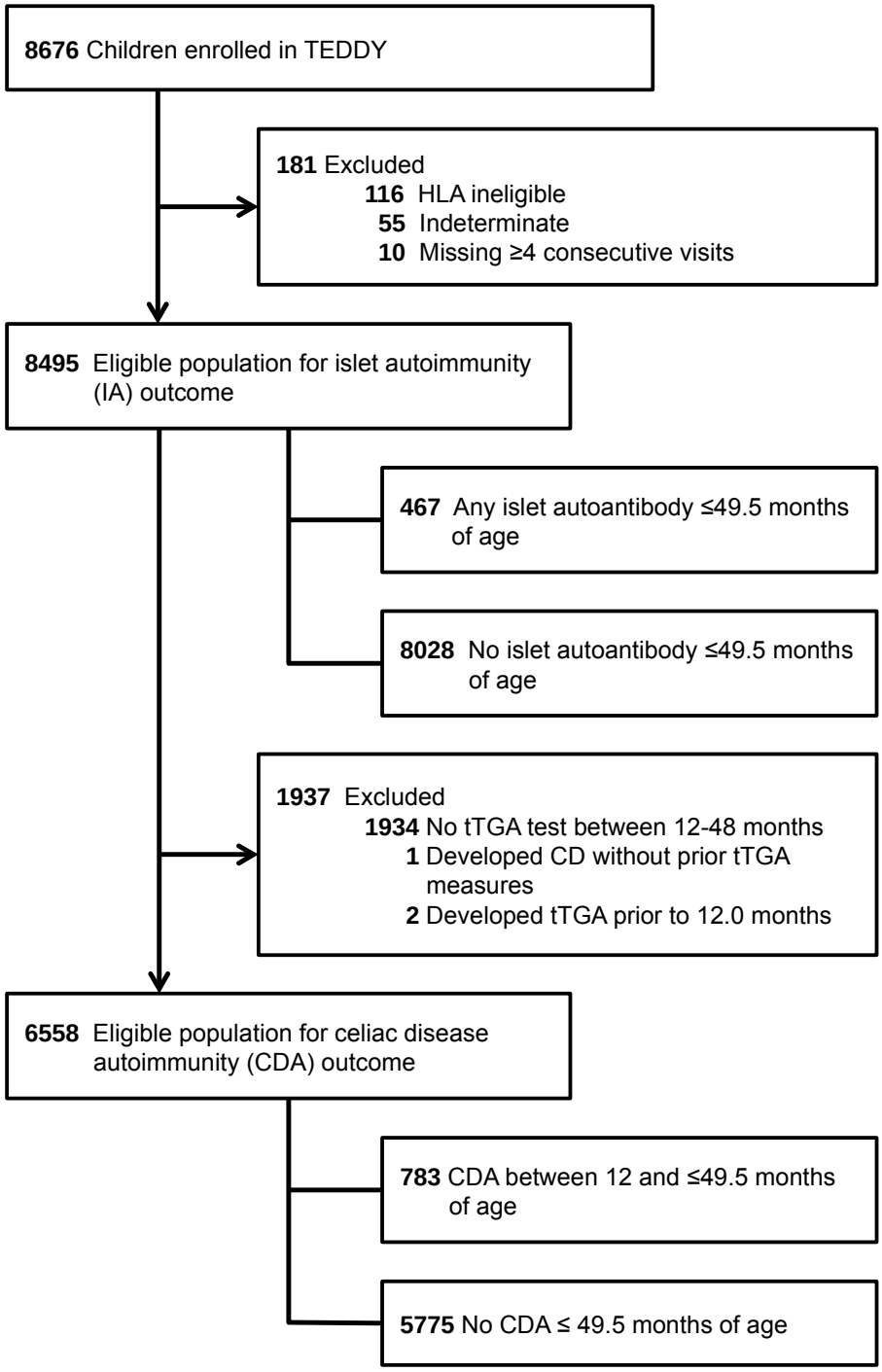
Supplementary Online Content

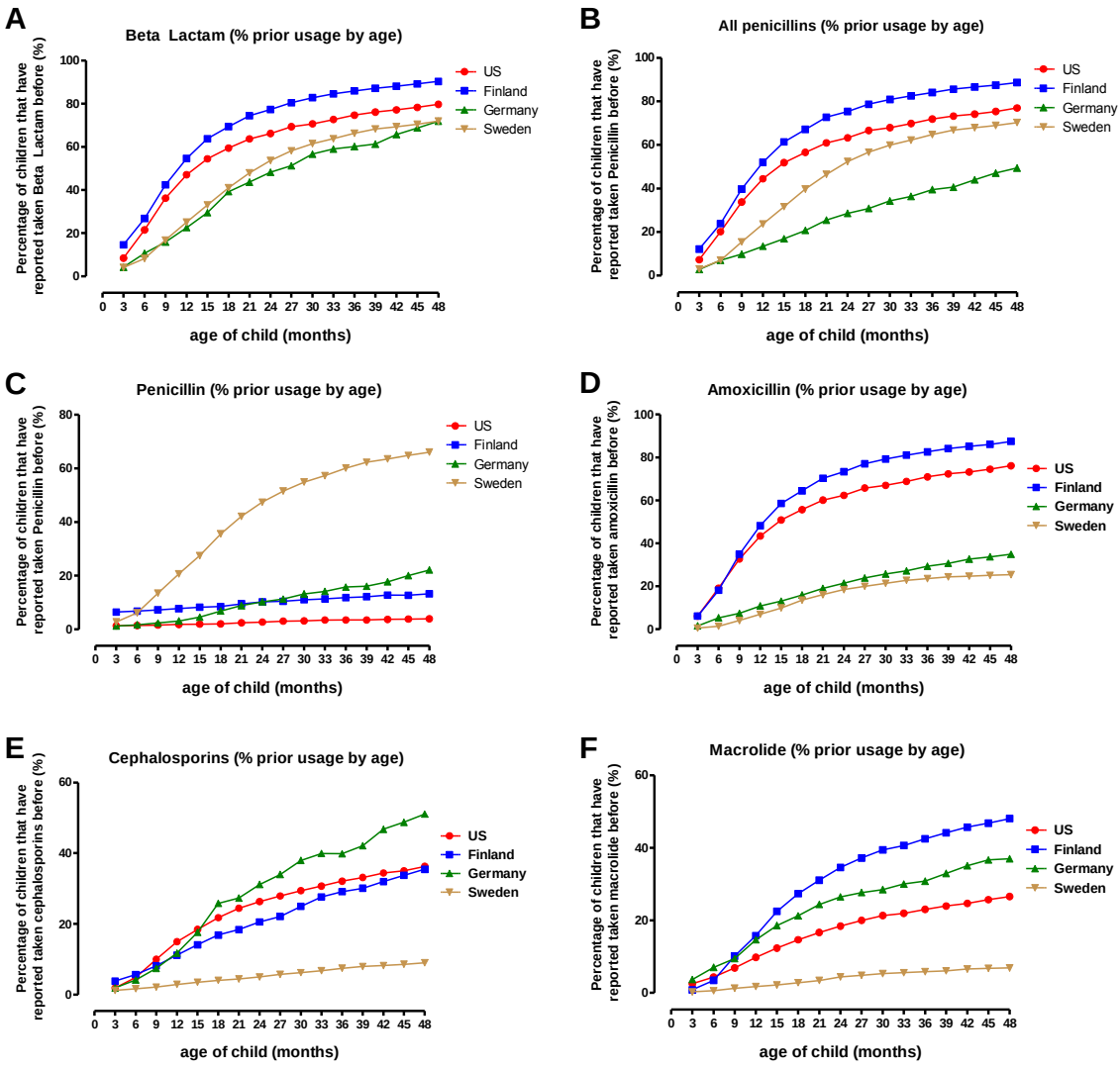
Kemppainen KM, Vehik K, Lynch KF, et al; The Environmental Determinants of Diabetes in the Young (TEDDY) Study Group. Association between early-life antibiotic use and the risk of islet or celiac disease autoimmunity. *JAMA Pediatr*. Published online October 9, 2017. doi:10.1001/jamapediatrics.2017.2905

This supplementary material has been provided by the authors to give readers additional information about their work.

eFigure 1. Study Population for Both IA Data Cohort and CDA Data Cohort. Data as of August 31st 2014.



eFigure 2. Percentage of Children in Each TEDDY Country That Has Reported Use of Each Antibiotic Group



eTable 1. List of Medication Ingredients in Each Major Antibiotic Category

Major antibiotic category	Medication ingredients
Amoxicillins	Amoxicillin
	Amoxicillin + Clavulanic Acid
	Amoxicillin + Clavulanate
	Amoxicillin Trihydrate
Penicillins	Amdinocillin Pivoxil
	Ampicillin
	Ampicillin + Sulbactam + Sultamicillin
	Cloxacillin
	Dicloxacillin
	Floxacillin
	Penicillin
	Penicillin G
	Penicillin V
	Pivampicillin
Carbapenems	Meropenem
Macrolides	Azithromycin
	Clarithromycin
	Erythromycin
	Erythromycin lactobionate + Colistimethate sodium
	Erythromycin + Sulfisoxazole
	Roxithromycin
	Spiramycin
Cephalosporins	Cefaclor
	Cefadroxil
	Cefazolin
	Cefdinir
	Cefepime
	Cefixime
	Cefotaxime
	Cefoxitin
	Cefpodoxime
	Cefprozil
	Ceftazidime
	Ceftibuten
	Ceftriaxone
	Ceftriaxone + Lidocaine
	Cefuroxime
	Cephalexin
	Cephradine

	Loracarbef

eTable 2. Antibiotics Use Over Time on Risk of IA, Multiple Islet Autoantibodies, and CDA Examined in Separate Proportional Hazards Model

Exposure (/n)	IA	Multiple islet autoantibodies	CDA
	HR[a] (95% CI)	HR[a] (95% CI)	HR[a] (95% CI)
Use in the first 6 months of life			
Any antibiotic	0.99 (0.89 – 1.11)	0.99 (0.86 – 1.14)	1.05 (0.97 – 1.13)
Beta Lactam antibiotic	1.03 (0.91 – 1.15)	1.01 (0.87 – 1.18)	1.05 (0.97 – 1.15)
Cephalosporins	0.94 (0.65 – 1.36)	1.04 (0.68 – 1.62)	1.04 (0.79 – 1.36)
All penicillins	1.04 (0.92 – 1.19)	1.01 (0.85 – 1.20)	1.07 (0.97 – 1.18)
Amoxicillin	1.02 (0.89 – 1.18)	1.01 (0.84 – 1.22)	1.06 (0.96 – 1.18)
Penicillin	1.19 (0.83 – 1.71)	1.03 (0.62 – 1.70)	1.10 (0.82 – 1.48)
Macrolide	0.66 (0.39 – 1.11)	0.77 (0.45 – 1.33)	1.04 (0.77 – 1.39)
0-3 months prior to seroconversion period			
Any antibiotic	0.99 (0.86 – 1.13)	1.06 (0.91 – 1.23)	1.11 (1.00 – 1.22)
Beta Lactam antibiotic	0.99 (0.86 – 1.15)	1.07 (0.91 – 1.26)	1.10 (0.99 – 1.23)
Cephalosporins	0.66 (0.37 – 1.19)	0.38 (0.13 – 1.12)	1.12 (0.79 – 1.60)
All penicillins	1.03 (0.89 – 1.21)	1.14 (0.97 – 1.36)	1.10 (0.98 – 1.24)
Amoxicillin	1.03 (0.87 – 1.22)	1.14 (0.95 – 1.36)	1.13 (1.00 – 1.29)
Penicillin	1.08 (0.69 – 1.70)	1.26 (0.74 – 2.15)	0.98 (0.71 – 1.35)
Macrolide	0.91 (0.58 – 1.45)	1.01 (0.61 – 1.69)	1.25 (0.91 – 1.72)
3-6 months prior to seroconversion period			
Any antibiotic	0.95 (0.82 – 1.09)	1.03 (0.88 – 1.20)	1.10 (1.00 – 1.21)
Beta Lactam antibiotic	0.96 (0.82 – 1.12)	1.05 (0.89 – 1.24)	1.11 (1.00 – 1.23)
Cephalosporins	0.73 (0.42 – 1.28)	0.87 (0.47 – 1.60)	1.21 (0.88 – 1.67)
All penicillins	0.98 (0.83 – 1.16)	1.08 (0.90 – 1.29)	1.11 (0.99 – 1.23)
Amoxicillin	0.95 (0.79 – 1.15)	1.10 (0.91 – 1.33)	1.12 (0.99 – 1.26)
Penicillin	1.17 (0.77 – 1.80)	0.91 (0.49 – 1.70)	1.08 (0.81 – 1.45)
Macrolide	0.81 (0.48 – 1.38)	0.82 (0.44 – 1.52)	1.07 (0.76 – 1.51)

Abbreviations: IA, islet autoimmunity; CDA, celiac disease autoimmunity; HR, hazard ratio; CI, confidence interval

[a]Adjusted for HLA, first degree relative status, season of birth, sex, breastfeeding status at 90 days of age, Caesarian Section, maternal antibiotic use in utero, probiotics use started by 90 days of age and country of residence