

## Multimedia Appendix:

Characteristics of infants born 2007-2015 and enrolled in the FAX study.

Variable	Total	<i>In-utero</i> exposure to antibiotics			
	Infant cohort	None	Pregnancy <sup>a</sup>	Intrapartum	Pregnancy <sup>a</sup> + Intrapartum
n (%)	223431	76711	42511	66896	37313
<b>Sex, male</b>	114464 (51.23)	38325 (49.96)	21513 (50.61)	35101 (52.47)	19525 (52.33)
<b>Race and Ethnicity</b>					
White	63085 (28.23)	22866 (29.81)	11261 (26.49)	19560 (29.24)	9398 (25.19)
Hispanic	105699 (47.31)	36238 (47.24)	22047 (51.86)	29366 (43.90)	18048 (48.37)
Black	18934 (8.47)	4675 (6.09)	4138 (9.73)	5417 (8.10)	4704 (12.61)
API	27937 (12.50)	10153 (13.24)	3781 (8.89)	10010 (14.96)	3993 (10.70)
Others and Unknown	7776 (3.48)	2779 (3.62)	1284 (3.02)	2543 (3.80)	1170 (3.13)
<b>Maternal education</b>					
<High school	10969 (4.91)	4020 (5.24)	2588 (6.09)	2678 (4.00)	1683 (4.51)
High school	55668 (24.92)	18879 (24.61)	11979 (28.18)	15211 (22.74)	9607 (25.75)
Some college	67772 (30.30)	21750 (28.35)	14067 (33.09)	19530 (29.19)	12425 (33.30)
Bachelor degree	54001 (24.17)	19496 (25.41)	8485 (19.96)	17825 (26.65)	8195 (21.96)
Graduate or higher	32036 (14.34)	11537 (15.04)	4867 (11.45)	10736 (16.05)	4896 (13.12)
Unknown	2985 (1.34)	1037 (1.35)	525 (1.23)	916 (1.37)	507 (1.36)
<b>Neighborhood income</b>					
< \$15,000	22657 (10.14)	7646 (9.97)	4435 (10.43)	6683 (9.99)	3893 (10.43)
\$15,000 to \$34,999	38582 (17.27)	12957 (16.89)	7369 (17.33)	11459 (17.13)	6798 (18.22)
\$35,000 to \$49,999	31015 (13.88)	10611 (13.83)	6030 (14.18)	9158 (13.69)	5217 (13.98)
\$50,000 to \$74,999	43042 (19.26)	14769 (19.25)	8273 (19.46)	12825 (19.17)	7175 (19.23)
\$75,000 to \$99,999	30944 (13.85)	10674 (13.91)	5842 (13.74)	9321 (13.93)	5107 (13.69)
\$100,000 to \$149,999	33105 (14.82)	11516 (15.01)	6109 (14.37)	10079 (15.07)	5400 (14.47)
≥\$150,000	20780 (9.30)	7280 (9.49)	3629 (8.54)	6499 (9.72)	3373 (9.04)
<b>Government health care assistance</b>	20071 (8.98)	5842 (7.62)	4922 (11.58)	4849 (7.25)	4458 (11.95)
<b>Preterm birth#</b>	17191 (7.69)	2201 (2.86)	2117 (4.98)	7136 (10.67)	5737 (15.38)
<b>Delivery mode</b>					
Vaginal	156381 (70.00)	76711 (100.00)	36982 (86.99)	24973 (37.33)	17715 (47.48)
Cesarean section	67050 (30.00)	0 (0.00)	5529 (13.01)	41923 (62.67)	19598 (52.52)
<b>Small-for-gestational age</b>	22026 (9.86)	7712 (10.05)	4287 (10.08)	6486 (9.70)	3541 (9.49)
<b>Maternal age, years</b>					

<20	7900 (3.54)	2745 (3.58)	2299 (5.41)	1477 (2.21)	1379 (3.70)
20-29	91292 (40.86)	32464 (42.32)	19445 (45.74)	24301 (36.33)	15082 (40.42)
30-34	73787 (33.02)	26200 (34.15)	12699 (29.87)	23245 (34.74)	11643 (31.20)
≥35	50452 (22.58)	15302 (19.95)	8068 (18.98)	17873 (26.72)	9209 (24.68)
<b>Maternal pre-pregnancy BMI, kg/m<sup>2</sup></b>					
<18.5	4733 (2.12)	1910 (2.49)	960 (2.26)	1167 (1.74)	696 (1.87)
18.5-22.4	46387 (20.76)	17909 (23.35)	8481 (19.95)	13167 (19.68)	6830 (18.30)
22.5-24.9	38861 (17.39)	14047 (18.31)	7132 (16.78)	11464 (17.14)	6218 (16.66)
25.0-29.9	54718 (24.49)	17889 (23.32)	10607 (24.95)	16512 (24.68)	9710 (26.02)
30.0-34.9	28876 (12.92)	7847 (10.23)	5653 (13.30)	9220 (13.78)	6156 (16.50)
35.0 -39.9	13386 (5.99)	3036 (3.96)	2589 (6.09)	4409 (6.59)	3352 (8.98)
≥40	8050 (3.60)	1480 (1.93)	1452 (3.42)	2795 (4.18)	2323 (6.23)
Missing	28420 (12.72)	12593 (16.42)	5637 (13.26)	8162 (12.20)	2028 (5.44)
<b>Maternal smoking during pregnancy</b>	24231 (10.84)	7114 (9.27)	5244 (12.34)	6946 (10.38)	4927 (13.20)
<b>Start of prenatal care</b>					
≤ 3 months	199099 (89.11)	67659 (88.20)	38289 (90.07)	59506 (88.95)	33645 (90.17)
4-6 months	19922 (8.92)	7306 (9.52)	3435 (8.08)	6086 (9.10)	3095(8.29)
> 6 months	2386 (1.07)	982 (1.28)	360 (0.85)	759 (1.13)	285 (0.76)
No care or missing	2024 (0.91)	764 (1.00)	427 (1.00)	545 (0.82)	288 (0.77)
<b>Parity</b>					
1	168219 (75.29)	57128 (74.47)	30932 (72.76)	52279 (78.15)	27880 (74.72)
2	36208 (16.21)	12848 (16.75)	7384 (17.37)	9846 (14.72)	6130 (16.43)
≥3	19004 (8.51)	6735 (8.78)	4195 (9.87)	4771 (7.13)	3303 (8.95)

<sup>a</sup>Pregnancy without intrapartum period

# <37 week of gestation