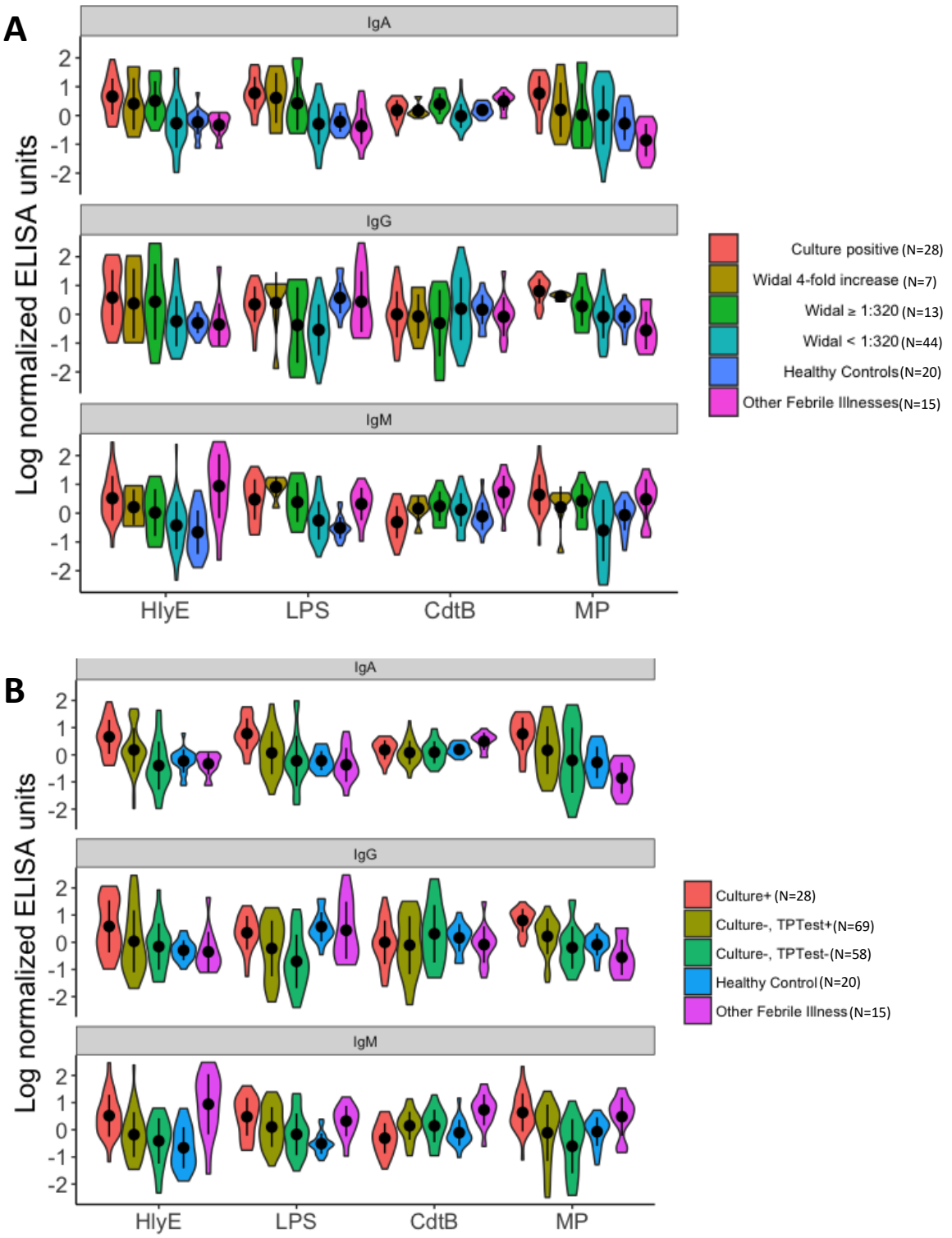
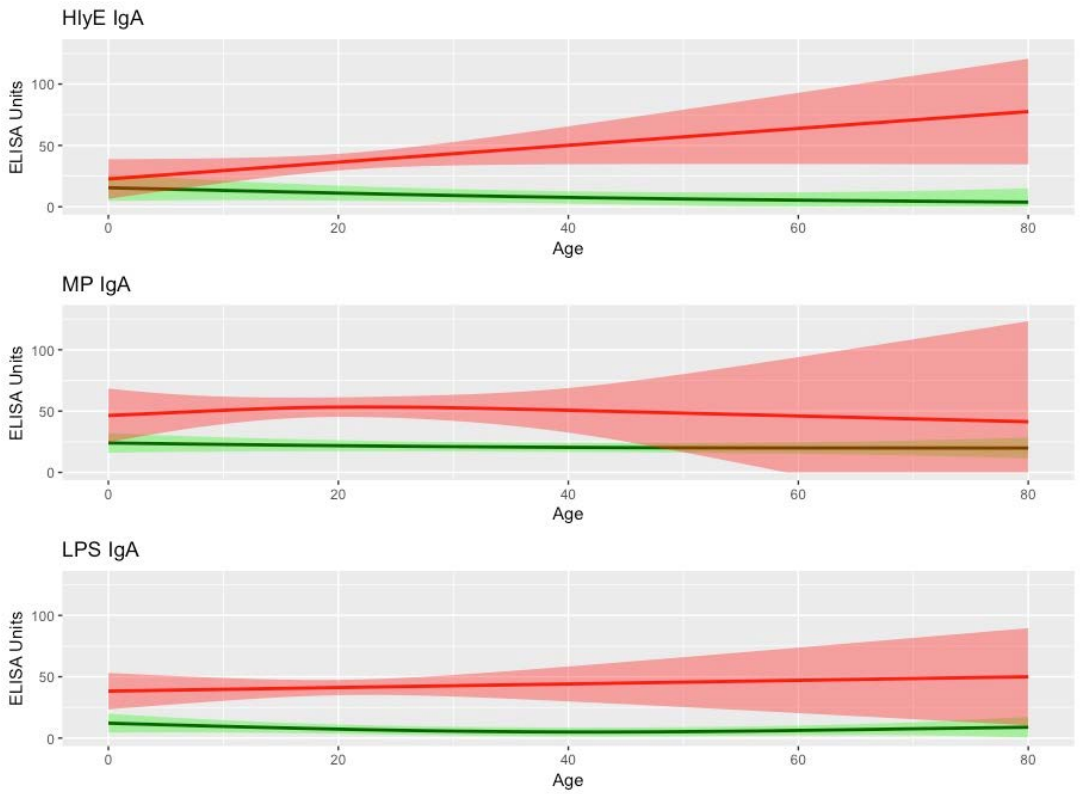
Supplementary Methods:

Antigen Preparation

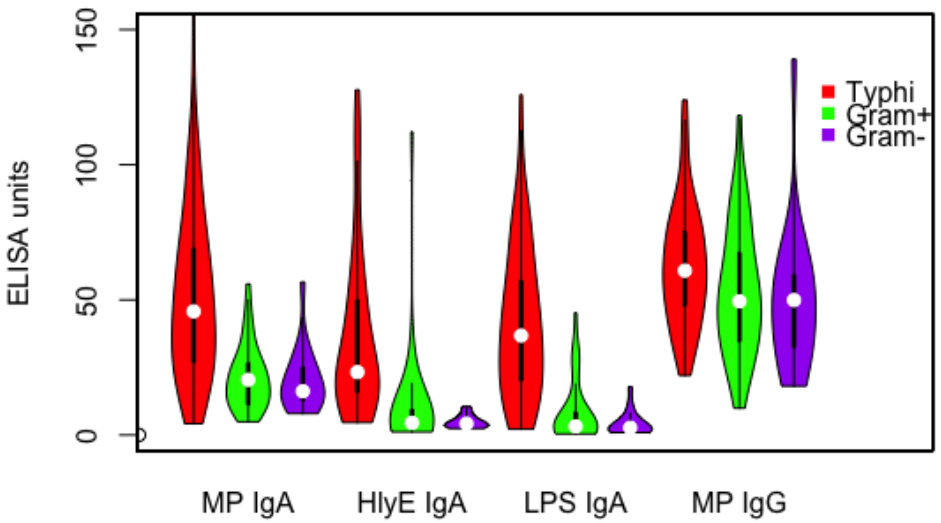
For ELISAs, *S.* Typhi LPS was prepared from a clinical isolate recovered in Dhaka, Bangladesh and MP was prepared from *S.* Typhi strain Ty21a as previously described [12, 25]. HlyE and CdtB were produced by an *E. coli*-based expression system using methods previously described [26] and affinity purified using HisPur Cobalt Resin under denaturing conditions. CdtB was refolded by dialysis into 25 mM TrisHcl, 0.15M NaCl, 5% glycerol, 1mM DTT using decreasing concentrations of urea. HlyE was refolded by running purified HlyE on polyacrylamide gels in NuPAGE LDS sample buffer (Invitrogen) and electroeluting the protein from excised, unstained gel fragments into 25mM Tris-HCl, 250mM glycine, 0.1% SDS buffer. Eluted proteins were then dialyzed into 10mM Tris-HCl pH 8.0. Product purity was assessed by SDS-PAGE and quantified using Coomassie Bradford Assay (ThermoScientific).



Supplementary Figure 1: Distribution of Anti-*S*. Typhi plasma responses in Bangladeshis by group. Violin plots of log-normalized IgM, IgA, and IgG plasma responses against HlyE, LPS, CdtB, and MP in Bangladeshi study participants by group. A) Groups were allocated based on blood culture results and Widal test results (non-overlapping groups); B) Groups were allocated based on results of blood culture and TPTest (groups are not mutually exclusive).



Supplementary Figure 2: Stratification of *S*. Typhi antigen responses by age. IgA responses to selected antigens by age in cases (red) and controls (green) in a generalized additive model, with 95% confidence intervals shaded.



Supplementary Figure 3: Distribution of anti-*S*. Typhi plasma responses by bacteremia type. Violin plots of antibody responses in the Nepal cohort of selection antigens by type of bacteremia: *S*. Typhi, other Gram-negative (*E. coli, Klebsiella, Acinetobacter),* and Gram-Positive bacteria (*S. aureus, Streptococcus spp, Enterococcus spp).*