**Methods Appendix**

**Counting discharge medications:**

In counting discharge medications, we considered several factors. We recognized that not all medications are equal in terms of importance (e.g., hydrocortisone ointment versus an anti-epileptic medication). We recognized that some prn medications were potentially more complex than scheduled medications (e.g., insulin). We also recognized some scheduled medications were listed twice within a single medication reconciliation (e.g., one dosage in the morning, a separate dosage in the evening). We presented the conundrum of “how many medications is this child on?” to multiple stakeholders including physicians, researchers, adherence experts, and parents. Stakeholders had a variety of opinions. Proposed solutions included eliminating all non-prescription medications, simplifying lists including combining medications, or counting different classes of medications. Ultimately, we elected to go with the solution offered by our parent advisors—to count each medication that appears on the medication reconciliation. This list is the list that the parent must navigate to administer medications. We separated the list into the number of medications that were scheduled (non-prn) and those which were written as prn for purposes of analyses.

For the primary analyses, we elected to evaluate count of medications prescribed as described above. We also describe (Table 1) and present bivariate analyses (Table 3) of the number of doses scheduled in 24 hours. We could not include both the number of medications and the number of doses in 24 hours due to the high correlation between the two factors (pairwise correlation = 0.74). Some medications were missing frequency information, listed often as “take as directed.” This represented a small minority of cases (3%). For the missing dose frequency information, we set missing values to the most common frequency in the dataset for the missing medication (e.g., if calcium carbonate was prescribed “as directed” (i.e. frequency was missing), the frequency for calcium was counted as twice daily as that was the most common prescribed frequency in the dataset for calcium carbonate).

**Counting new diagnoses:**

All discharge diagnoses which flagged as CCCs by the complex chronic condition algorithm were reviewed and compared to the child’s past medical history (abstracted from medical record review). A physician reviewer classified the CCC as one of 3 options: 1—new during hospitalization, 2—present prior to hospitalization, 3—likely representing over-coding by discharge biller (e.g., disorders of magnesium metabolism). Two physicians independently reviewed 10% of CCC diagnoses and a kappa statistic was calculated to determine inter-rater reliability. Given the infrequency of the category 3 codes (3.7%) and that these did not fit the level of complexity of a new CCC, these were set to not a new CCC for analyses.