

Table S1.

		Frequency	Percent (%)
16S rRNA	Non-sterile	35	67·3
	Sterile	17	32·7
Gestational Age (wk)	Range	24-41	31·2 (4·7)
	Mean (SD)		
Mode of Delivery	Cesarean	33	63·5
	Vaginal	19	36·5
Birth Weight (g)	Range	520-4226	1704 (905)
	Mean (SD)		
Gender	F	24	46·2
	M	28	53·8
Race	Black	17	32·7
	White	33	63·5
	Other	2	3·8
Maternal Antibiotics	Yes	24	46·2
	No	27	51·9
ROM >18h	Yes	6	11·5
	No	45	86·5
Chorioamnionitis	Yes	8	15·4
	No	40	76·9
Infant Antibiotics	Yes	36	69·2
	No	16	30·8
Intended feeding type	Formula	7	13·5
	Mix	25	48·1
	Breast Fed	19	36·5
Insurance	Medicaid	35	67·3
	Private	14	26·9
	None	3	5·8

Table S2.

		16S rRNA (n=52)		PTL** (n=43)	
		Frequency (%)	P value	Frequency (%)	P value
Gestational age (wk)*	Non-sterile or PTL	30·5*	0·152	28·8*	0·078
	Sterile or no PTL	32·7*		30·7*	
Birth weight (g)*	Non-sterile or PTL	1614*	0·331	1287*	0·118
	Sterile or no PTL	1890*		1682*	
Mode of delivery	Cesarean section (n=33; n=28)	42·3	1	34·9	0·523
	Vaginal (n=19; n=15)	25·0		23·3	
Maternal antibiotics	Yes (n=24; n=21)	28·8	0·546	32·6	0·425
	No (n=28; n=22)	38·5		23·3	
Infant antibiotics	Yes (n=36; n=33)	48·1	0·751	46·5	0·717
	No (n=16; n=10)	19·2		11·6	
Intended feeding type	Formula fed (n=7; n=7)	13·5	0·157	9·3	0·868
	Breast fed (n=19; n=15)	23·1		20·9	
	Mixed (n=25; n=20)	30·8		27·9	
Gender	Female (n=24; n=20)	30·8	1	20·9	0·130
	Male (n=28; n=23)	36·5		37·2	
Insurance	Medicaid (n=35; n=30)	71·4	0·696	56·7	0·593
	Private (n=14; n=10)	57·1		70·0	
	None (n=3; n=3)	66·7		33·3	
ROM (>18h)	Yes (n=6, n=6)	83·3	0·651	50·0	0·685
	No (n=45, n=36)	66·7		80·0	
Chorioamnionitis	Yes (n=8, n=7)	50·0	0·413	40·0	0·418
	No (n=40, n=32)	70·0		50·0	

*Two-sided t-test was calculated for continuous variables, gestational age and birth weight; mean GA or BW is reported in replace of frequency.

**PTL excludes subjects of >37 weeks GA

Table S3.

Metavariable	Test		N		P-value
Birth weight (g)	Spearman correlation	mean	1704g		<0·001
		SD	905g		
Mode of delivery	t-test	C	33		0·009
		V	19		
Infant antibiotic exposures	t-test	Yes	36		0·005
		No	16		
ROM >18h	t-test	Yes	45		0·844
		No	6		
Gender	t-test	F	24		0·658
		M	28		
Maternal antibiotics	t-test	Yes	24		0·995
		No	27		
Feeding	ANOVA	F	7	F-BF	0·393
		BF	19	F-MX	0·600
		MX	25	BF-MX	0·944
Insurance	ANOVA	Medicaid	35	Med-Priv	0·735
		Private	14	Priv-none	0·974
		none	3	Med-none	0·985
Chorioamnionitis	t-test	Yes	8		0·333
		No	40		

Figure S1.

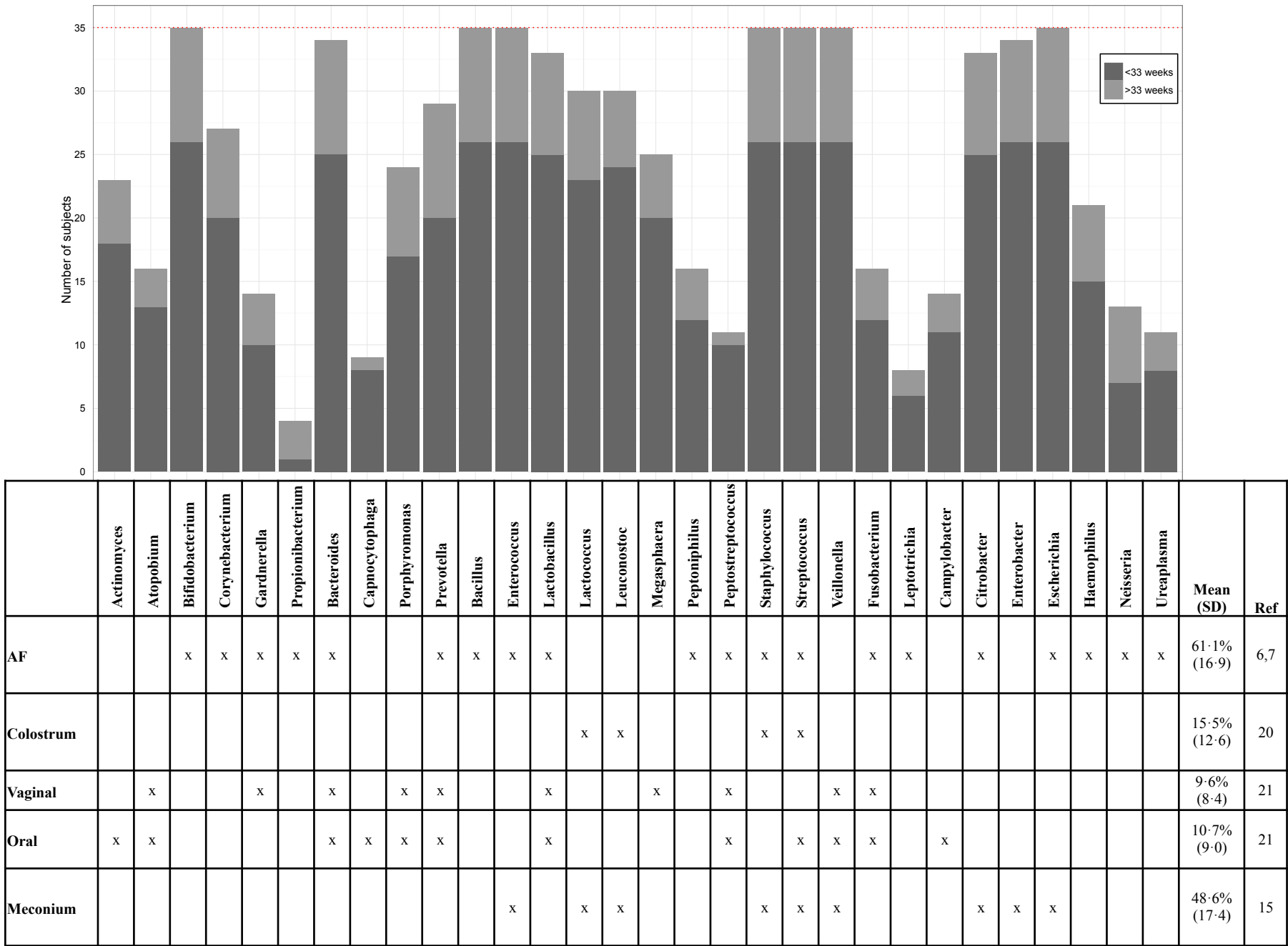


Table S4.

		Shannon Diversity			Chao Diversity	
		Test	Mean (SD)	P value	Mean (SD)	P value
Gestational age (wk)		Spearman correlation	1.60 (0.37)	0.848	110.9 (22.4)	0.611
Birth weight (g)		Spearman correlation	1.60 (0.37)	0.540	110.9 (22.4)	0.799
Pre-term Labor (PTL) (n=32)	PTL (n=18) no PTL (n=17)	t-test	1.62 (0.35) 1.61 (0.40)	0.990	124.7 (21.4) 95.4 (21.7)	0.076
Mode of delivery	Cesarean section (n=22) Vaginal (n=13)	t-test	1.78 (0.37) 1.29 (0.32)	0.047	122.6 (23.1) 91.2 (18.0)	0.032
Maternal antibiotics	Yes (n=15) No (n=20)	t-test	1.47 (0.38) 1.69 (0.36)	0.409	100.3 (17.2) 118.9 (25.3)	0.208
Infant antibiotics	Yes (n=25) No (n=10)	t-test	1.47 (0.40) 1.92 (0.34)	0.143	111.0 (24.1) 110.8 (18.8)	0.992
Feeding	Formula-fed (n=7) Mixed (n=16) Breast-fed (n=12)	ANOVA	1.83 (0.33) 1.83 (0.40) 1.15 (0.23)	F-MX 1.000 MX-BF 0.034 BF-F 0.106	116.1 (18.9) 120.9 (22.7) 94.6 (23.3)	F-MX 0.970 MX-BF 0.283 BF-F 0.571
Gender	Female (n=16; n=9) Male (n=19; n=16)	t-test	1.55 (0.44) 1.64 (0.31)	0.721	114.4 (25.8) 107.9 (19.8)	0.684
Insurance	Medicaid (n=25) Private (n=8)	t-test	1.54 (0.38) 1.75 (0.37)	0.779	106.2 (21.3) 109.8 (24.1)	0.978
ROM (>18h)	Yes (n=5) No (n=30)	t-test	1.30 (0.26) 1.65 (0.38)	0.237	112.0 (18.6) 110.7 (23.3)	0.948
Chorioamnionitis	Yes (n=4) No (n=28)	t-test	1.59 (0.46) 1.66 (0.37)	0.900	110.8 (23.0) 110.4 (23.2)	0.990

Table S5.

Variable	R value	p-value
<33 or >33 weeks	0·161	0·029
MOD	0·100	0·044
ROM >18h	0·136	0·143
Location	0·049	0·244
Maternal antibiotics	0·014	0·324
Chorioamnionitis	0·047	0·330
Gender	0·009	0·344
Race	0·005	0·420
Feeding	-0·026	0·663
Insurance	-0·071	0·794
Infant antibiotic exposures	-0·099	0·911

Table S6.

Phylum				Genus			
OTU	C	V	p-value	OTU	C	V	p-value
Firmicutes	31.8 (±35.0)	21.6 (±34.0)	0.310	<i>Leuconostoc</i> *	0.43 (±1.14)	0.06 (±0.16)	0.036
				<i>Negativicoccus</i> *	0.09 (±0.47)	0.00 (±0.00)	0.029
				<i>Vagococcus</i> *	0.08 (±0.28)	0.01 (±0.04)	0.036
				<i>Butyrivibrio</i> *	0.01 (±0.03)	0.004 (±0.017)	0.044

*p < 0.05; Mann-Whitney test