Treatment Intervention Advisory Committee Review and Determination

Date: April 24, 2015
To: DHS/DLTC
From: Wisconsin Department of Health Services Autism and other Developmental Disabilities Treatment Intervention Advisory Committee: Lana Collet-Klingenberg, Ph.D. (chairperson)
RE: Determination of Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH) as a proven and effective treatment for individuals with autism spectrum disorder and/or other developmental disabilities

☐ This is an initial review
☒ This is a re-review. The initial review was January 31, 2014 with a Determination Level of 3.

Section One: Overview and Determination

Please find below a statement of our determination as to whether or not the committee views Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH) as a proven and effective treatment for children with autism spectrum disorder and/or other developmental disabilities. In subsequent sections you will find documentation of our review process including a description of the proposed treatment, a synopsis of review findings, the treatment review evidence checklist, and a listing of the literature considered. In reviewing treatments presented to us by DHS/DLTC, we implement a review process that carefully and fully considers all available information regarding a proposed treatment. Our determination is limited to a statement regarding how established a practice is in regard to quality research. We do not make funding decisions.

Description of proposed treatment

Treatment and Education of Autistic and Communication Related Handicapped Children (TEACCH) is an intervention model for individuals of all ages and skill levels with autism spectrum disorders. TEACCH was developed in by Eric Schopler at the University of North Carolina (UNC) Chapel Hill in the early 1970s. TEACCH is founded on the theoretical and conceptual principles based on cognitive-social learning theory, developmental theory, neuropsychological theories of executive function, and applied behavioral analysis (ABA). At the core of TEACCH is the idea of structured teaching. Structured teaching is comprised of 3 components: physical organization, scheduling, and teaching methods. Components of TEACCH strategies focus on physical and visual structure, schedules, work systems and task organization. Individualized systems aim to address difficulties with communication, organization, generalization, concepts, sensory processing, change and relating to others.

Synopsis of review

In the case of TEACCH, please refer to the attached reference listing that details the reviewed research. The committee found that in past reviews there were concerns with the design of many of the studies, thus limiting the studies considered as evidence of effectiveness. However, with this re-review we have expanded our search to look at the varied body of literature on the intervention including books, chapters, discussion pieces, and manuals of procedure, in addition to research studies (including both single case and group designs). This last review found additional studies not found in the first review. Within the body of research studies, there is a subset of studies specific to the use of TEACCH in home

settings. These are indicated with a single asterisk (*) in the reference list. The Virues-Ortega, Julio, and Pastor-Barriuso (2013) meta-analysis, while indicating a number of concerns with the thirteen included studies (which included only two of the home-based TEACCH studies reviewed here), found limited evidence, particularly in social and maladaptive behavior. The authors concluded that there was limited support for TEACCH programs, but that additional research should be done. While neither the National Professional Development Center (NPDC) or National Autism Center's National Standards Project (NSP) identify TEACCH as an evidence-based practice (note that the NPDC did not review comprehensive treatment packages), it is included on a treatments list on the ASHA (American Speech-Language Hearing Association) website with a notation as to it having evidence of effectiveness (http://www.asha.org/PRPSpecificTopic.aspx?folderid=8589934980&section=Treatment). This evidence, along with the fact that we were able to find 10 studies (three single-case; three group designs; three quasi-experimental; and one mixed methods), each showing some level of improved outcomes related to the TEACCH intervention, lead us to the recommendation that TEACCH be re-designated as a level 2 therapy with established or moderate evidence.

In sum, it is the decision of the committee that TEACCH be designated as a level 2 therapy with established or moderate evidence.

Section Two: Rationale for Focus on Research Specific to Comprehensive Treatment Packages (CTP) or Models

In the professional literature, there are two classifications of interventions for individuals with Autism Spectrum Disorder (National Research Council, 2001; Odom et al., 2003; Rogers & Vismara, 2008):

(a) **Focused intervention techniques** are individual practices or strategies (such as positive reinforcement) designed to produce a specific behavioral or developmental outcome, and

(b) **Comprehensive treatment models** are "packages" or programs that consist of a set of practices or multiple techniques designed to achieve a broader learning or developmental impact.

To determine whether a treatment package is proven and effective, the Treatment Intervention Advisory Committee (TIAC) will adopt the following perspective as recommended by Odom et al. (2010):

The individual, focused intervention techniques that make up a comprehensive treatment model may be evidence-based. The research supporting the effectiveness of separate, individual components, however, does not constitute an evaluation of the comprehensive treatment model or "package." The TIAC will consider and review only research that has evaluated the efficacy of implementing the comprehensive treatment as a package. Such packages are most often identifiable in the literature by a consistently used name or label.

National Research Council. (2001). *Educating children with autism*. Washington, DC: National Academy Press.

Odom, S. L., Brown, W. H., Frey, T., Karusu, N., Smith-Carter, L., & Strain, P. (2003) Evidence-based practices for young children with autism: Evidence from single-subject research design. *Focus on Autism and Other Developmental Disabilities, 18*, 176-181.

Odom, S. L., Boyd, B. A., Hall, L. J., & Hume, K. (2010). Evaluation of comprehensive treatment models for individuals with Autism Spectrum Disorders. *Journal of Autism and Developmental Disorders, 40*, 425-436.

Rogers, S., & Vismara, L. (2008). Evidence-based comprehensive treatments for early autism. *Journal of Clinical Child and Adolescent Psychology, 37*, 8-38.

Section Three: DLTC-TIAC Treatment Review Evidence Checklist

Name of Treatment: Insert therapy name

Level 1- Well Established or Strong Evidence (DHS 107 - Proven & Effective Treatment)

- ☐ Other authoritative bodies that have conducted extensive literature reviews of related treatments (e.g., National Standards Project, National Professional Development Center) have approved of or rated the treatment package as having a strong evidence base; authorities are in agreement about the level of evidence.
- ☐ There exist ample high quality studies that demonstrate experimental control and favorable outcomes of treatment package.
  - ☐ Minimum of two group studies or five single subject studies or a combination of the two.
  - ☐ Studies were conducted across at least two independent research groups.
  - ☐ Studies were published in peer reviewed journals.
- ☐ There is a published procedures manual for the treatment, or treatment implementation is clearly defined (i.e., replicable) within the studies.
- ☐ Participants (i.e., N) are clearly identified as individuals with autism spectrum disorders or developmental disabilities.

Notes: At this level, include ages of participants and disabilities identified in body of research

Level 2 – Established or Moderate Evidence (DHS 107 - Proven & Effective Treatment)

- ☒ Other authoritative bodies that have conducted extensive literature reviews of related treatments (e.g., National Standards Project, NPDC) have approved of or rated the treatment package as having at least a minimal evidence base; authorities may not be in agreement about the level of evidence.
- ☒ There exist at least two high quality studies that demonstrate experimental control and favorable outcomes of treatment package.
  - ☒ Minimum of one group study or two single subject studies or a combination of the two.
  - ☒ Studies were conducted by someone other than the creator/provider of the treatment.
  - ☒ Studies were published in peer reviewed journals.
- ☒ Participants (i.e., N) are clearly identified as individuals with autism spectrum disorders or developmental disabilities.

Notes: Participants were young children with ASD with ages ranging between 2 and 5 years and their parents.

Level 3 – Emerging Evidence (DHS 107 – Promising as a Proven & Effective Treatment)

- ☐ Other authoritative bodies that have conducted extensive literature reviews of related treatments (e.g., National Standards Project, NPDC) have recognized the treatment package as having an emerging evidence base; authorities may not be in agreement about the level of evidence.
- ☐ There exists at least one high quality study that demonstrates experimental control and favorable outcomes of treatment package.
  - ☐ May be one group study or single subject study.
  - ☐ Study was conducted by someone other than the creator/provider of the treatment.
  - ☐ Study was published in peer reviewed journal.
- ☐ Participants (i.e., N) are clearly identified as individuals with autism spectrum disorders or developmental disabilities.

Notes: At this level, include ages of participants and disabilities identified in body of research

Level 4 – Insufficient Evidence (Experimental Treatment)

- ☐ Other authoritative bodies that have conducted extensive literature reviews of related treatments (e.g., National Standards Project, NPDC) have not recognized the treatment package as having an emerging evidence base; authorities are in agreement about the level of evidence.
- ☐ There is not at least one high quality study that demonstrates experimental control and favorable outcomes of treatment package.
  - ☐ Study was conducted by the creator/provider of the treatment.
  - ☐ Study was not published in a peer reviewed journal.
- ☐ Participants (i.e., N) are not clearly identified as individuals with autism spectrum disorders or developmental disabilities.

Notes:

Level 5 – Untested (Experimental Treatment) &/or Potentially Harmful

☐ Other authoritative bodies that have conducted extensive literature reviews of related treatments (e.g., National Standards Project, NPDC) have not recognized the treatment package as having an emerging evidence base; authorities are in agreement about the level of evidence.

☐ There are no published studies supporting the proposed treatment package.

☐ **There exists evidence that the treatment package is potentially harmful.**

- ☐ Authoritative bodies have expressed concern regarding safety/outcomes.
- ☐ Professional bodies (i.e., organizations or certifying bodies) have created statements regarding safety/outcomes.

Notes: At this level, please specify if the treatment is reported to be potentially harmful, providing documentation

---

Date: April 24, 2015

Committee Members Completing Initial Review of Research Base: Lana Collet-Klingenberg, Roger Bass, Brooke Winchell

Committee Decision on Level of Evidence to Suggest the Proposed Treatment is Proven and Effective: Level 2 – Established or Moderate Evidence

References Supporting Identification of Evidence Levels:

Chambless, D.L., Hollon, S.D. (1998). Defining empirically supported therapies. *Journal of Consulting and Clinical Psychology, 66(1),* 7-18.

Chorpita, B.F. (2003). The frontier of evidence---based practice. In A.E. Kazdin & J.R. Weisz (Eds.). *Evidence-based psychotherapies for children and adolescents* (pp. 42---59). New York: The Guilford Press.

Odom, S. L., Collet-Klingenberg, L., Rogers, S. J., & Hatton, D. (2010). Evidence-based practices in interventions for children and youth with autism spectrum disorders. *Preventing School Failure, 54(4),* 275-282.

Section Four: Literature Review

Boyd, B.B., Hume, K., McBee,, M/B., Alessandri, M., Gutierrez A., Johnson,L., Sperry, L., Odom , S.L.. Comparative Efficacy of LEAP, TEACCH and Non-Model- Specific Special Education Programs for Preschoolers with Autism Spectrum Disorders. *J Autism Dev Disord (2014) 44:366–380* DOI 10.1007/s10803-013-1877-9

*Braiden,H.J., McDaniel, B., McCrudden, E., Janes M, and Crozier, B., (2012), A Practice-based Evaluation of Barnardo's Forward Steps Early Intervention Programme for Children Diagnosed with Autism. *Child Care in Practice Vol. 18, No. 3*, July 2012, pp. 227-242

Brower, C. M., Miltenberger, R.G., Gross, A., Fuqua, W.A., Breitwieser, J. The use of concurrent operants preference assessment to evaluate choice of interventions for children diagnosed with autism. *The international Journal of Behavioral Consultation and Therapy.* http://files.eric.ed.gov/fulltext/EJ826966.pdf

Callahan K., Shukla-Mehta, S, Magee, S, Wie, M. (2010). ABA Versus TEACCH: The Case for Defining and Validating Comprehensive Treatment Models in Autism. *J Autism Dev Disord (2010) 40:74–88* DOI 10.1007/s10803-009-0834-0

D'Elia, L., Valeri, G., Sonnino, F., Fontana L., Mammone, A., and Vicari, S. (2014). A Longitudnal Study of the Teacch Program in Different Settings: The Potential Benefits of Low Intensity Intervention in Preschool Children with Autism Spectrum Disorder *J Autism Dev Disord (2014) 44:615–626* DOI 10.1007/s10803-013-1911-y

Hume, K., Plavnick, J., and Odom, S.L. (2012), Promoting Task Accuracy and Independence in Students with Autism Across Educational Setting Through the Use of Individual Work Systems *J Autism Dev Disord, 42:2084–2099*. DOI 10.1007/s10803-012-1457-4

Ichikawa, K., Takahashi, Y., Ando, M., Ishizaki, T., Yamaguchi, H., and Nakayama, T., (2013). TEASCCH-based group social skills training for children with high functioning autism: a pilot randomized control trial. *BioPsychoSocial Medicine 2013, 7:14* http://www.bpsmedicine.com/content/7/1/14

Mavropoulou, S., Papadopoulou, E., and Kakana, D..(2011). Effects of Task Organization on the Independent Play of Studentswith Autism Spectrum Disorders. *J Autism Dev Disord (2011) 41:913–925* DOI 10.1007/s10803-010-1116-6

**Ortega, J.V., Juliob, F.M., and Barriuso, R.B. (2013). The TEACCH program for children and adults with autism: A meta-analysis of intervention studies. *Clinical Psychology Review 33 (2013) 940–953*

*Ozonoff, S., & Cathcart, K. (1998). Effectiveness of a home program intervention for young children with autism. *Journal of autism and developmental disorders, 28 (1), 25-32.*

Panerai S., Zingale, M., Trubia, G., Finocchiaro, M, Zuccarello R., and Elia, R.F.M. (2009). Special Education Versus Inclusive Education: The Role of the TEACCH Program . *J Autism Dev Disord (2009) 39:874–882*. DOI 10.1007/s10803-009-0696-5

Probst P., and Leppert, T., (2008). Brief Report: Outcomes of a Teacher Training Program for Autism Spectrum Disorders. *J Autism Dev Disord (2008) 38:1791–1796* DOI 10.1007/s10803-008-0561-

*Short, A. (1984). Short-term treatment outcome using parents as co-therapists for their own autistic children. *Journal of child psychology and psychiatry and allied disciplines, 25 (3), 443-458*.

*Welterlin, A., Turner-Brown, L.M., Harris, S., Mesibov, G., & Delmolino, L. (2012). The home TEACCHing program for toddlers with autism. *Journal of autism and developmental disorders, 42 (9), 1827-1835*.