (25%)	1
<i>Haemophilus influenzae (HI)</i>												
Azithromycin resistant HI	0/4 (0%)	0/2 (0%)	0/2 (0%)	1	1/3 (33%)	1/2 (50%)	0/1 (0%)	1	0/6 (0%)	0/5 (0%)	0/1 (0%)	1
Tetracycline resistant HI	0/4 (0%)	0/2 (0%)	0/2 (0%)	1	0/3 (0%)	0/2 (0%)	0/1 (0%)	1	0/6 (0%)	0/5 (0%)	0/1 (0%)	1
Cotrimoxazole resistant HI	3/4 (75%)	2/2 (100%)	1/2 (50%)	1	3/3 (100%)	2/2 (100%)	1/1 (100%)	1	5/6 (83%)	4/5 (80%)	1/1 (100%)	1
Ampicillin resistant HI	0/4 (0%)	0/2 (0%)	0/2 (0%)	NA	0/3 (0%)	0/2 (0%)	0/1 (0%)	NA	0/6 (0%)	0/5 (0%)	0/1 (0%)	NA

Amoxicillin-clavulanate resistant HI	0/4 (0%)	0/2 (0%)	0/2 (0%)	1	0/3 (0%)	0/2 (0%)	0/1 (0%)	1	0/6 (0%)	0/5 (0%)	0/1 (0%)	1
Cefuroxime resistant HI	0/4 (0%)	0/2 (0%)	0/2 (0%)	NA	0/3 (0%)	0/2 (0%)	0/1 (0%)	NA	0/6 (0%)	0/5 (0%)	0/1 (0%)	NA
<i>Moraxella catarrhalis (MC)</i>												
Azithromycin resistant MC	0/15 (0%)	0/11 (0%)	0/4 (0%)	1	1/4 (25%)	1/2 (50%)	0/2 (0%)	1	0/7 (0%)	0/5 (0%)	0/2 (0%)	1
Tetracycline resistant MC	1/15 (7%)	0/11 (0%)	1/4 (25%)	0-267	0/4 (0%)	0/2 (0%)	0/2 (0%)	1	0/7 (0%)	0/5 (0%)	0/2 (0%)	1
Cotrimoxazole resistant MC	7/15 (47%)	6/11 (55%)	1/4 (25%)	0-569	0/4 (0%)	0/2 (0%)	0/2 (0%)	1	1/7% (14%)	1/5 (20%)	0/2 (0%)	1
Amoxicillin-clavulanate resistant MC	0/15 (0%)	0/11 (0%)	0/4 (0%)	NA	0/4 (0%)	0/2 (0%)	0/2 (0%)	NA	0/7 (0%)	0/5 (0%)	0/2 (0%)	NA
All four bacteria												
Macrolide resistant (any)	9 (5%)	7 (12%)	2 (9%)	1	36 (24%)	22 (55%)	14 (70%)	0-402	18 (16%)	15 (33%)	3 (27%)	1
Tetracycline resistant (any)	17 (10%)	13 (22%)	4 (18%)	1	25 (17%)	18 (45%)	7 (35%)	0-581	12 (10%)	9 (20%)	3 (27%)	0-686

¹Samples not collected from three and two participants in adherent and non-adherent group at baseline respectively. ²Samples not collected from five participants in adherent at 48 weeks. ³Samples not collected from nine and seven participants in adherent and non-adherent group at 72 weeks respectively. ⁴Oxacillin used as surrogate for penicillin. NA is Not applicable. Fishers exact test used to compare proportions.

Table S6: Factors associated with carriage of *Streptococcus pneumoniae* isolates at 48 weeks and 72 weeks in trial participants

NASOPHARYNGEAL SWABS												
Variable	No. observations (n=312)#	No. isolates (n=93)*	48 weeks				No. observations (n=223)§	No. isolates (n=79)ω	72 weeks			
			Univariate analysis		Multivariate analysis				Univariate analysis		Multivariate analysis	
			Adjusted Odds	<i>p</i> value	Adjusted Odds	<i>p</i> value			Adjusted Odds	<i>p</i>	Adjusted Odds	<i>p</i>
			ratio, 95% CI		ratio, 95% CI				ratio, 95% CI	value	ratio, 95% CI	value
Site												
Malawi	31% (96)	41% (38)	Reference		Reference		20% (44)	23% (18)	Reference		Reference	
Zimbabwe	69% (216)	59% (55)	0.52 [0.31–0.87]	0.012	0.55 [0.22–1.35]	0.195	80% (179)	77% (61)	0.75 [0.38–1.48]	0.397	1.05 [0.32–3.44]	0.936
Sex												
Female	48% (151)	57% (53)	Reference		Reference		45% (100)	52% (41)	Reference		Reference	
Male	52% (161)	43% (40)	0.61 [0.37–0.99]	0.049	0.52 [0.28–0.96]	0.038	55% (123)	48% (38)	0.64 [0.37–1.12]	0.118	0.62 [0.32–1.18]	0.148
Season of sampling												
May-Oct-Dry	58% (180)	56% (52)	Reference		Reference		37% (82)	35% (28)	Reference		Reference	
Nov-Apr-Rainy	42% (132)	44% (41)	1.11 [0.68–1.81]	0.679	0.97 [0.53–1.75]	0.922	63% (141)	65% (51)	1.09 [0.62–1.95]	0.761	0.91 [0.47–1.75]	0.768
Weight-for-age-z-score												
Not underweight	51% (158)	49% (45)	Reference		Reference		47% (104)	51% (40)	Reference		Reference	
underweight	49% (149)	51% (46)	1.12 [0.69–1.83]	0.647	1.56 [0.85–2.91]	0.158	53% (117)	49% (39)	0.8 [0.46–1.39]	0.428	0.92 [0.47–1.79]	0.795
Age at enrolment												
6-9y	9% (28)	10% (9)	Reference		Reference		11% (24)	19% (15)	Reference		Reference	
10-12y	20% (61)	22% (20)	1.03 [0.4–2.76]	0.33	1.12 [0.37–3.49]	0.24	18% (41)	15% (12)	0.25 [0.08–0.7]	0.04	0.28 [0.08–0.86]	0.1
13-16y	43% (133)	47% (44)	1.04 [0.45–2.6]		1.14 [0.43–3.18]		43% (96)	42% (33)	0.31 [0.12–0.78]		0.31 [0.11–0.84]	
17-19y	29% (90)	22% (20)	0.6 [0.24–1.58]		0.55 [0.19–1.63]		28% (62)	24% (19)	0.27 [0.1–0.7]		0.29 [0.09–0.84]	

Viral load suppression at
enrolment

Suppressed (<1000 copies/ml)	58% (177)	53% (48)	Reference		Reference		60% (130)	57% (45)	Reference		Reference	
Unsuppressed (>1000 copies/ml)	42% (130)	47% (43)	1.33 [0.81–2.18]	0.259	1.51 [0.82–2.78]	0.186	40% (88)	43% (34)	1.19 [0.68–2.08]	0.545	1.5 [0.78–2.91]	0.227
Adherence and Trial arm												
Adherence AZM	39% (122)	24% (22)	Reference		Reference		42% (94)	43% (34)	Reference		Reference	
Adherence Placebo	37% (114)	49% (46)	3.07 [1.71–5.65]	0.0002	4.1 [2.14–8.14]	<0.0001	38% (94)	38% (30)	0.98 [0.53–1.81]	0.92	1.01 [0.52–1.99]	0.85
Not Adherent AZM	12% (37)	8% (7)	1.06 [0.39–2.63]		0.53 [0.14–1.71]		11% (24)	9% (7)	0.73 [0.26–1.87]		0.6 [0.17–1.91]	
Not Adherent Placebo	13% (39)	19% (18)	3.9 [1.79–8.57]		2.93 [1.15–7.48]		9% (21)	10% (8)	1.09 [0.39–2.85]		0.86 [0.28–2.54]	
MRC dyspnoea score												
< 2	65% (204)	57% (53)	Reference		Reference		71% (159)	65% (51)	Reference		Reference	
2 and above	35% (108)	43% (40)	1.68 [1.01–2.76]	0.043	1.07 [0.46–2.42]	0.877	29% (64)	36% (28)	1.65 [0.9–2.99]	0.101	1.81 [0.69–4.85]	0.227
ART regimen												
ATV/LPV/PI	26% (81)	29% (27)	Reference		Reference		31% (70)	32% (25)	Reference		Reference	
EFV/NVP	74% (230)	71% (65)	0.79 [0.46–1.37]	0.39	0.51 [0.26–1]	0.049	69% (153)	68% (54)	0.98 [0.55–1.79]	0.951	1.06 [0.54–2.08]	0.876
Duration of ART at baseline												
6m-<2y	10% (31)	15% (13)	Reference		Reference		8% (18)	13% (10)	Reference		Reference	
2y-<4y	18% (53)	21% (18)	0.71 [0.29–1.79]	0.21	0.84 [0.29–2.41]	0.35	16% (35)	17% (13)	0.47 [0.14–1.49]	0.34	0.71 [0.19–2.62]	0.58
4y-<6y	21% (64)	21% (18)	0.54 [0.22–1.34]		0.58 [0.21–1.61]		21% (46)	19% (15)	0.39 [0.12–1.17]		0.44 [0.13–1.5]	
6y+	51% (154)	44% (38)	0.45 [0.2–1.03]		0.48 [0.19–1.25]		55% (119)	51% (40)	0.41 [0.14–1.1]		0.6 [0.19–1.9]	
Adherence to study drug												
Adherence	76% (236)	73% (68)	Reference				80% (178)	81% (64)	Reference			
Not Adherent	24% (76)	27% (25)	1.21 [0.69–2.1]	0.499			20% (45)	19% (15)	0.89 [0.44–1.76]	0.743		

Trial arm								
Azithromycin	51% (159)	31% (29)	Reference		53% (118)	52% (41)	Reference	
Placebo	49% (153)	69% (64)	3.22 [1.94–5.45]	<0.0001	47% (105)	48% (38)	1.07 [0.61–1.85]	0.822
BMI-for-age z-score								
Wasted	20% (62)	16% (15)	Reference		24% (54)	23% (18)	Reference	
Normal	80% (245)	84% (76)	1.41 [0.76–2.75]	0.295	76% (167)	77% (61)	1.15 [0.61–2.23]	0.67
Height-for-age z-score								
Not stunted	46% (140)	52% (47)	Reference		43% (94)	41% (32)	Reference	
Stunted	54% (167)	48% (44)	0.71 [0.43–1.16]	0.168	57% (127)	59% (47)	1.14 [0.65–2]	0.649

#Missing values: Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (10), BMI-for-age z-score (5), Height-for-age z-score (5). *Missing values: Weight-for-age-z-score (2), Viral load suppression at enrolment (2), Duration of ART at baseline (1), BMI-for-age z-score (2), Height-for-age z-score (2). §Missing values: Weight-for-age-z-score (2), Viral load suppression at enrolment (5), Duration of ART at baseline (5), BMI-for-age z-score (2), Height-for-age z-score (2). ωMissing values: Duration of ART at baseline (1). ∫Missing values: Season of sampling (1), Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (9), BMI-for-age z-score (5), Height-for-age z-score (5). θMissing values: Viral load suppression at enrolment (1), Duration of ART at baseline (2). ΨMissing values: Season of sampling (2), Weight-for-age-z-score (1), Viral load suppression at enrolment (5), Duration of ART at baseline (6), BMI-for-age z-score (1), Height-for-age z-score (1). ℳMissing values: Weight-for-age-z-score (1), Viral load suppression at enrolment (1), Duration of ART at baseline (4), BMI-for-age z-score (1), Height-for-age z-score (1). BMI-for-age z-score and Height-for-age z-score were not included in the multivariate analysis because of colinearity. Adherence to study drug and Trial arm were colinear with Adherence and Trial arm hence excluded from multivariate analysis. Statistical model applied is generalised logistic regression.

Table S6: Factors associated with carriage of *Streptococcus pneumoniae* isolates at 48 weeks and 72 weeks in trial participants cont'd

SPUTUM												
Variable	No. observations (n=290) ³	No. isolates (n=51) ^θ	48 weeks				72 weeks					
			Univariate analysis		Multivariate analysis		No. observations (n=224) ^Ψ	No. isolates (n=46) ^ℳ	Univariate analysis		Multivariate analysis	
			Adjusted		Adjusted				Adjusted		Adjusted	
			Odds ratio, 95% CI	p value	Odds ratio, 95% CI	p value			Odds ratio, 95% CI	p value	Odds ratio, 95% CI	p value
Site												
Malawi	29% (83)	35% (18)	Reference		Reference		25% (56)	30% (14)	Reference		Reference	
			0.68 [0.36–		0.74 [0.24–				0.67 [0.33–		0.5 [0.12–	
Zimbabwe	71% (207)	65% (33)	1.32]	0.247	2.25]	0.593	75% (168)	70% (32)	1.41]	0.28	1.91]	0.315
Sex												
Female	49% (142)	51% (26)	Reference		Reference		46% (104)	48% (22)	Reference		Reference	
			0.91 [0.49–		0.92 [0.43–				0.95 [0.5–		0.63 [0.29–	
Male	51% (148)	49% (25)	1.66]	0.751	1.97]	0.826	54% (120)	52% (24)	1.83]	0.881	1.38]	0.253
Season of sampling												
May-Oct-Dry	58% (167)	57% (29)	Reference		Reference		37% (82)	41% (19)	Reference		Reference	
			1.04 [0.56–		0.89 [0.43–				0.79 [0.41–		0.85 [0.4–	
Nov-Apr-Rainy	42% (122)	43% (22)	1.9]	0.908	1.81]	0.747	63% (140)	59% (27)	1.55]	0.491	1.86]	0.678

Weight-for-age-z-
score

Not underweight	53% (150)	51% (26)	Reference		Reference		50% (111)	42% (19)	Reference		Reference	
			1.08 [0.59–		1.18 [0.56–				1.5 [0.78–		1.42 [0.64–	
underweight	47% (135)	49% (25)	1.99]	0.794	2.52]	0.66	50% (112)	58% (26)	2.94]	0.23	3.24]	0.391
Age at enrolment												
6-9y	9% (27)	10% (5)	Reference		Reference		10% (23)	11% (5)	Reference		Reference	
			0.73 [0.22–		0.86 [0.22–				0.46 [0.11–		0.5 [0.1–	
10-12y	19% (56)	16% (8)	2.66]	0.88	3.66]	0.53	20% (44)	11% (5)	1.85]	0.41	2.34]	0.7
			1.05 [0.38–		1.74 [0.56–				1.12 [0.39–		0.97 [0.3–	
13-16y	43% (125)	47% (24)	3.37]		6.35]		44% (98)	50% (23)	3.68]		3.67]	
			0.91 [0.31–		1.31 [0.38–				1.04 [0.34–		0.87 [0.23–	
17-19y	28% (82)	27% (14)	3.06]		5.07]		26% (59)	28% (13)	3.62]		3.52]	
Viral load suppression at enrolment												
Suppressed (<1000 copies/ml)												
	57% (162)	50% (25)	Reference		Reference		58% (127)	49% (22)	Reference		Reference	
Unsuppressed (>1000 copies/ml)												
	43% (123)	50% (25)	1.4 [0.76–		1.55 [0.74–				1.6 [0.83–		1.63 [0.75–	
			2.59]	0.283	3.26]	0.241	42% (92)	51% (23)	3.11]	0.163	3.57]	0.217
Adherence and Trial arm												
Adherence AZM	39% (114)	25% (13)	Reference		Reference		42% (93)	35% (16)	Reference		Reference	

Adherence			2.96 [1.47–		3.82 [1.76–				1.58 [0.77–		1.62 [0.72–	
Placebo	36% (105)	57% (29)	6.26]	0.012	8.82]	0.002	38% (84)	46% (21)	3.33]	0.61	3.74]	0.56
Not Adherent			1.04 [0.28–		0.73 [0.14–				0.95 [0.25–		0.81 [0.16–	
AZM	11% (34)	8% (4)	3.18]		2.8]		11% (24)	9% (4)	2.94]		3.24]	
Not Adherent			1.21 [0.37–		0.77 [0.18–				1.4 [0.41–		1.65 [0.43–	
Placebo	13% (37)	10% (5)	3.5]		2.77]		10% (23)	11% (5)	4.15]		5.8]	
MRC dyspnoea												
score												
< 2	66% (192)	59% (30)	Reference		Reference		68% (153)	67% (31)	Reference		Reference	
			1.47 [0.78–		1.73 [0.63–				1.06 [0.52–		0.5 [0.13–	
2 and above	34% (98)	41% (21)	2.73]	0.221	4.69]	0.283	32% (71)	33% (15)	2.1]	0.86	1.7]	0.294
ART regimen												
ATV/LPV/PI	25% (73)	25% (13)	Reference		Reference		30% (68)	30% (14)	Reference		Reference	
			0.99 [0.5–		0.72 [0.32–				0.96 [0.48–		0.85 [0.38–	
EFV/NVP	75% (216)	75% (38)	2.03]	0.967	1.7]	0.446	70% (156)	70% (32)	1.99]	0.906	1.97]	0.697
Duration of ART												
at baseline												
6m-<2y	9% (27)	20% (10)	Reference		Reference		9% (19)	14% (6)	Reference		Reference	
			0.28 [0.09–		0.26 [0.07–				0.48 [0.13–		0.5 [0.11–	
2y-<4y	17% (49)	14% (7)	0.86]	0.026	0.88]	0.014	16% (34)	14% (6)	1.81]	0.47	2.19]	0.45
			0.46 [0.17–		0.33 [0.1–				0.61 [0.19–		0.65 [0.17–	
4y-<6y	22% (61)	27% (13)	1.26]		1.05]		23% (50)	26% (11)	2.07]		2.49]	
			0.26 [0.1–		0.17 [0.06–				0.43 [0.15–		0.39 [0.11–	
6y+	51% (144)	39% (19)	0.66]		0.51]		53% (115)	45% (19)	1.36]		1.43]	

Adherence to
study drug

Adherence	76% (219)	82% (42)	Reference		79% (177)	80% (37)	Reference	
			0.61 [0.27–				0.91 [0.39–	
Not Adherent	24% (71)	18% (9)	1.28]	0.214	21% (47)	20% (9)	1.99]	0.828

Trial arm								
Azithromycin	51% (148)	33% (17)	Reference		52% (117)	43% (20)	Reference	
			2.43 [1.3–				1.56 [0.81–	
Placebo	49% (142)	67% (34)	4.67]	0.006	48% (107)	57% (26)	3.03]	0.183

BMI-for-age z- score								
Wasted	20% (56)	24% (12)	Reference		22% (48)	20% (9)	Reference	
			0.75 [0.37–				1.14 [0.52–	
Normal	80% (229)	76% (39)	1.61]	0.443	78% (175)	80% (36)	2.7]	0.754

Height-for-age z- score								
Not stunted	44% (125)	47% (24)	Reference		42% (94)	49% (22)	Reference	
			0.85 [0.47–				0.69 [0.36–	
Stunted	56% (160)	53% (27)	1.58]	0.612	58% (129)	51% (23)	1.34]	0.27

#Missing values: Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (10), BMI-for-age z-score (5), Height-for-age z-score (5). *Missing values: Weight-for-age-z-score (2), Viral load suppression at enrolment (2), Duration of ART at baseline (1), BMI-for-age z-score (2), Height-for-age z-score (2). §Missing values: Weight-for-age-z-score (2), Viral load suppression at enrolment (5), Duration of ART at baseline (5), BMI-for-age z-score (2), Height-for-age z-score (2). ωMissing values: Duration of ART at baseline (1). ™Missing values: Season of sampling (1), Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (9), BMI-for-age z-score (5), Height-for-age z-score (5). θMissing values: Viral load suppression at enrolment (1), Duration of ART at baseline (2). ΨMissing values: Season of sampling (2), Weight-for-age-z-score (1), Viral load suppression at enrolment (5), Duration of ART at baseline (6),

BMI-for-age z-score (1), Height-for-age z-score (1). ~~Missing values:~~ Weight-for-age-z-score (1), Viral load suppression at enrolment (1), Duration of ART at baseline (4), BMI-for-age z-score (1), Height-for-age z-score (1). BMI-for-age z-score and Height-for-age z-score were not included in the multivariate analysis because of colinearity. Adherence to study drug and Trial arm were colinear with Adherence and Trial arm hence excluded from multivariate analysis. Statistical model applied is generalised logistic regression.

Table S7: Factors associated with carriage of *Staphylococcus aureus* isolates at 48 weeks and 72 weeks in trial participants

NASOPHARYNGEAL SWABS												
Variable	No. observations (n=312)#	No. isolates (n=65)*	48 weeks				No. observations (n=223)§	No. isolates (n=49)ω	72 weeks			
			Univariate analysis		Multivariate analysis				Univariate analysis		Multivariate analysis	
			Odds ratio, 95% CI	<i>p</i> value	Adjusted Odds ratio, 95% CI	<i>p</i> value			Odds ratio, 95% CI	<i>p</i> value	Adjusted Odds ratio, 95% CI	<i>p</i> value
Site												
Malawi	31% (96)	45% (29)	Reference		Reference		20% (44)	20% (10)	Reference		Reference	
Zimbabwe	69% (216)	55% (36)	0.46 [0.26–0.81]	0.007	0.65 [0.24–1.7]	0.38	80% (179)	80% (39)	0.95 [0.44–2.17]	0.893	0.81 [0.19–3.28]	0.77
Sex												
Female	48% (151)	52% (34)	Reference		Reference		45% (100)	45% (22)	Reference		Reference	
Male	52% (161)	48% (31)	0.82 [0.47–1.42]	0.479	0.79 [0.41–1.53]	0.484	55% (123)	55% (27)	1 [0.53–1.9]	0.993	0.97 [0.46–2.06]	0.931
Season of sampling												
May-Oct-Dry	58% (180)	43% (28)	Reference		Reference		37% (82)	31% (15)	Reference		Reference	
Nov-Apr-Rainy	42% (132)	57% (37)	2.11 [1.22–3.7]	0.008	1.71 [0.91–3.21]	0.095	63% (141)	69% (34)	1.42 [0.73–2.87]	0.313	1.16 [0.55–2.51]	0.71
Weight-for-age-z-score												
Not underweight	51% (158)	52% (32)	Reference		Reference		47% (104)	51% (25)	Reference		Reference	
underweight	49% (149)	48% (30)	0.99 [0.57–1.74]	0.979	0.89 [0.46–1.73]	0.735	53% (117)	49% (24)	0.82 [0.43–1.54]	0.529	0.69 [0.32–1.49]	0.347
Age at enrolment												
6-9y	9% (28)	8% (5)	Reference		Reference		11% (24)	8% (4)	Reference		Reference	
10-12y	20% (61)	22% (14)	1.37 [0.46–4.66]	0.29	1.18 [0.34–4.44]	0.48	18% (41)	18% (9)	1.41 [0.4–5.75]	0.22	1.52 [0.39–6.72]	0.17
13-16y	43% (133)	51% (33)	1.52 [0.57–4.8]		1.32 [0.45–4.49]		43% (96)	55% (27)	1.96 [0.67–7.19]		1.79 [0.56–7.01]	

17-19y	29% (90)	20% (13)	0.78 [0.26–2.63]		0.7 [0.21–2.56]		28% (62)	18% (9)	0.85 [0.25–3.41]		0.66 [0.17–2.93]	
Viral load suppression at enrolment												
Suppressed (<1000 copies/ml)	58% (177)	47% (30)	Reference		Reference		60% (130)	53% (26)	Reference		Reference	
Unsuppressed (>1000 copies/ml)	42% (130)	53% (34)	1.74 [1–3.03]	0.051	1.52 [0.79–2.94]	0.213	40% (88)	47% (23)	1.42 [0.74–2.69]	0.288	2.06 [0.98–4.42]	0.059
Adherence and Trial arm												
Adherence AZM	39% (122)	31% (20)	Reference		Reference		42% (94)	39% (19)	Reference		Reference	
Adherence Placebo	37% (114)	34% (22)	1.22 [0.62–2.39]	0.05	1.13 [0.55–2.35]	0.53	38% (94)	47% (23)	1.49 [0.74–3.01]	0.44	1.61 [0.76–3.48]	0.45
Not Adherent AZM	12% (37)	22% (14)	3.1 [1.36–7.06]		2 [0.74–5.25]		11% (24)	8% (4)	0.79 [0.21–2.39]		0.79 [0.18–2.92]	
Not Adherent Placebo	13% (39)	14% (9)	1.53 [0.61–3.64]		0.96 [0.3–2.78]		9% (21)	6% (3)	0.66 [0.14–2.21]		0.66 [0.13–2.48]	
MRC dyspnoea score												
< 2	65% (204)	55% (36)	Reference		Reference		71% (159)	71% (35)	Reference		Reference	
2 and above	35% (108)	45% (29)	1.71 [0.98–2.99]	0.058	0.99 [0.38–2.48]	0.989	29% (64)	29% (14)	0.99 [0.48–1.97]	0.982	0.8 [0.24–2.47]	0.71
ART regimen												
ATV/LPV/PI	26% (81)	23% (15)	Reference		Reference		31% (70)	33% (16)	Reference		Reference	
EFV/NVP	74% (230)	77% (50)	1.22 [0.66–2.39]	0.54	1.16 [0.55–2.57]	0.702	69% (153)	67% (33)	0.93 [0.48–1.86]	0.829	0.85 [0.4–1.82]	0.667
Duration of ART at baseline												
6m-<2y	10% (31)	5% (3)	Reference		Reference		8% (18)	6% (3)	Reference		Reference	
					4.96 [1.16–							
2y-<4y	18% (53)	21% (13)	3.03 [0.88–14.12]	0.38	34.68]	0.25	16% (35)	15% (7)	1.25 [0.3–6.45]	0.93	1.59 [0.33–9.21]	0.93
					4.37 [1.07–							
4y-<6y	21% (64)	25% (15)	2.86 [0.85–13.1]		29.89]		21% (46)	23% (11)	1.57 [0.42–7.68]		1.67 [0.39–8.88]	
6y+	51% (154)	49% (30)	2.26 [0.74–9.88]		3.5 [0.9–23.23]		55% (119)	55% (26)	1.4 [0.42–6.36]		1.56 [0.4–7.87]	
Adherence to study drug												
Adherence	76% (236)	65% (42)	Reference				80% (178)	86% (42)	Reference			

Not Adherent	24% (76)	35% (23)	2 [1.1–3.61]	0.021		20% (45)	14% (7)	0.6 [0.23–1.36]	0.248
Trial arm									
Azithromycin	51% (159)	52% (34)	Reference			53% (118)	47% (23)	Reference	
Placebo	49% (153)	48% (31)	0.93 [0.54–1.61]	0.807		47% (105)	53% (26)	1.36 [0.72–2.58]	0.344
BMI-for-age z-score									
Wasted	20% (62)	21% (13)	Reference			24% (54)	27% (13)	Reference	
Normal	80% (245)	79% (49)	0.94 [0.48–1.93]	0.865		76% (167)	73% (36)	0.87 [0.43–1.84]	0.699
Height-for-age z-score									
Not stunted	46% (140)	48% (30)	Reference			43% (94)	45% (22)	Reference	
Stunted	54% (167)	52% (32)	0.87 [0.5–1.52]	0.622		57% (127)	55% (27)	0.88 [0.47–1.69]	0.704

#Missing values: Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (10), BMI-for-age z-score (5), Height-for-age z-score (5). *Missing values: Weight-for-age-z-score (3), Viral load suppression at enrolment (1), Duration of ART at baseline (4), BMI-for-age z-score (3), Height-for-age z-score (3). §Missing values: Weight-for-age-z-score (2), Viral load suppression at enrolment (5), Duration of ART at baseline (5), BMI-for-age z-score (2), Height-for-age z-score (2). ωMissing values: Duration of ART at baseline (2). ∫Missing values: Season of sampling (1), Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (9), BMI-for-age z-score (5), Height-for-age z-score (5). θMissing values: Weight-for-age-z-score (1), Viral load suppression at enrolment (1), Duration of ART at baseline (2), BMI-for-age z-score (1), Height-for-age z-score (1). ΨMissing values: Season of sampling (2), Weight-for-age-z-score (1), Viral load suppression at enrolment (5), Duration of ART at baseline (6), BMI-for-age z-score (1), Height-for-age z-score (1). ∞Missing values: Season of sampling (1), Viral load suppression at enrolment (2), Duration of ART at baseline (2). BMI-for-age z-score and Height-for-age z-score were not included in the multivariate analysis because of colinearity. Adherence to study drug and Trial arm were colinear with Adherence and Trial arm hence excluded from multivariate analysis. Statistical model applied is generalised logistic regression.

Table S7: Factors associated with carriage of *Staphylococcus aureus* isolates at 48 weeks and 72 weeks in trial participants cont'd

SPUTUM												
Variable	48 weeks						72 weeks					
	No. observations	No. isolates	Univariate analysis		Multivariate analysis		No. observations	No. isolates	Univariate analysis		Multivariate analysis	
	(n=290) ³	(n=83) ^θ	Odds ratio, 95% CI	<i>p</i> value	Adjusted Odds ratio, 95% CI	<i>p</i> value	(n=224) ^Ψ	(n=77) ^ℳ	Odds ratio, 95% CI	<i>p</i> value	Adjusted Odds ratio, 95% CI	<i>p</i> value
Site												
Malawi	29% (83)	32% (27)	Reference		Reference		25% (56)	25% (19)	Reference		Reference	
Zimbabwe	71% (207)	67% (56)	0.77 [0.44–1.35]	0.352	1.24 [0.49–3.15]	0.652	75% (168)	75% (58)	1.03 [0.55–1.97]	0.935	0.66 [0.21–2]	0.467
Sex												
Female	49% (142)	46% (38)	Reference		Reference		46% (104)	42% (32)	Reference		Reference	
Male	51% (148)	54% (45)	1.2 [0.72–2]	0.493	1.18 [0.64–2.18]	0.593	54% (120)	58% (45)	1.35 [0.78–2.37]	0.291	1.3 [0.68–2.5]	0.424
Season of sampling												
May-Oct-Dry	58% (167)	64% (53)	Reference		Reference		37% (82)	36% (27)	Reference		Reference	
Nov-Apr-Rainy	42% (122)	36% (30)	0.69 [0.41–1.17]	0.172	0.59 [0.32–1.06]	0.083	63% (140)	64% (49)	1.11 [0.63–1.98]	0.729	1.1 [0.58–2.11]	0.777
Weight-for-age-z-score												
Not underweight	53% (150)	50% (41)	Reference		Reference		50% (111)	48% (37)	Reference		Reference	
underweight	47% (135)	50% (41)	1.16 [0.69–1.94]	0.572	0.92 [0.5–1.68]	0.784	50% (112)	52% (40)	1.11 [0.64–1.93]	0.709	0.81 [0.41–1.59]	0.545
Age at enrolment												
6-9y	9% (27)	11% (9)	Reference		Reference		10% (23)	5% (4)	Reference		Reference	

									2.71 [0.84–			
10-12y	19% (56)	16% (13)	0.6 [0.22–1.7]	0.68	0.62 [0.2–1.96]	0.73	20% (44)	21% (16)	10.61]	0.38	2.6 [0.72–11.18]	0.56
13-16y	43% (125)	42% (35)	0.78 [0.33–1.96]		0.8 [0.3–2.22]		44% (98)	45% (35)	2.64 [0.91–9.65]		2.19 [0.69–8.58]	
17-19y	28% (82)	31% (26)	0.93 [0.37–2.42]		1.02 [0.37–2.94]		26% (59)	29% (22)	2.82 [0.92–10.7]		2.37 [0.69–9.74]	
Viral load suppression at enrolment												
Suppressed (<1000 copies/ml)	57% (162)	45% (37)	Reference		Reference		58% (127)	57% (43)	Reference		Reference	
Unsuppressed (>1000 copies/ml)	43% (123)	55% (45)	1.95 [1.16–3.29]	0.012	1.94 [1.07–3.57]	0.031	42% (92)	43% (32)	1.04 [0.59–1.83]	0.887	1.2 [0.62–2.3]	0.59
Adherence and Trial arm												
Adherence AZM	39% (114)	35% (29)	Reference		Reference		42% (93)	42% (32)	Reference		Reference	
Adherence Placebo	36% (105)	29% (24)	0.87 [0.46–1.61]	0.018	0.86 [0.44–1.68]	0.02	38% (84)	34% (26)	0.85 [0.45–1.6]	0.52	0.75 [0.38–1.49]	0.33
Not Adherent AZM	11% (34)	20% (17)	2.93 [1.33–6.53]		3.49 [1.37–9.15]		11% (24)	10% (8)	0.95 [0.35–2.42]		0.94 [0.3–2.77]	
Not Adherent Placebo	13% (37)	16% (13)	1.59 [0.7–3.49]		2 [0.77–5.16]		10% (23)	14% (11)	1.75 [0.69–4.43]		2.1 [0.73–6.17]	
MRC dyspnoea score												
< 2	66% (192)	60% (50)	Reference		Reference		68% (153)	74% (57)	Reference		Reference	
2 and above	34% (98)	40% (33)	1.44 [0.85–2.44]	0.175	1.7 [0.74–3.93]	0.208	32% (71)	26% (20)	0.66 [0.35–1.21]	0.184	0.41 [0.14–1.14]	0.099
ART regimen												
ATV/LPV/PI	25% (73)	24% (20)	Reference		Reference		30% (68)	27% (21)	Reference		Reference	
EFV/NVP	75% (216)	76% (63)	1.09 [0.61–2.01]	0.773	0.95 [0.48–1.91]	0.887	70% (156)	73% (56)	1.25 [0.69–2.34]	0.468	1.31 [0.66–2.65]	0.45
Duration of ART at baseline												
6m-<2y	9% (27)	6% (5)	Reference		Reference		9% (19)	7% (5)	Reference		Reference	
2y-<4y	17% (49)	22% (18)	2.55 [0.87–8.67]	0.4	3.28 [1–12.35]	0.17	16% (34)	21% (16)	2.49 [0.76–9.13]	0.21	2.19 [0.59–9.04]	0.44
4y-<6y	22% (61)	22% (18)	1.84 [0.64–6.17]		2.15 [0.66–8.07]		23% (50)	17% (13)	0.98 [0.31–3.52]		0.98 [0.28–3.78]	

6y+	51% (144)	49% (40)	1.69 [0.64–5.32]	1.6 [0.53–5.64]	53% (115)	55% (41)	1.55 [0.55–5.08]	1.42 [0.44–5.12]
Adherence to study drug								
Adherence	76% (219)	64% (53)	Reference		79% (177)	75% (58)	Reference	
Not Adherent	24% (71)	36% (30)	2.29 [1.3–4.03]	0.004	21% (47)	25% (19)	1.39 [0.71–2.69]	0.327
Trial arm								
Azithromycin	51% (148)	55% (46)	Reference		52% (117)	52% (40)	Reference	
Placebo	49% (142)	45% (37)	0.78 [0.47–1.3]	0.344	48% (107)	48% (37)	1.02 [0.58–1.77]	0.951
BMI-for-age z-score								
Wasted	20% (56)	23% (19)	Reference		22% (48)	18% (14)	Reference	
Normal	80% (229)	77% (63)	0.74 [0.4–1.4]	0.343	78% (175)	82% (63)	1.37 [0.69–2.81]	0.379
Height-for-age z-score								
Not stunted	44% (125)	51% (42)	Reference		42% (94)	45% (35)	Reference	
Stunted	56% (160)	49% (40)	0.66 [0.39–1.1]	0.113	58% (129)	55% (42)	0.81 [0.47–1.42]	0.469

#Missing values: Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (10), BMI-for-age z-score (5), Height-for-age z-score (5). *Missing values: Weight-for-age-z-score (3), Viral load suppression at enrolment (1), Duration of ART at baseline (4), BMI-for-age z-score (3), Height-for-age z-score (3). §Missing values: Weight-for-age-z-score (2), Viral load suppression at enrolment (5), Duration of ART at baseline (5), BMI-for-age z-score (2), Height-for-age z-score (2). ωMissing values: Duration of ART at baseline (2). ™Missing values: Season of sampling (1), Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (9), BMI-for-age z-score (5), Height-for-age z-score (5). θMissing values: Weight-for-age-z-score (1), Viral load suppression at enrolment (1), Duration of ART at baseline (2), BMI-for-age z-score (1), Height-for-age z-score (1). ΨMissing values: Season of sampling (2), Weight-for-age-z-score (1), Viral load suppression at enrolment (5), Duration of ART at baseline (6), BMI-for-age z-score (1), Height-for-age z-score (1). ∞Missing values: Season of sampling (1), Viral load suppression at enrolment (2), Duration of ART at baseline (2). BMI-for-age z-score and Height-for-age z-score were not included in the multivariate analysis because of colinearity. Adherence to study drug and Trial arm were colinear with Adherence and Trial arm hence excluded from multivariate analysis. Statistical model applied is generalised logistic regression.

Table S8: Factors associated with carriage of azithromycin resistant *Streptococcus pneumoniae* isolates at 48 weeks and 72 weeks in trial participants

NASOPHARYNGEAL SWABS												
Variable	No. observations (n=312)#	No. resistant isolates (n=26)*	48 weeks				No. observations (n=223)§	No. resistant isolates (n=15)ω	72 weeks			
			Univariate analysis		Multivariate analysis				Univariate analysis		Multivariate analysis	
			Adjusted Odds ratio, 95% CI	<i>p</i> value	Adjusted Odds ratio, 95% CI	<i>p</i> value			Adjusted Odds ratio, 95% CI	<i>p</i> value	Adjusted Odds ratio, 95% CI	<i>p</i> value
Site												
Malawi	31% (96)	54% (14)	Reference		Reference		20% (44)	40% (6)	Reference		Reference	
									0.38 [0.11–		0.06 [0–	
Zimbabwe	69% (216)	46% (12)	0.49 [0.19–1.23]	0.128	0.12 [0.01–1.44]	0.115	80% (179)	60% (9)	1.33]	0.121	1.26]	0.091
Sex												
Female	48% (151)	73% (19)	Reference		Reference		45% (100)	53% (8)	Reference		Reference	
									0.91 [0.28–		1.46 [0.29–	
Male	52% (161)	27% (7)	0.37 [0.13–0.96]	0.048	0.19 [0.02–1.06]	0.073	55% (123)	47% (7)	2.84]	0.863	8.13]	0.646
Season of sampling												
May-Oct-Dry	58% (180)	54% (14)	Reference		Reference		37% (82)	33% (5)	Reference		Reference	
									1.19 [0.37–		0.47 [0.06–	
Nov-Apr-Rainy	42% (132)	46% (12)	1.16 [0.46–2.9]	0.745	1.48 [0.27–8.98]	0.656	63% (141)	67% (10)	4.23]	0.776	3.14]	0.446
Weight-for-age-z-score												
Not underweight	51% (158)	36% (9)	Reference		Reference		47% (104)	47% (7)	Reference		Reference	
									1.1 [0.35–		0.78 [0.11–	
underweight	49% (149)	64% (16)	2.07 [0.81–5.55]	0.133	2.43 [0.37–19.71]	0.371	53% (117)	53% (8)	3.53]	0.863	5.31]	0.795

Age at enrolment												
6-9y	9% (28)	0% (0)	Reference		Reference			11% (24)	13% (2)	Reference		Reference
			22908745.07 [0-		68564812.43 [0-					3 [0.47-		7.41 [0.49-
10-12y	20% (61)	27% (7)	3.67998020768624E+85]	NA	NA]		0.69	18% (41)	27% (4)	25.62]		0.29 192.04] 0.23
					48087742.57 [0-					2.09 [0.44-		6.74 [0.64-
13-16y	43% (133)	62% (16)	24311321.3 [0-NA]		NA]			43% (96)	53% (8)	15.3]		124.62]
			7977152.3 [0-		14669776.62 [0-					0.38 [0.02-		0.6 [0.01-
17-19y	29% (90)	12% (3)	1.28143335973616E+85]		NA]			28% (62)	7% (1)	4.36]		17.84]
Viral load suppression at enrolment												
Suppressed (<1000 copies/ml)												
	58% (177)	50% (12)	Reference		Reference			60% (130)	60% (9)	Reference		Reference
Unsuppressed (>1000 copies/ml)												
	42% (130)	50% (12)	1.2 [0.47-3.08]	0.702	0.82 [0.16-4.14]	0.807	40% (88)	40% (6)	0.85 [0.25-		1.22 [0.18-	0.838
									2.65]		0.777 8.73]	
Adherence and Trial arm												
Adherence AZM												
	39% (122)	54% (14)	Reference		Reference			42% (94)	47% (7)	Reference		Reference
									0.86 [0.24-		2.24 [0.34-	
Adherence Placebo												
	37% (114)	23% (6)	0.09 [0.02-0.28]	0.0002	0.07 [0.01-0.41]	0.01	38% (94)	40% (6)	2.97]		0.89 18.33]	0.18
									0.55 [0.03-		0.8 [0.02-	
Not Adherent AZM												
	12% (37)	15% (4)	0.76 [0.13-4.69]		0.02 [0-0.55]			11% (24)	7% (1)	4.03]		17.56]
									0.47 [0.02-		0.03 [0-	
Not Adherent Placebo												
	13% (39)	8% (2)	0.07 [0.01-0.33]		0.01 [0-0.09]			9% (21)	6% (1)	3.35]		0.71]
MRC dyspnoea score												
< 2												
	65% (204)	50% (13)	Reference		Reference			71% (159)	47% (7)	Reference		Reference

2 and above	35% (108)	50% (13)	1.44 [0.58–3.63]	0.429	0.9 [0.08–9.67]	0.932	29% (64)	53% (8)	7.83]	2.41 [0.76–	0.135	2.51 [0.12–	56.6]	0.536
ART regimen														
ATV/LPV/PI	26% (81)	31% (8)	Reference		Reference		31% (70)	53% (8)	Reference		Reference		Reference	
EFV/NVP	74% (230)	69% (18)	0.86 [0.32–2.41]	0.769	1.49 [0.21–11.92]	0.692	69% (153)	47% (7)	0.88]	0.27 [0.08–	0.03	0.05 [0.01–	0.34]	0.005
Duration of ART at baseline														
6m-<2y	10% (31)	13% (3)	Reference		Reference		8% (18)	20% (3)	Reference		Reference		Reference	
2y-<4y	18% (53)	33% (8)	2.67 [0.58–15.02]	0.36	4.4 [0.28–88.31]	0.74	16% (35)	20% (3)	5.38]	0.78 [0.11–	0.8	3.75 [0.22–	96.05]	0.4
4y-<6y	21% (64)	21% (5)	1.28 [0.25–7.48]		1.5 [0.11–20.26]		21% (46)	20% (3)	3.92]	0.58 [0.09–		1.05 [0.05–	23.23]	
6y+	51% (154)	33% (8)	0.92 [0.22–4.81]		1.94 [0.15–28.02]		55% (119)	40% (6)	2.62]	0.47 [0.1–		0.35 [0.02–	5.3]	
Cotrimoxazole prophylaxis														
No	10% (31)	8% (2)	Reference		Reference		12% (27)	13% (2)	Reference		Reference		Reference	
Yes	90% (279)	92% (24)	1.2 [0.26–8.58]	0.83	0.34 [0.03–4.62]	0.382	88% (196)	87% (13)	3.67]	0.47 [0.08–	0.415	0.28 [0.01–	6.09]	0.39
Adherence to study drug														
Adherence	76% (236)	77% (20)	Reference				80% (178)	87% (13)	Reference			0.54 [0.08–		
Not Adherent	24% (76)	23% (6)	0.74 [0.24–2.06]	0.58			20% (45)	13% (2)	2.32]		0.459			
Trial arm														
Azithromycin	51% (159)	69% (18)	Reference				53% (118)	53% (8)	Reference					

Placebo	49% (153)	31% (8)	0.09 [0.03–0.25]	<0.0001	47% (105)	47% (7)	0.85 [0.26–	2.65]	0.773
BMI-for-age z-score									
Wasted	20% (62)	16% (4)	Reference		24% (54)	7% (1)	Reference		
Normal									
Normal	80% (245)	84% (21)	1.07 [0.32–4.19]	0.916	76% (167)	93% (14)	5.21 [0.93–	98.19]	0.125
Height-for-age z-score									
Not stunted	46% (140)	56% (14)			43% (94)	47% (7)			
Stunted	54% (167)	44% (11)			57% (127)	53% (8)			

#Missing values: Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (10), Cotrimoxazole prophylaxis (2), BMI-for-age z-score (5), Height-for-age z-score (5). *Missing values: Weight-for-age-z-score (1), Viral load suppression at enrolment (2), Duration of ART at baseline (2), BMI-for-age z-score (1), Height-for-age z-score (1). §Missing values: Weight-for-age-z-score (2), Viral load suppression at enrolment (5), Duration of ART at baseline (5), BMI-for-age z-score (2), Height-for-age z-score (2). ωMissing values: None missing. ∫Missing values: Season of sampling (1), Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (9), Cotrimoxazole prophylaxis (2), BMI-for-age z-score (5), Height-for-age z-score (5). θMissing values: Duration of ART at baseline (1), Cotrimoxazole prophylaxis (1). ΨMissing values: Season of sampling (2), Weight-for-age-z-score (1), Viral load suppression at enrolment (5), Duration of ART at baseline (6), Cotrimoxazole prophylaxis (1), BMI-for-age z-score (1), Height-for-age z-score (1). ∞Missing values: None missing. BMI-for-age z-score and Height-for-age z-score were not included in the multivariate analysis because of collinearity. Adherence to study drug and Trial arm were colinear with Adherence and Trial arm hence excluded from multivariate analysis. *The number of observations was too few for model convergence for AZM-resistant SP at both 48 and 72 weeks. Statistical model applied is generalised logistic regression.

Table S8: Factors associated with carriage of azithromycin resistant *Streptococcus pneumoniae* isolates at 48 weeks and 72 weeks in trial participants cont'd

Variable	*SPUTUM							
	No. observations (n=290) [§]	No. resistant isolates (n=7) ^θ	48 weeks		No. observations (n=224) ^ψ	No. resistant isolates (n=5) ^ℵ	72 weeks	
			Univariate analysis				Univariate analysis	
			Adjusted Odds ratio, 95% CI	p value			Adjusted Odds ratio, 95% CI	p value
Site								
Malawi	29% (83)	86% (6)	Reference		25% (56)	60% (3)	Reference	
Zimbabwe	71% (207)	14% (1)	0.06 [0–0.41]	0.014	75% (168)	40% (2)	0.24 [0.03–1.66]	0.15
Sex								
Female	49% (142)	71% (5)	Reference		46% (104)	80% (4)	Reference	
Male	51% (148)	29% (2)	0.31 [0.04–1.64]	0.194	54% (120)	20% (1)	0.2 [0.01–1.47]	0.16
Season of sampling								
May-Oct-Dry	58% (167)	86% (6)	Reference		37% (82)	60% (3)	Reference	
Nov-Apr-Rainy	42% (122)	14% (1)	0.19 [0.01–1.27]	0.143	63% (140)	40% (2)	0.43 [0.05–2.84]	0.379
Weight-for-age-z-score								
Not underweight	53% (150)	71% (5)	Reference		50% (111)	20% (1)	Reference	
underweight	47% (135)	29% (2)	0.38 [0.05–1.99]	0.28	50% (112)	80% (4)	3.27 [0.44–67.09]	0.308
Age at enrolment								
6-9y	9% (27)	0% (0)	Reference		10% (23)	0% (0)	Reference	

10-12y	19% (56)	43% (3)	69389275.89 [0–NA]	NA	20% (44)	20% (1)	28912198.6 [0–NA]	NA
13-16y	43% (125)	29% (2)	11564879.31 [0–NA]		44% (98)	40% (2)	11014170.9 [0–NA]	
17-19y	28% (82)	29% (2)	21027053.3 [0–NA]		26% (59)	40% (2)	21027053.53 [0–NA]	
Viral load suppression at enrolment								
Suppressed (<1000 copies/ml)	57% (162)	43% (3)	Reference		58% (127)	60% (3)	Reference	
Unsuppressed (>1000 copies/ml)	43% (123)	57% (4)	1.33 [0.26–7.5]	0.728	42% (92)	40% (2)	0.6 [0.07–4.02]	0.601
Adherence and Trial arm								
Adherence AZM	39% (114)	57% (4)	Reference		42% (93)	40% (2)	Reference	
Adherence Placebo	36% (105)	29% (2)	0.16 [0.02–0.97]	0.29	38% (84)	40% (2)	0.74 [0.08–6.76]	0.94
Not Adherent AZM	11% (34)	14% (1)	0.67 [0.03–7.45]		11% (24)	0% (0)	0 [NA–5.4279267380445 E+145]	
Not Adherent Placebo	13% (37)	0% (0)	1.0410563068989E+126]		10% (23)	20% (1)	1.75 [0.07–23.69]	
MRC dyspnoea score								
< 2	66% (192)	29% (2)	Reference		68% (153)	60% (3)	Reference	
2 and above	34% (98)	71% (5)	4.33 [0.82–32.96]	0.102	32% (71)	40% (2)	1.44 [0.17–9.71]	0.71
ART regimen								
ATV/LPV/PI	25% (73)	0% (0)	Reference		30% (68)	60% (3)	Reference	
EFV/NVP	75% (216)	100% (7)	75881451.83 [0–NA]	0.995	70% (156)	40% (2)	0.24 [0.03–1.66]	0.15
Duration of ART at baseline								

6m-<2y	9% (27)	33% (2)	Reference		9% (19)	20% (1)	Reference	
							0 [NA– 4.5372465105451	
2y-<4y	17% (49)	17% (1)	0.67 [0.03–8.68]	0.7	16% (34)	0% (0)	E+196]	1
							0 [NA– 3.913788066561E	
4y-<6y	22% (61)	33% (2)	0.89 [0.09–8.88]		23% (50)	0% (0)	+282]	
6y+	51% (144)	17% (1)	0.24 [0.01–2.81]		53% (115)	80% (4)	1.33 [0.15–29.4]	
Cotrimoxazole prophylaxis								
No	10% (30)	0% (0)	Reference		11% (25)	20% (1)	Reference	
Yes	90% (258)	100% (6)	6899158.76 [0–NA]	0.994	89% (198)	80% (4)	0.32 [0.03–7.21]	0.364
Adherence to study drug								
Adherence	76% (219)	86% (6)	Reference		79% (177)	80% (4)	Reference	
Not Adherent	24% (71)	14% (1)	0.69 [0.03–4.88]	0.745	21% (47)	20% (1)	1.03 [0.05–8.26]	0.979
Trial arm								
Azithromycin	51% (148)	71% (5)	Reference		52% (117)	40% (2)	Reference	
Placebo	49% (142)	29% (2)	0.15 [0.02–0.79]	0.034	48% (107)	60% (3)	1.17 [0.18–9.64]	0.868
BMI-for-age z-score								
Wasted	20% (56)	29% (2)	Reference		22% (48)	0% (0)	Reference	
							18653031.07 [0–	
Normal	80% (229)	71% (5)	0.7 [0.13–5.48]	0.701	78% (175)	100% (5)	NA]	0.994
Height-for-age z-score								
Not stunted	44% (125)	29% (2)			42% (94)	100% (5)		
Stunted	56% (160)	71% (5)			58% (129)	0% (0)		

#Missing values: Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (10), Cotrimoxazole prophylaxis (2), BMI-for-age z-score (5), Height-for-age z-score (5). *Missing values: Weight-for-age-z-score (1), Viral load suppression at enrolment (2), Duration of ART at baseline (2), BMI-for-age z-score (1), Height-for-age z-score (1). §Missing values: Weight-for-age-z-score (2), Viral load suppression at enrolment (5), Duration of ART at baseline (5), BMI-for-age z-score (2), Height-for-age z-score (2). ωMissing values: None missing. ∫Missing values: Season of sampling (1), Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (9), Cotrimoxazole prophylaxis (2), BMI-for-age z-score (5), Height-for-age z-score (5). θMissing values: Duration of ART at baseline (1), Cotrimoxazole prophylaxis (1). ΨMissing values: Season of sampling (2), Weight-for-age-z-score (1), Viral load suppression at enrolment (5), Duration of ART at baseline (6), Cotrimoxazole prophylaxis (1), BMI-for-age z-score (1), Height-for-age z-score (1). ∞Missing values: None missing. BMI-for-age z-score and Height-for-age z-score were not included in the multivariate analysis because of colinearity. Adherence to study drug and Trial arm were colinear with Adherence and Trial arm hence excluded from multivariate analysis. *The number of observations was too few for model convergence for AZM-resistant SP at both 48 and 72 weeks. Statistical model applied is generalised logistic regression.

Table S9: Factors associated with carriage of azithromycin resistant *Staphylococcus aureus* isolates at 48 weeks and 72 weeks in trial participants

*NASOPHARYNGEAL SWABS								
Variable	No. observations (n=312)#	No. resistant isolates (n=32)*	48 weeks		No. observations (n=223)§	No. resistant isolates (n=9)ω	72 weeks	
			Univariate analysis				Univariate analysis	
			Adjusted Odds ratio, 95% CI				Adjusted Odds ratio, 95% CI	
			<i>p</i> value				<i>p</i> value	
Site								
Malawi	31% (96)	66% (21)	Reference		20% (44)	44% (4)	Reference	
Zimbabwe	69% (216)	34% (11)	0.17 [0.05–0.48]	0.001	80% (179)	56% (5)	0.2 [0.04–1.01]	0.048
Sex								
Female	48% (151)	53% (17)	Reference		45% (100)	56% (5)	Reference	
Male	52% (161)	47% (15)	0.94 [0.35–2.49]	0.897	55% (123)	44% (4)	0.68 [0.15–2.97]	0.606
Season of sampling								
May-Oct-Dry	58% (180)	44% (14)	Reference		37% (82)	33% (3)	Reference	
Nov-Apr-Rainy	42% (132)	56% (18)	0.95 [0.35–2.54]	0.914	63% (141)	67% (6)	0.85 [0.19–4.57]	0.833
Weight-for-age-z-score								
Not underweight	51% (158)	41% (13)	Reference		47% (104)	67% (6)	Reference	
underweight	49% (149)	59% (19)	2.52 [0.92–7.22]	0.076	53% (117)	33% (3)	0.53 [0.1–2.32]	0.413
Age at enrolment								
6-9y	9% (28)	9% (3)	Reference		11% (24)	11% (1)	Reference	
10-12y	20% (61)	28% (9)	1.2 [0.13–9.91]	0.37	18% (41)	11% (1)	0.43 [0.01–13.33]	0.93
13-16y	43% (133)	50% (16)	0.63 [0.08–4.26]		43% (96)	56% (5)	0.71 [0.07–16.13]	
17-19y	29% (90)	13% (4)	0.3 [0.03–2.46]		28% (62)	22% (2)	1 [0.06–26.86]	
Viral load suppression at enrolment								

Suppressed (<1000 copies/ml)	58% (177)	58% (18)	Reference		60% (130)	56% (5)	Reference	
Unsuppressed (>1000 copies/ml)	42% (130)	42% (13)	0.41 [0.15–1.11]	0.085	40% (88)	44% (4)	0.94 [0.2–4.11]	0.935
Adherence and Trial arm								
Adherence AZM	39% (122)	56% (18)	Reference		42% (94)	78% (7)	Reference	
			0 [0–				0 [NA–	
Adherence Placebo	37% (114)	0% (0)	1.26969432296415E+39]	0.005	38% (94)	0% (0)	1.716182395961E+138]	0.89
Not Adherent AZM	12% (37)	41% (13)	1.44 [0.13–33.05]		11% (24)	22% (2)	2.86 [0.23–68.91]	
Not Adherent Placebo	13% (39)	3% (1)	0.01 [0–0.12]		9% (21)	0% (0)	0 [NA–Inf]	
MRC dyspnoea score								
< 2	65% (204)	44% (14)	Reference		71% (159)	56% (5)	Reference	
2 and above	35% (108)	56% (18)	2.57 [0.95–7.21]	0.066	29% (64)	44% (4)	2.16 [0.46–9.87]	0.315
ART regimen								
ATV/LPV/PI	26% (81)	16% (5)	Reference		31% (70)	11% (1)	Reference	
EFV/NVP	74% (230)	84% (27)	2.35 [0.72–8.47]	0.166	69% (153)	89% (8)	4.87 [0.77–95.34]	0.155
Duration of ART at baseline								
6m-<2y	10% (31)	7% (2)	Reference		8% (18)	11% (1)	Reference	
2y-<4y	18% (53)	33% (10)	1.67 [0.06–24.88]	0.13	16% (35)	22% (2)	0.8 [0.04–23.23]	0.76
4y-<6y	21% (64)	23% (7)	0.44 [0.02–5.56]		21% (46)	11% (1)	0.22 [0.01–7.24]	
6y+	51% (154)	37% (11)	0.29 [0.01–3.36]		55% (119)	56% (5)	0.53 [0.04–12.67]	
Cotrimoxazole prophylaxis								
No	10% (31)	6% (2)	Reference		12% (27)	11% (1)	Reference	
Yes	90% (279)	94% (29)	1.45 [0.22–11.62]	0.695	88% (196)	89% (8)	0.97 [0.12–20.34]	0.979
Adherence to study drug								
Adherence	76% (236)	56% (18)	Reference		80% (178)	78% (7)	Reference	

Not Adherent	24% (76)	44% (14)	2.07 [0.74–6.01]	0.168	20% (45)	22% (2)	2.36 [0.29–14.86]	0.372
Trial arm								
Azithromycin	51% (159)	97% (31)	Reference		53% (118)	100% (9)	Reference	
							0 [NA–	
Placebo	49% (153)	3% (1)	0 [0–0.02]	<0.0001	47% (105)	0% (0)	1.4000330786506E+115]	0.995
BMI-for-age z-score								
Wasted	20% (62)	22% (7)	Reference		24% (54)	22% (2)	Reference	
Normal	80% (245)	78% (25)	0.89 [0.25–3.07]	0.856	76% (167)	78% (7)	1.3 [0.26–9.69]	0.769
Height-for-age z-score								
Not stunted	46% (140)	59% (19)			43% (94)	44% (4)		
Stunted	54% (167)	41% (13)			57% (127)	56% (5)		

#Missing values: Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (10), Cotrimoxazole prophylaxis (2), BMI-for-age z-score (5), Height-for-age z-score (5). *Missing values: Viral load suppression at enrolment (1), Duration of ART at baseline (2), Cotrimoxazole prophylaxis (1). §Missing values: Weight-for-age-z-score (2), Viral load suppression at enrolment (5), Duration of ART at baseline (5), BMI-for-age z-score (2), Height-for-age z-score (2). ωMissing values: None missing. ∓Missing values: Season of sampling (1), Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (9), Cotrimoxazole prophylaxis (2), BMI-for-age z-score (5), Height-for-age z-score (5). ϑMissing values: Duration of ART at baseline (1). ΨMissing values: Season of sampling (2), Weight-for-age-z-score (1), Viral load suppression at enrolment (5), Duration of ART at baseline (6), Cotrimoxazole prophylaxis (1), BMI-for-age z-score (1), Height-for-age z-score (1). ℵMissing values: Viral load suppression at enrolment (1). BMI-for-age z-score and Height-for-age z-score were not included in the multivariate analysis because of collinearity. Adherence to study drug and Trial arm were colinear with Adherence and Trial arm hence excluded from multivariate analysis. *The number of observations was too few for model convergence for AZM-resistant SP at both 48 and 72 weeks. Statistical model applied is generalised logistic regression.

Table S9: Factors associated with carriage of azithromycin resistant *Staphylococcus aureus* isolates at 48 weeks and 72 weeks in trial participants cont'd

Variable	SPUTUM											
	48 weeks						72 weeks					
	No. observations (n=290)ϑ	No. resistant isolates (n=33)ϑ	Univariate analysis		Multivariate analysis		No. observations (n=224)ψ	No. resistant isolates (n=20)μ	Univariate analysis		Multivariate analysis	
			Adjusted Odds ratio, 95% CI	p value	Adjusted Odds ratio, 95% CI	p value			Adjusted Odds ratio, 95% CI	p value		
Site												
Malawi	29% (83)	64% (21)	Reference		Reference		25% (56)	30% (6)	Reference		Reference	
Zimbabwe	71% (207)	36% (12)	0.06 [0.02–0.19]	<0.0001	0 [0–0.2]	0.042	75% (168)	70% (14)	0.69 [0.22–2.26]	0.522	0.42 [0.01–10.3]	0.599
Sex												
Female	49% (142)	45% (15)	Reference		Reference		46% (104)	50% (10)	Reference		Reference	
Male	51% (148)	56% (18)	0.98 [0.4–2.39]	0.96	0.53 [0.03–7]	0.627	54% (120)	50% (10)	0.63 [0.22–1.77]	0.375	3.34 [0.68–22.85]	0.169
Season of sampling												
May-Oct-Dry	58% (167)	64% (21)	Reference		Reference		37% (82)	45% (9)	Reference		Reference	
Nov-Apr-Rainy	42% (122)	36% (12)	1.08 [0.42–2.7]	0.877	0.03 [0–0.71]	0.065	63% (140)	55% (11)	0.56 [0.2–1.62]	0.282	1.25 [0.27–6.17]	0.773
Weight-for-age-z-score												
Not underweight	53% (150)	48% (16)	Reference		Reference		50% (111)	70% (14)	Reference		Reference	
underweight	47% (135)	52% (17)	1.06 [0.44–2.59]	0.893	0.12 [0–1.65]	0.135	50% (112)	30% (6)	0.29 [0.09–0.83]	0.026	0.11 [0.02–0.65]	0.02
Age at enrolment												

6-9y	9% (27)	15% (5)	Reference		Reference		10% (23)	5% (1)	Reference		Reference	
10-12y	19% (56)	24% (8)	1.6 [0.27–10.01]	0.071	0.18 [0–17.9]	0.41	20% (44)	30% (6)	1.8 [0.18–41.12]	0.42	0.03 [0–2.81]	0.3
13-16y	43% (125)	42% (14)	0.53 [0.11–2.35]		1.17 [0.03–63.22]		44% (98)	50% (10)	1.2 [0.13–25.87]		0.29 [0.01–16.6]	
17-19y	28% (82)	18% (6)	0.24 [0.04–1.17]		0.03 [0–3.91]		26% (59)	15% (3)	0.47 [0.04–11.3]		0.1 [0–7.65]	
Viral load suppression at enrolment												
Suppressed (<1000 copies/ml)												
	57% (162)	48% (16)	Reference		Reference		58% (127)	68% (13)	Reference		Reference	
Unsuppressed (>1000 copies/ml)												
	43% (123)	52% (17)	0.76 [0.31–1.85]	0.544	2.5 [0.16–66.17]	0.531	42% (92)	32% (6)	0.53 [0.17–1.55]	0.262	0.37 [0.05–2.09]	0.277
Adherence and Trial arm												
Adherence AZM												
	39% (114)	52% (17)	Reference		Reference		42% (93)	65% (13)	Reference		Reference	
Adherence Placebo												
	36% (105)	3% (1)	0.03 [0–0.18]	0.0001	0 [0–0.02]	0.085	38% (84)	10% (2)	0.12 [0.02–0.51]	0.056	0.08 [0–0.62]	0.24
Not Adherent AZM												
	11% (34)	39% (13)	3.06 [0.78–15.5]		0.14 [0–2.94]		11% (24)	15% (3)	0.88 [0.16–4.23]		0.59 [0.02–9.91]	
Not Adherent Placebo												
	13% (37)	6% (2)	0.13 [0.02–0.59]		0 [0–0.02]		10% (23)	10% (2)	0.32 [0.04–1.52]		1.14 [0.08–13.01]	
MRC dyspnoea score												
< 2												
	66% (192)	33% (11)	Reference		Reference		68% (153)	75% (15)	Reference		Reference	
2 and above												
	34% (98)	67% (22)	7.8 [2.95–22.23]	<0.0001	175.77 [1.27–202838.5]	0.082	32% (71)	25% (5)	0.93 [0.27–2.89]	0.908	0.38 [0.01–6.05]	0.524
ART regimen												
ATV/LPV/PI												
	25% (73)	12% (4)	Reference		Reference		30% (68)	25% (5)	Reference		Reference	

					18.43 [1.15–							
EFV/NVP	75% (216)	88% (29)	3.52 [1.14–13.35]	0.041	705.81]	0.065	70% (156)	75% (15)	1.17 [0.38–4.07]	0.791	1.39 [0.27–8.06]	0.697
Duration of ART at baseline												
6m-<2y	9% (27)	13% (4)	Reference		Reference		9% (19)	20% (4)	Reference		Reference	
2y-<4y	17% (49)	22% (7)	0.18 [0.01–1.5]	0.3	0 [0–0.47]	0.36	16% (34)	20% (4)	0.08 [0–0.76]	0.12	0.01 [0–0.42]	0.1
4y-<6y	22% (61)	25% (8)	0.2 [0.01–1.69]		0.02 [0–1.76]		23% (50)	20% (4)	0.11 [0–1.05]		0.03 [0–0.6]	
6y+	51% (144)	41% (13)	0.12 [0.01–0.91]		0.02 [0–2.45]		53% (115)	40% (8)	0.06 [0–0.48]		0.01 [0–0.25]	
Cotrimoxazole prophylaxis												
No	10% (30)	9% (3)	Reference		Reference		11% (25)	5% (1)	Reference		Reference	
									2.24 [0.35–			
Yes	90% (258)	91% (30)	1.14 [0.26–5.87]	0.868	0.03 [0–6.24]	0.239	89% (198)	95% (19)	43.68]	0.47	1.63 [0.1–50.05]	0.742
Adherence to study drug												
Adherence	76% (219)	55% (18)	Reference				79% (177)	75% (15)	Reference			
Not Adherent	24% (71)	45% (15)	2.08 [0.83–5.32]	0.119			21% (47)	25% (5)	1.02 [0.29–3.2]	0.969		
Trial arm												
Azithromycin	51% (148)	91% (30)	Reference				52% (117)	80% (16)	Reference			
Placebo	49% (142)	9% (3)	0.04 [0.01–0.15]	<0.0001			48% (107)	20% (4)	0.18 [0.05–0.57]	0.006		
BMI-for-age z-score												
Wasted	20% (56)	24% (8)	Reference				22% (48)	25% (5)	Reference			
Normal	80% (229)	76% (25)	0.93 [0.33–2.71]	0.89			78% (175)	75% (15)	0.56 [0.17–2.06]	0.362		
Height-for-age z-score												
Not stunted	44% (125)	58% (19)					42% (94)	45% (9)				

Stunted	56% (160)	42% (14)			58% (129)	55% (11)
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#Missing values: Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (10), Cotrimoxazole prophylaxis (2), BMI-for-age z-score (5), Height-for-age z-score (5). *Missing values: Viral load suppression at enrolment (1), Duration of ART at baseline (2), Cotrimoxazole prophylaxis (1). §Missing values: Weight-for-age-z-score (2), Viral load suppression at enrolment (5), Duration of ART at baseline (5), BMI-for-age z-score (2), Height-for-age z-score (2). ωMissing values: None missing. ∓Missing values: Season of sampling (1), Weight-for-age-z-score (5), Viral load suppression at enrolment (5), ART regimen (1), Duration of ART at baseline (9), Cotrimoxazole prophylaxis (2), BMI-for-age z-score (5), Height-for-age z-score (5). θMissing values: Duration of ART at baseline (1). ΨMissing values: Season of sampling (2), Weight-for-age-z-score (1), Viral load suppression at enrolment (5), Duration of ART at baseline (6), Cotrimoxazole prophylaxis (1), BMI-for-age z-score (1), Height-for-age z-score (1). ∕Missing values: Viral load suppression at enrolment (1). BMI-for-age z-score and Height-for-age z-score were not included in the multivariate analysis because of colinearity. Adherence to study drug and Trial arm were colinear with Adherence and Trial arm hence excluded from multivariate analysis. *The number of observations was too few for model convergence for AZM-resistant SP at both 48 and 72 weeks. Statistical model applied is generalised logistic regression.