

**Table S1.** Patient/clinical variables by sequence urotype

Patient and Clinical Variables	Total Cohort (N=224)	<i>Lactobacillus</i> Urotype (N = 57)	Bifidobacteriaceae# Urotype (N=9)	Enterobacteriaceae# Urotype (N=10)	Other* Urotype (N=8)	Mixed Urotype (N=57)	Sequence Negative Urotype (N=83)
Age (years), mean (SD) <sup>a</sup>	48 (14)	45 (13) [0.03]	41 (15)	57 (14) [0.04]	46 (13)	48 (14)	50 (13)
Race:							
-White/Caucasian	148 (66%)	36 (63%)	5 (56%)	9 (90%)	5 (63%)	33 (58%)	60 (72%)
-Black/African American	53 (24%)	16 (28%)	3 (33%)	0 (0%)	3 (37%)	17 (30%)	14 (17%)
-Asian	9 (4%)	2 (4%)	0 (0%)	0 (0%)	0 (0%)	3 (5%)	4 (5%)
-NHPI	1 (0%)	1 (2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
-Other	13 (6%)	2 (4%)	1 (11%)	1 (10%)	0 (0%)	4 (7%)	5 (6%)
Ethnicity:							
-Hispanic or Latina	28 (12%)	3 (5%)	3 (33%)	2 (20%)	2 (25%)	11 (19%)	7 (8%)
-Not Hispanic or Latina	196 (88%)	54 (95%)	6 (67%)	8 (80%)	6 (75%)	46 (81%)	76 (92%)
BMI (kg/m <sup>2</sup> ), mean (SD) <sup>a</sup>	29.96 (7.73)	29.74 (6.25)	34.96 (11.44) [0.04]	31.89 (7.2)	31.00 (6.43)	32.78 (9.62) [0.001]	27.29 (5.87) [<0.001]
Vaginal Parity, median (IQR) <sup>c</sup>	2 (0-3)	2 (0-2) (N=40)	1 (0-2) (N=7)	2 (1-2) (N=7)	2 (0-2) (N=3)	1 (0-3) (N=38)	2 (1-3) (N=51)
Engage in Vaginal Intercourse (N=146)	92 (63%)	30 (75%)	4 (57%)	2 (29%)	3 (100%)	25 (66%)	25 (49%) [0.01]
Menopausal Status:							
- Pre-menopausal	115 (51%)	30 (53%)	5 (56%)	3 (30%)	2 (25%)	30 (53%)	43 (52%)
- Post-menopausal	72 (32%)	13 (23%)	2 (22%)	6 (60%)	4 (50%)	17 (30%)	32 (39%)
- Not Sure	37 (17%)	14 (25%)	2 (22%)	1 (10%)	2 (25%)	10 (18%)	8 (9%)
Use of Hormone Replacement Therapy	12 (6%)	3 (5%)	0 (0%)	0 (0%)	1 (13%)	0 (0%)	10 (6%)
Diabetes	15 (7%)	3 (5%)	0 (0%)	1 (10%)	0 (0%)	7 (12%)	4 (5%)
Heart Disease	1 (0%)	1 (2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Hypertension	50 (22%)	6 (11%)	1 (11%)	2 (20%)	4 (50%)	17 (30%)	20 (24%)
Urine Dipstick: (N=223)							(N=82)
- White Blood Cells (WBC)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
- Nitrites	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
- Red Blood Cells (RBC)	11 (5%)	5 (9%)	1 (11%)	0 (0%)	0 (0%)	3 (5%)	2 (2%)
Standard Urine Culture (SUC)-Positive	13 (6%)	1 (2%)	1 (11%)	8 (80%) [<0.001] <sup>b</sup>	1 (13%)	1 (2%)	1 (1%) [0.03] <sup>b</sup>

Chi-Square Test used unless otherwise indicated. Fisher's Exact Test used when appropriate. SD = Standard Deviation. IQR = Interquartile Range. Only p-values ≤ 0.05 are shown (bold and highlighted).

a – Independent T test; b – Fisher's Exact Test; c – Wilcoxon Rank Sum Test; d – One-way ANOVA

# – The family Bifidobacterium includes the genus *Gardnerella*; the family Enterobacteriaceae includes the genus *Escherichia*.

\* – "Other" Urotype includes any additional urotypes present in < 5 samples in the Total Cohort

**Table S2.** Patient/clinical variables and microbiota composition by menopausal status

<b>Patient and Clinical Variables and Culture Urotypes</b>	<b>Applicable Responses (N=187)</b>	<b>Pre-Menopausal (N = 115)</b>	<b>Post-Menopausal (N=72)</b>	<b>p-value</b>
Age (years), mean (SD)	49 (14)	42 (11)	59 (12)	<b>&lt;0.001<sup>a</sup></b>
Race:				<b>0.04<sup>d</sup></b>
-White/Caucasian	126 (67%)	72 (63%)	54 (75%)	0.08
-Black/African American	45 (24%)	30 (26%)	15 (21%)	0.41
-Asian	8 (4%)	6 (5%)	2 (3%)	0.71 <sup>b</sup>
-NHPI	0 (0%)	0 (0%)	0 (0%)	-
-Other	8 (4%)	7 (6%)	1 (1%)	0.16 <sup>b</sup>
Ethnicity:				
-Hispanic or Latina	20 (11%)	17 (15%)	3 (4%)	
-Not Hispanic or Latina	167 (89%)	98 (85%)	69 (96%)	<b>0.02</b>
Urotypes:				
- <i>Lactobacillus</i>	35 (19%)	22 (19%)	13 (18%)	0.85
- <i>Gardnerella</i>	10 (5%)	8 (7%)	2 (3%)	0.32 <sup>b</sup>
- <i>Streptococcus</i>	18 (10%)	10 (9%)	8 (11%)	0.59
- <i>Escherichia</i>	6 (3%)	0 (0%)	6 (8%)	<b>0.003<sup>b</sup></b>
-Other*	16 (9%)	9 (8%)	7 (10%)	0.65
-Mixed	10 (5%)	7 (6%)	3 (4%)	0.74 <sup>b</sup>
-Culture Negative	92 (49%)	59 (51%)	33 (46%)	0.47
BMI (kg/m <sup>2</sup> ), mean (SD)	29.84 (7.71)	28.99 (7.46)	31.20 (7.98)	<b>0.03<sup>a</sup></b>
Vaginal Parity, median (IQR)	2 (0-3)	2 (0-3)	1 (0-3)	<b>0.10<sup>c</sup></b>
Engage in Vaginal Intercourse (N=146)	72 (62%)	67 (83%) (N=81)	5 (14%) (N=36)	<b>&lt;0.001</b>
Use of Hormone Replacement Therapy	9 (5%)	5 (4%)	4 (6%)	0.71
Diabetes	13 (7%)	4 (3%)	9 (13%)	<b>0.03<sup>b</sup></b>
Heart Disease	1 (0%)	1 (1%)	0 (0%)	1.00 <sup>b</sup>
Hypertension	46 (25%)	18 (16%)	28 (39%)	<b>&lt;0.001</b>
Urine Dipstick: (N=223)		(N=114)		
- White Blood Cells (WBC)	0 (0%)	0 (0%)	0 (0%)	-
- Nitrites	0 (0%)	0 (0%)	0 (0%)	-
- Red Blood Cells (RBC)	5 (3%)	4 (4%)	1 (1%)	0.65 <sup>b</sup>
Standard Urine Culture (SUC)- Positive	12 (6%)	4 (3%)	8 (11%)	<b>0.06<sup>b</sup></b>

Chi-Square Test used unless otherwise indicated. SD = Standard Deviation. IQR = Interquartile Range.

a – Independent T test; b – Fisher’s Exact Test; c – Wilcoxon Rank Sum Test; d – One-way ANOVA

\* – “Other” Urotype includes any additional urotypes present in < 5 samples in the Total Cohort

p-values <0.05 are bolded and highlighted.

**Table S3.** Patient/clinical variables by vaginal parity

Patient and Clinical Variables and Culture Urotypes	Total Cohort (N=224)	Vaginal Parity "0" (N=73)	Vaginal Parity "1" (N=30)	Vaginal Parity "2" (N=60)	Vaginal Parity "3" (N=43)	Vaginal Parity "4-9" (N=18)
Age (years), mean (SD) <sup>a</sup>	48 (14)	42 (13) [ <b>&lt;0.001</b> ]	47 (14)	51 (12) [ <b>0.03</b> ]	51 (12) [ <b>0.04</b> ]	55 (16) [ <b>0.01</b> ]
Race:						
-White/Caucasian	148 (66%)	49 (67%)	23 (77%)	39 (65%)	27 (63%)	10 (55%)
-Black/African American	53 (24%)	17 (23%)	6 (20%)	13 (22%)	11 (26%)	6 (33%)
-Asian	9 (4%)	5 (7%)	0 (0%)	2 (3%)	2 (7%)	0 (0%)
-NHPI	1 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (6%)
-Other	13 (6%)	2 (3%)	1 (3%)	6 (10%)	3 (7%)	1 (6%)
Ethnicity:						
-Hispanic or Latina	28 (12%)	11 (15%)	3 (10%)	8 (13%)	5 (12%)	1 (6%)
-Not Hispanic or Latina	196 (88%)	62 (85%)	27 (90%)	52 (87%)	38 (88%)	17 (94%)
Culture Urotypes:		[ <b>0.04</b> ] <sup>d</sup>				
- <i>Lactobacillus</i>	42 (19%)	18 (25%)	5 (17%)	9 (15%)	6 (14%)	4 (22%)
- <i>Gardnerella</i>	12 (5%)	9 (12%) [ <b>0.001</b> ]	2 (7%)	1 (2%)	0 (0%)	0 (0%)
- <i>Streptococcus</i>	21 (9%)	5 (7%)	5 (17%)	6 (10%)	3 (7%)	2 (12%)
- <i>Escherichia</i>	8 (4%)	1 (1%)	0 (0%)	4 (7%)	3 (7%)	0 (0%)
-Other*	19 (8%)	2 (3%) [ <b>0.04</b> ] <sup>b</sup>	4 (13%)	7 (12%)	4 (9%)	2 (12%)
-Mixed	13 (6%)	5 (7%)	1 (3%)	3 (5%)	2 (7%)	2 (12%)
-Culture Negative	109 (49%)	33 (45%)	13 (43%)	30 (50%)	25 (58%)	8 (44%)
BMI (kg/m <sup>2</sup> ), mean (SD) <sup>a</sup>	29.96 (7.73)	31.54 (9.42) [ <b>0.02</b> ]	29.91 (7.67)	29.65 (6.76)	28.29 (6.37)	28.6 (5.37)
Engage in Vaginal Intercourse (N=146)	92 (63%)	(N=42) 29 (69%)	(N=22) 11 (50%)	(N=39) 26 (67%)	(N=31) 21 (68%)	(N=12) 5 (42%)
Menopausal Status:		[ <b>0.003</b> ] <sup>d</sup>		[ <b>0.04</b> ] <sup>d</sup>		
- Pre-menopausal	115 (51%)	47 (64%) [ <b>0.007</b> ]	15 (50%)	24 (40%) [ <b>0.04</b> ]	21 (49%)	8 (44%)
- Post-menopausal	72 (32%)	20 (27%)	9 (30%)	23 (38%)	12 (28%)	8 (44%)
- Not Sure	37 (17%)	6 (8%) [ <b>0.02</b> ]	6 (20%)	13 (22%)	10 (23%)	2 (12%)
Use of Hormone Replacement Therapy	12 (6%)	5 (7%)	2 (7%)	1 (2%)	3 (7%)	1 (6%)
Diabetes	15 (7%)	5 (7%)	3 (10%)	4 (7%)	3 (7%)	0 (0%)
Heart Disease	1 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (6%)
Hypertension	50 (22%)	14 (19%)	9 (30%)	12 (20%)	6 (14%)	9 (50%) [ <b>0.003</b> ]
Urine Dipstick: (N=223)		(N=72)				
- White Blood Cells (WBC)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
- Nitrites	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
- Red Blood Cells (RBC)	11 (5%)	5 (7%)	2 (7%)	2 (3%)	1 (2%)	1 (6%)
Standard Urine Culture (SUC)-Positive	13 (6%)	4 (5%)	1 (3%)	5 (8%)	3 (7%)	0 (0%)

Chi-Square Test used unless otherwise indicated. Fisher's Exact Test used when appropriate. SD = Standard Deviation. IQR = Interquartile Range.

Only p-values ≤ 0.05 are shown (bold and highlighted).

a – Independent T test; b – Fisher's Exact Test; c – Wilcoxon Rank Sum Test; d – One-way ANOVA

\* – "Other" Urotype includes any additional urotypes present in < 5 samples in the Total Cohort

**Table S4.** Patient/clinical variable between women who do and do not engage in vaginal intercourse

Patient and Clinical Variables and Culture Urotypes	Responded to Question (N=146)	“Yes” (N = 92)	“No” (N=54)	p-value
Age (years), mean (SD)	47 (13)	42 (9)	53 (14)	<b>&lt;0.001<sup>a</sup></b>
Race:				
-White/Caucasian	93 (64%)	56 (61%)	37 (69%)	<b>0.60<sup>d</sup></b>
-Black/African American	36 (25%)	24 (26%)	12 (22%)	
-Asian	5 (3%)	5 (5%)	0 (0%)	
-NHPI	1 (1%)	0 (0%)	1 (2%)	
-Other	11 (8%)	7 (8%)	4 (7%)	
Ethnicity:				
-Hispanic or Latina	20 (14%)	15 (16%)	5 (9%)	<b>0.23</b>
-Not Hispanic or Latina	126 (86%)	77 (84%)	49 (91%)	
Culture Urotypes:				
- <i>Lactobacillus</i>	27 (18%)	19 (20%)	8 (15%)	<b>0.38</b>
- <i>Gardnerella</i>	9 (6%)	7 (8%)	2 (4%)	<b>0.49<sup>b</sup></b>
- <i>Streptococcus</i>	13 (9%)	8 (9%)	5 (9%)	<b>0.91</b>
- <i>Escherichia</i>	6 (4%)	0 (0%)	6 (11%)	<b>0.002<sup>b</sup></b>
-Other*	7 (5%)	4 (4%)	3 (6%)	<b>0.71<sup>b</sup></b>
-Mixed	9 (6%)	8 (9%)	1 (2%)	<b>0.09<sup>b</sup></b>
-Culture Negative	75 (51%)	46 (50%)	29 (54%)	<b>0.67</b>
BMI (kg/m <sup>2</sup> ), mean (SD)	29.91 (7.52)	28.98 (7.18)	31.49 (7.89)	<b>0.03<sup>a</sup></b>
Vaginal Parity, median (IQR)	2 (0-3)	2 (0-3)	2 (1-3)	<b>0.49<sup>c</sup></b>
Menopausal Status:				<b>0.002<sup>d</sup></b>
- Pre-menopausal	81 (55%)	67 (73%)	14 (26%)	<b>&lt;0.001</b>
- Post-menopausal	36 (25%)	5 (5%)	31 (57%)	<b>&lt;0.001</b>
- Not Sure	29 (20%)	20 (22%)	9 (17%)	<b>0.46</b>
Use of Hormone Replacement Therapy	8 (5%)	4 (4%)	4 (7%)	<b>0.47<sup>b</sup></b>
Diabetes	10 (7%)	5 (5%)	5 (9%)	<b>0.38</b>
Heart Disease	0 (0%)	0 (0%)	0 (0%)	-
Hypertension	29 (20%)	10 (11%)	19 (35%)	<b>&lt;0.001</b>
Urine Dipstick:	(N=145)	(N=91)		
- White Blood Cells (WBC)	0 (0%)	0 (0%)	0 (0%)	-
- Nitrites	0 (0%)	0 (0%)	0 (0%)	-
- Red Blood Cells (RBC)	7 (5%)	6 (7%)	1 (2%)	<b>0.26<sup>b</sup></b>
Standard Urine Culture (SUC)-Positive	9 (6%)	3 (3%)	6 (11%)	<b>0.08<sup>b</sup></b>

Chi-Square Test used unless otherwise indicated. SD = Standard Deviation. IQR = Interquartile Range.

a – Independent T test; b – Fisher’s Exact Test; c – Wilcoxon Rank Sum Test; d – One-way ANOVA

\* – “Other” Urotype includes any additional urotypes present in < 5 samples in the Total Cohort

p-values <0.05 are bolded and highlighted.