Appendix

Data Analysis

All models were run as overdispersed population-average models with robust standard errors, full penalized quasi-likelihood estimation and, when possible, randomly varying terms estimated using unstructured covariance structures. (For some items indicated in tables, terms were fixed because of limited power.) For continuous outcome variables Poisson distributions were used because of positive skew. For dichotomous outcome variables Bernoulli distributions were used. Best overall model fit was determined by statistical significance of model deviance in -2 Log Likelihood statistics, and individual parameter significance was determined through the *t*-ratio for individual time trend coefficients (1). HLM 7.0 (2) was used for multilevel modeling and SPSS 19 (3) was used for all other analyses.

Outliers and Missing Data

Continuous variables were examined for possible outliers or data entry errors, and 115 outliers (out of 1,543 total responses, 7%) were deleted or replaced. Specifically, we deleted the outlier at our own discretion or because a state failed to respond to our questions (78 responses), replaced the outlier with better reports provided by the states (15 responses), replaced the outlier with the mean of reports from the years before and after (12 responses), or deleted the outlier at the state's direction (10 responses).

Estimates were flagged for the following reasons: 67 values varied so widely within their state that it was difficult to determine which range of values was in error and which was correct (e.g., the estimates from one state for youth receiving Functional Family Therapy over time were: 18, 14, 0, 265, 280, and 62); 39 values were of a different order of magnitude—or nearly so—than relatively stable surrounding values (e.g., one state's estimates for youth with serious emotional disturbance ranged from 69230 to 69722 for three years after which it fell to 579 and then returned the following year to 79979); 8 values were reported with insufficient context (e.g., states who only provided estimates for numbers served in a single year). When found, we attempted to contact state representatives to verify or correct such data.

References
1. Singer JD, Willett JB: Applied longitudinal data analysis. New York: Oxford University Press, 2003
2. Raudenbush SW, Bryk AS: Hierarchical linear models: Applications and data analysis methods. Newbury Park, CA: Sage, 2002
3. IBM-SPSS: Statistical Package for the Social Sciences software program, version 19: IBM, 2010