

## **TCPI Exemplary Practice Performance Summary, January 2019**

### **Piller Child Development**

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*Providing evidence-based interventions and treatment resulting in better patient outcome and cost-effective treatment*

**Piller Child Development** (Piller) is a pediatric multidisciplinary outpatient therapy practice. Our practice has three locations in the greater Phoenix metropolitan area. Over 45 occupational and speech therapists serve approximately 1500 clients a week. Patients range in age from birth through 18 and consist of children with various developmental disabilities, illnesses, or injuries that result in loss of function or independence. The company has been servicing patients for almost nine years. We proudly grew from 4 patients and one therapist to one of the largest pediatric therapy practices in the fifth largest city in America. This growth occurs because of our transformative practice.

By including patients and families in care planning and delivery, we provide evidence-based treatment across all therapies that result in better patient outcomes and more cost-effective treatment. Our leadership and therapists developed and revised care plans, streamlining and documenting workflows that engage patient and families in quality improvement initiatives based on evidence-based practices in the area of occupational therapy.

Working together, our therapist and patient/family establish meaningful goals for treatment. Each of our therapists focuses treatment on developing relationships with the patient and family to discover the values and beliefs of the patient and family. Our therapists take time each session to talk with parents and patients to include them within the treatment process. Before goals are established, our therapists spend one on one time with parents discussing their needs and goals for therapy. Goals are developed collaboratively with the patients and families. Treatment is centered on these values and goals to increase patient engagement and follow through with treatment recommendations. Every one of our therapists believes in the importance of developing a relationship with the provider and family. When the patient trusts our providers, they are more likely to follow through with recommendations. Our relationship-based care is the cornerstone of providing high quality service and allows our patients to make continual improvements towards independence.

Our therapists take a team approach to treatment. While working with their own caseloads, therapists are familiar with other patients seen in the office. Therapists frequently treat together and are consistently engaged in collaborative conversations. In addition, we offer structured times for team meetings where therapists work within their disciplines and across disciplines to ensure the best care coordination for the patients. Our office space is set up to encourage cross collaboration within disciplines and between disciplines. Our team-oriented approach provides support for learning and advancing clinical skills, which provides accountability for therapists to continually work to improve their practice, knowledge, and skills. We promote a patient-centered approach to care where therapists are continually involved in discussions about how to meet the needs of each individual patient. The nature of pediatric therapy often leads to frequent patient encounters for months at a time. Our team approach helps prevent patient burn out by continually collaborating for new treatment ideas. By working together, our therapists are equipped to provide high quality, patient centered interventions.

## Cost and Utilization

We are a multi-disciplinary practice that provides therapy services within one location. As a result, clients can receive multiple services on the same day at the same location and access services at a lower overall cost. Although therapy is typically billed as units, our same day services can result in a reduction of transportation costs, including possible out of pocket costs to the client, by reducing the total number of trips required for services. The table below shows estimated cost savings by using a multi-disciplinary clinic with all services at the same location compared to a multiple single discipline therapy clinics.

		<b>Single Service per Day over 6 months at three sessions per week</b>	<b>Multi-discipline service (3 services in one day one day per week) over 6 months</b>	<b>Savings for multi-discipline clinic over 6 months</b>
<b>Drive Time</b>	15 min each way/30 min round trip	2,340 minutes	780 minutes	1,560 minutes
<b>Co pay Cost</b>	\$20/service/day	\$1,560	\$520	\$1,040
<b>Transportation Cost</b>	10 miles round trip/\$0.54 per mile	\$421.20	\$140.40	\$280.80

In addition, due to the combination of services, we are able to reduce no shows and cancellations. Our no shows and cancellations on average, for clients utilizing a same day service model, are approximately 25% less than those utilizing a multi-day service model.

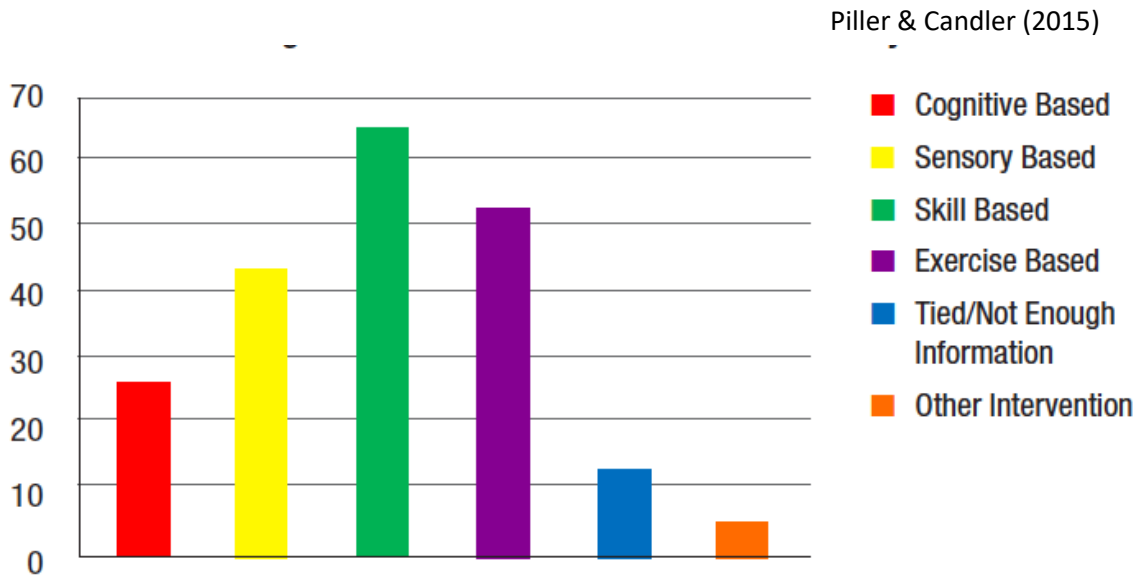
## Evidence-Based Practice

We provide evidence-based research and defining best practices for therapeutic interventions. Our therapists have an ethical requirement to provide evidence-based interventions, and this expectation is taken very seriously at Piller. Evidence-based interventions demonstrate effectiveness of treatment methods to target areas of difficulty, which in turn results in decreased costs. Our unique approach to evaluating therapists' use of evidence-based practice ensures that the provided interventions are the most effective. We use the procedure outlined below to evaluate occupational therapy interventions. Results of the data analysis were used to evaluate evidence-based practice and inform quality improvement activities for the organization. Our step-by-step approach to evaluating the effectiveness of occupational therapy interventions is comprised of the following four steps:

1. Complete a thorough literature review of current evidence on a specific treatment.
2. Examine the treatment performed within that setting.
3. Interventions from the clinic are matched with the current published evidence of effective treatment interventions.
4. Through our quality improvement process, we implement updated and clinical practice guidelines based on these results.

Our method has been published in an occupational therapy practitioner magazine with results of a retrospective cohort study for occupational therapy interventions for the treatment of coordination delay (Piller & Candler, 2015). Through this study, we are able to determine the most commonly used interventions at our facilities. These interventions matched the interventions found in the literature for effective occupational therapy interventions in the treatment of coordination delay. Therefore, our therapists could say with confidence they were implementing evidence-based practice.

**Figure 1. Treatment Interventions from Piller Child Development in the Treatment of Coordination Delay**



### Effectiveness of Interventions- Quality of Metrics

Performing evidence-based treatment is critical for best practice of therapy services. However, it is also important for therapy interventions to demonstrate effectiveness in reaching client goals and improving function. We also implemented retrospective studies to examine the effectiveness of interventions performed within our clinics. Two studies are provided to indicate the effectiveness of interventions performed at Piller Child Development. The first provides evidence of the effectiveness of occupational therapy on the treatment of coordination delay. Pretest and posttest standardized assessment data were analyzed with non-parametric statistics to determine if the change was statistically significant for three motor subtests on a motor skills assessment. The intervention utilized was established via the text mining study that developed into clinical practice guidelines for intervention of occupational therapy services for children with coordination delay. The results of the study revealed that the intervention was statistically significant in improving fine motor integration skills and bilateral coordination skills, indicating that the provided intervention is effective in improving motor skills.

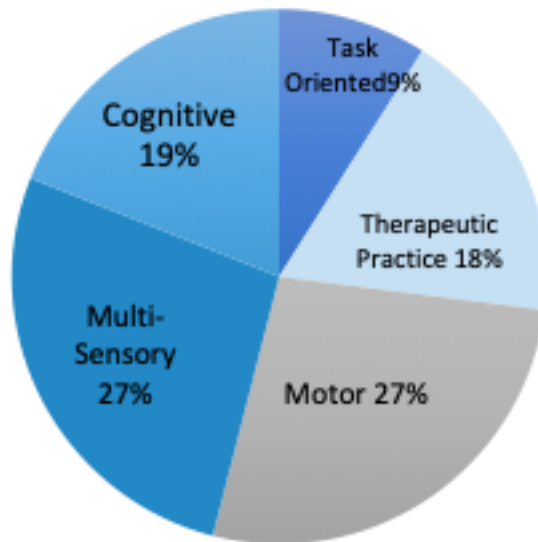
**Table 2. Effectiveness of Occupational Therapy Interventions on Motor Skills for Children with Coordination Delay**

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
<b>Pair 1</b>	BOT-2 Initial Fine Motor Precision - BOT-2 Second Fine Motor Precision	-.315	3.270	.383	-1.078	.448	-.823	72	.413
<b>Pair 2</b>	BOT-2 Initial Fine Motor Integration - BOT-2 Second Fine Motor Integration	-1.411	3.926	.459	-2.327	-.495	-3.071	72	.003*
<b>Pair 3</b>	BOT-2 Initial Bilateral Coordination - BOT-2 Second Bilateral Coordination	-2.507	4.021	.471	-3.445	-1.569	-5.326	72	.000*

\*Statistically Significant

A second study examined the practices of occupational therapists in the treatment of handwriting difficulties, a common reason for referral to occupational therapy. This study also utilized a retrospective review of daily documentation to provide evidence as to interventions used for the treatment of handwriting difficulties and a retrospective pretest-posttest to determine the effectiveness of the interventions on improving motor skills. Again, results of pretest-posttest analysis revealed statistically significant differences, indicating effectiveness of interventions.

**Figure 2. Evidence-based Interventions Utilized in the Treatment of Handwriting Difficulties**



**Table 3. Effectiveness of Handwriting Interventions to Improve Visual Motor Skills**

	Mean	n
Pretest	15.33	21
Posttest	17.90	21
Negative Ranks	-	6
Positive Ranks	-	13
No Change	-	2
Wilcoxon Signed Ranks Test	Z -2.039	0.04*

The two study examples demonstrate the effectiveness of interventions utilized by our therapists. The analysis of daily documentation provides an easy method for the organization to review routine practices for evidence-based practice and quality improvement purposes. We provide this information to current clients, potential clients, and referring providers to demonstrate that the interventions utilized are targeted, evidence-based, effective, and cost-efficient in the treatment of children.

**Cost Effectiveness from Evidence-Based Practice**

Evidence-based practice allows clinicians the ability to choose the best intervention to meet the client’s needs. By choosing the best interventions, the result is decreased cost in healthcare. Rehabilitation fields, such as occupational and speech therapy, have little reserach on the effectiveness of interventions, comparision of interventions, or the best frequency and duration of interventions. We would like to be able to compare costs of therapy services to national averages for care. However, due to the limited research on effectiveness and frequency, there are little to no data on average costs of pediatric therapy services by discipline. Organizations such as the American Occupational Therapy Foundation have listed this as a research priority for the field of occupational therapy in order to establish cost effective therapy services. We have embarked on the journey of establishing solid practice guidelines, including evidence-based interventions and duration and frequency of services, in an attempt to provide cost-effect interventions targeted to meet the client’s needs. We have just begun the process of collecting data on the costs of therapy based upon established practice guidelines as well as the duration and frequency of therapy. We continue to develop this process as part of our transformation plan.

**Patient Engagement**

Outpatient pediatric therapy can be a lengthy process with average weekly visits being 50 or more for each patient. It is essential to ensure continued compliance with the ongoing treatment so the client completes the course of treatment and prevents relapse or regression, which can often result in longer duration of treatment. Relationship is the key to engaging patients and families within the treatment

process. Our therapists take time to get to know the patients and families, spend time in ongoing treatment to understand their changing goals, and ensure patients and families understand the treatment process. Every session is devoted to one-on-one treatment with the client and time to discuss with parents and family members. Patient satisfaction feedback indicates that families appreciate the engagement. Below are a few quotes from surveys:

“I[] feel so fortunate for how much work they did with my son. He made huge improvements in fine and gross motor skills and in his executive functioning.”

“My son loves [therapist’s name].”

### **Continued Development**

As evidenced from the success of the research projects for occupational therapy interventions, our organization identified that the processes and workflows we implemented for our occupational therapists would be useful in replicating and further developing for our speech therapists and speech therapy interventions and procedures. We are actively working toward completion of those steps.

Currently we have completed a quality improvement analysis to determine the time between assessments. In this analysis we identified the need for a standard operating procedure to reassess speech therapy clients on an annual basis. This has not yet been rolled out.

In the fourth quarter of 2018, we began gathering data from informal speech therapy assessments on a bi-annual basis – every six months. Adding the formal assessment data will add to the data needed for a more complete retrospective analysis and for daily documentation.

We are confident that the use of additional data will lead to further improvement and quality outcomes for patients in our care.

### **Summary**

We are an example of an exemplary multidiscipline ancillary practice. We provide patient centered facilities that promote health, well-being, and independence through patient and family centered care while providing a supportive environment for therapists to work. Support is provided through management and team work, proper equipment and space, and access to resources and evidence. We partner with other practices in their medical neighborhood and professional organizations (e.g. American Occupational Therapy Association, American Speech and Hearing Association, etc.) to promote practical methods for implementing best practice, evidence-based practice, and promoting health and wellness among patients to increase patient outcomes while decreasing costs.

*Piller Child Development is an active participant of the Practice Innovation Institute (Pii), Arizona’s Practice Transformation Network.*

*As of March 2019, Piller Child Development had completed the 5 Phases of Transformation.*



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Engage. Transform. Reward.

*The Practice Exemplar Story provides a brief overview of the Piller studies documented in the references section. In order to have the full details of the studies the reader will need to review the published manuscripts.*

#### References

Piller, A. & Candler, C. (2015). Gathering evidence from practice: Defining treatment for children with coordination delay. *OT Practice*, 20(20):9–12.

Piller A. & Torrez, E. (2019). Defining occupational therapy interventions for children with fine motor and handwriting difficulties. *Journal of Occupational Therapy Schools & Early Intervention*. doi: 10.1080/19411243.2019.1592053