Supplemental Online Content

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eTable. Description of hospital usual care and the hospital consultation intervention received by the children with medical complexity (CMC) in our comprehensive care program

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eReferences

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

eTable. Description of hospital usual care and the hospital consultation intervention received by the children with medical complexity (CMC) in our comprehensive care program

	Hospital Usual Care	Hospital Consultation
Before ED visit or hospitalization	**Comprehensive care (CC) team:** – Calls Children's Memorial Hermann Hospital (CMHH) ED physician – Communicates with CMHH admitting hospitalist only if requested	**CC team:** – Calls CMHH ED physician – Calls CMHH admitting hospitalist to discuss whether admission is needed and if so, the appropriate inpatient care
During hospitalization	Hospitalists treat the CMC in the CC program without involvement of outpatient CC team	**CC team:** – Formally consults – Follows patient and communicates with hospitalist team – Participates in rounds as feasible – Discusses care plan with family
Transition to outpatient care	Hospitalists plan discharge and may arrange outpatient follow up	**CC team:** – Assists with discharge plan – Makes follow-up call within 36 hours and clinic appointment within 5-10 days after hospital discharge

eMethods. Informal Elicitation of Expert Opinion for the Hospital Consultation Trial

The Bayesian statistical framework involves the combination of existing (or "prior") knowledge regarding the effect of an intervention with new data, gathered from the trial itself ("likelihood"), using Bayes' theorem, yielding the updated evidence or "posterior probability distribution".[1, 2] The inclusion of prior data is straightforward when good information exist, such as similar randomized trials or meta-analyses. In the absence of such data or when existing studies are of variable quality, individuals' judgments or beliefs can be quantified into an informative prior. [3,4] Such beliefs may be based on an examination of the published evidence, personal experience, other sources of information, or a combination of the above. This process of quantifying such beliefs into a prior distribution is known as an "elicitation."

For this trial, we conducted an elicitation exercise. We contacted by email the site leaders for the Children and Youth with Special Health Care Needs National Research Network (CYSHCNet), who were not involved in this study. We briefly described the hospital consultation service and usual care at our hospital. We then asked them to indicate their expected intervention effect on the primary outcome, total number of hospital days per child-year. We provided a link to an online tool where each member could enter their expected relative risk (RR) and lower and upper bounds using sliders.

We used equal-weighting linear pooling to aggregate the individual elicited distributions and form the expert prior. A total of 17 site leaders were contacted and 7 responded. Individual elicited distributions were very similar with the RR point estimate ranging from 0.67 to 0.87; lower bound ranging from 0.5 to 0.8, and upper bound from 0.79 to 1.18. Before downweigthing, the combined expert prior had a median RR of 0.78 with a 95% Credible Interval of 0.55-1.09. Because this prior was based on opinion rather than objective data from prior trials, the values were downweighted.[5] To downweight the pooled expert prior by 50%, we doubled the variance and obtained a 95% Credible Interval of 0.49-1.25. This downweighted prior was used in secondary analyses of total hospital days and total health system costs.

eReferences

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