

HMG UT Summary of Evaluations

HMG Study 5: Scoring Patterns for Children Scored on Multiple ASQs: 2016	
Status (select one)	Completed In process
Study Focus (select one)	HMG independent HMG in combination with other initiative
Model Relevance (Select one)	HMG Call Center Physician Outreach Family Engagement Community Outreach Developmental Screening Other (please specify):
Study Framework (Describe each)	Primary research question: From 2010 to 2015, Help Me Grow Utah collected data on children who were scored on more than one ASQ. This research project compares the first ASQ score of children taking more than one ASQ with their most recent score and examines the impact on scores of taking multiple ASQs. Target population: Sample size (if applicable): 1477 children took multiple Ages and Stages Questionnaires from 2010 to 2015. Study design: Data analysis was performed using SPSS, utilizing crosstabulation and Chisquare statistics. The results were then verified using paired sample t-tests.
Key Findings	<i>Please provide a written of key findings and take aways from this study.</i> Help Me Grow Utah collected data over five years on cases that were scored on multiple Ages and Stages Questionnaires (ASQ). Crosstabulations and t-tests were employed in analyzing the scores. The analyses suggest that children who were scored on multiple ASQs had meaningful and significant positive changes. Nearly 56% of all scores stayed the same while over 31% improved. Improvements in scores in the Monitoring and Below categories were noteworthy. Over 61% of first scores that were in the Monitoring range had a most recent score of Above. Over 67% of ASQ initial scores that were in the Below range moved to either Monitoring or Above in their most recent scores.
Other <i>Please describe other relevant information such as budgets, consults, etc.</i>	Budget \$3,000

Help Me Grow Utah

Scoring Patterns for
Children Scored on Multiple ASQs

September 2016

Greater Ventures, LLC

Introduction

Help Me Grow Utah was established in 2010, at which time the Ages and Stages Questionnaire (ASQ) was implemented into the program. The ASQ is a nationally recognized questionnaire that parents complete to help identify and monitor any developmental delays in their child. The ASQ covers five developmental domains: fine motor, gross motor, language, social/emotional, and cognitive. ASQ scores indicate if a child is in a normal developmental range, in a range categorized as monitoring, or the child is below the range of normal development for that age range. Questionnaires are available for children ages 2 months up to 5 1/2 years of age.

Parents may complete one Ages and Stages Questionnaire and with a score in the normal range, assume their child is and will stay developmentally on track. It is recommended, however, that parents complete the questionnaire at various ages of the child, as developmental delays may not present until later in a child's life. For example, symptoms of autism often surface between 12 and 18 months although a diagnosis is not likely made until the child reaches 24 months (www.helpguide.org/articles/autism/autism-symptoms-and-early-signs.htm).

Children whose delays are identified as early as possible can subsequently be connected with appropriate resources, which may result in a child responding more quickly and effectively to treatment. This in turn, may reduce the dosage required with a provider, may reduce the short and long-term costs of treatment, and may increase the likelihood of school success. Children with initial Ages and Stages Questionnaire scores in the Monitoring or Below ranges and who receive resources addressing those delays would be expected to receive higher scores on subsequent questionnaires.

From 2010 to 2015, Help Me Grow Utah collected data on children who were scored on more than one ASQ. This research project compares the first ASQ score of children taking more than one ASQ with their most recent score and examines the impact on scores of taking multiple ASQs.

Methods

According to data collected by Help Me Grow Utah, a total of 1477 children took multiple Ages and Stages Questionnaires from 2010 to 2015. Of the 1477 cases, 84 (6%) received referrals to community resources and 1393 (94%) received information about child development through Help Me Grow Utah.

Data analysis was performed using SPSS, utilizing crosstabulation and Chi-square statistics. The results were then verified using paired sample t-tests.

Findings

Ages and Stages Questionnaire scores were divided into three categories: Above the cutoff for normal development, Monitoring for a delay, and Below the cutoff for normal development. A child's overall score was determined by the lowest score on any subset of questions for a developmental domain.

The table below shows the initial or first ASQ scores and the most recent scores for 1477 children. Initially, 762 (51.6%) of the scores were in the Above range. In the most recent scores, 980 or 66.4% of the scores were in the Above range. Scores in the Monitoring range decreased from 397 (26.9%) to 311 (21.1%). And scores in the Below range decreased from 318 (21.5%) to 186 (12.6%)

ASQ Scoring Range	Initial ASQ Score	Most Recent ASQ Score
Above	762 (51.6%)	980 (66.4%)
Monitoring	397 (26.9%)	311 (21.1%)
Below	318 (21.5%)	186 (12.6%)
Total	1477 (100%)	1477 (100%)

Changes from the initial questionnaire to the most recent questionnaire scores indicated that 55.8% of scores stayed the same while 31.1% of scores improved, and 13.3% of scores declined. The following table indicates the percentage change in scoring among all scores.

Type of Score Change	Percentage
Stayed the same	55.8%
Score improved	31.1%
Score declined	13.3%

The following table shows a crosstabulation of the first ASQ scores for each scoring range and the most recent scores.

First ASQ Score	Total	Most Recent ASQ Score		
		Above	Monitoring	Below
Above	762 (51.6%)	618 (41.8%)	112 (7.6%)	32 (2.2%)
Monitoring	397 (26.9%)	243 (16.5%)	103 (7.0%)	51 (3.5%)
Below	318 (21.5%)	119 (8.1%)	96 (6.5%)	103 (7.0%)
Total	1477 (100.0%)	980 (66.4%)	311 (21.1%)	186 (12.6)

Percentages represent a percentage of total cases

Further consideration of this data showed that among the 762 children that started in the Above category, 81.8% stayed the same and 18.9% moved to Monitoring or Below.

Among the 397 children starting in the Monitoring category, 61.2% moved to Above, 25.9% stayed the same, and 12.8% moved to Below.

Among the 318 children starting in the Below range, 67.6% moved to Monitoring or Above and 32.4% stayed the same and.

This data is depicted in the following table.

First ASQ Score	Score Improved	Stayed the Same	Score Declined
Above	Not possible	81.8%	18.9%
Monitoring	61.2%	25.9%	12.8%
Below	67.6%	32.4%	Not possible

Paired sample t-tests were used in this analysis. Scores falling into the Below range were assigned the number 1. Scores falling into the Monitoring range were assigned the number 2, and scores in the Above range were assigned the number 3. The first ASQ score average was 2.29 as compared with the most recent ASQ score average of 2.52. This change was statistically significant at $p < .000$.

T-tests also showed that the 84 cases receiving referrals to community resources were more likely to see improvements than those that did not receive referrals ($p=.05$). The 1393 cases receiving only information from Help Me Grow Utah were not more likely to see improvements than those that did not receive information ($p=.49$).

Summary

Help Me Grow Utah collected data over five years on cases that were scored on multiple Ages and Stages Questionnaires (ASQ). Crosstabulations and t-tests were employed in analyzing the scores. The analyses suggest that children who were scored on multiple ASQs had meaningful and significant positive changes. Nearly 56% of all scores stayed the same while over 31% improved. Improvements in scores in the Monitoring and Below categories were noteworthy. Over 61% of first scores that were in the Monitoring range had a most recent score of Above. Over 67% of ASQ initial scores that were in the Below range moved to either Monitoring or Above in their most recent scores.