Assessment and Intervention Wait Times Benchmarks: Children with Language Disorders

Preamble
The Purpose, Scope, Source, & Limitations of the Benchmarks

Purpose: The purpose of this document is to present recommendations on the speed with which agencies/individuals providing service to children with language disorders should initiate (a) initial assessments; and (b) intervention.

Scope: This document contains wait times benchmarks for children in three age groups: preschool, early school age, and later school age. The recommendations made apply to children with Specific Language Impairment (SLI) and those with a language disorder unassociated with another diagnosis (e.g., Down Syndrome, Autism Spectrum Disorder).

Source: Recommendations were made following a review of relevant research evidence. As there is not, to our knowledge, any scholarly literature that directly addresses the issue of recommended wait times for assessment and intervention in child language disorders, we reviewed literature that related indirectly to the issue because it fell within one or more of 6 categories of relevant research: (1) prevalence and risk; (2) short and long-term consequences; (3) impact of intervention; (4) timing of intervention; (5) amount of intervention; and (6) prioritization.

Limitations: Review of this literature provided a helpful starting place in establishing evidence-based benchmarks for service delivery with this population; however, it did not provide concrete answers. The final benchmarks emerged from a process of thoughtful reflection on the literature, discussion and debate among those with clinical and scholarly expertise in the field, and review of survey data on current practices across Canada. These benchmarks are based on the best available evidence and are intended to provide guidance to the Canadian clinical community. We recognize the unique realities and stressors faced by each service provider; at the same time we urge service providers to use this document to instigate discussion and reflection on their current wait times and to consider practices that might have the effect of bringing their wait times in line with these benchmarks. We also encourage providers to recognize that benchmarks for both assessment and intervention can be met in a variety of ways. Assessment, for instance, may be achieved through a brief, initial screening. Intervention may be initiated through information sessions or parent training groups while families wait for more individualized service. The literature we reviewed suggests that with appropriate intensity and professional training, there are a variety of effective means of providing intervention for this population, including group formats, and intervention through supportive personnel.

Definition of Key Terms

For the purposes of establishing these benchmarks, we considered language disorder broadly. A language disorder is defined by ASHA as “impaired comprehension and/or use of spoken,

written and/or other symbol systems. This disorder may involve (1) the form of language (phonology, morphology, syntax), (2) the content of language (semantics), and/or (3) the function of language in communication (pragmatics) in any combination" (Ad Hoc Committee on Service Delivery in Schools, 1993, p. 40). Children with language disorders are a heterogeneous group of individuals who have developmental or acquired disorders affecting expression or comprehension/expression of language. The impairment may persist across the lifetime but may vary over time in manifestations, effects, and severity (Owens, 2014). The benchmarks in this document pertain to children with language disorders, unassociated with other diagnoses.

Relevant Literature and Considerations

The following considerations influenced the recommendations that follow on wait times for assessment and intervention:

1. **Prevalence & Risk**: Child language disorders are relatively common and are associated with multiple risk factors. Prevalence estimates range from 2-19% depending on the specific characteristics of the population being reported on (ASHA, 2008; Bickford-Smith, Wijayatilake, & Woods, 2005; Nelson, Welsh, Vance Trup, & Greenberg, 2010; Justice, Bowles, Turnbull, & Skibbe, 2009; McCue Horwitz, et al., 2003; Prathanee, Thinkhamrop, & Dechongkit, 2007, Stanton-Chapman, Bainbridge, & Scott, 2002; Tomblin, Records, Buckwalter, Zhang, Smith, & O'Brien, 1997; Zubrick, Taylor, Rice, & Slegers, 2007). Risk factors for child language disorder are varied and include: family history, preterm birth, low-birth weight, not breast-fed, later birth-order, low socioeconomic status, a low ApGAR score, lower parental education (Prathanee, Thinkhamrop & Dechongkit, 2007; Tomblin, Records, Buckwalter, Zhang, Smith, & O'Brien, 1997).

2. **Short and Long-term Consequences**: Child language disorders are highly correlated with reading disability, academic difficulties, behavioural issues and poor social relationships which may, in turn, lead to poor long-term outcomes such as school failure, under-employment and delinquency (Aram & Nation, 1980; Beitchman et al., 2000; Brownlie et al., 2004; Clegg, Stackhouse, Finch, Murphy, & Nicholls, 2009; Cohen, Davine, & Meloche-Kelly, 1989; Conti-Ramsden & Botting, 2004; Conti-Ramsden & Botting, 2008; Dockrell & Lindsay, 1998; Donlan, Cowan, Newton, & Lloyd, 2007; Durkin & Conti-Ramsden, 2010; Jerome, Fujiki, Brinton, & James, 2002; Justice, Bowles Turnbull, & Skibbe, 2009; Knox & Conti-Ramsden, 2003; Naylor, Staskowski, Kenney, & King (1994); Prior, Bavin, Cini, Eadie, & Reilly, 2011; Puranik & Lonigan, 2012; Rescorla, 2002; Ripley & Yuill, 2005; Savage, 2005; Snowling, Adams, Bishop & Stothard, 2001; Snowling, Bishop, Stothard, Chipchase & Kaplan, 2006; Toppelberb & Shapiro, 2000; Young et al., 2002).

3. **Impact of Intervention**: Interventions that are provided at the appropriate time and with the appropriate intensity can lead to successful resolution of the child's difficulties

and prevent the associated long-term sequelae referred to in (2) (Aram & Nation, 1980; Bickford-Smith, Wijayatilake, & Woods, 2005; Gallagher & Chiat, 2009; Snowling, Adams, Bishop & Stothard, 2001; Snowling, Bishop, Stothard, Chipchase & Kaplan, 2006).

4. **Timing of Intervention**: There is some evidence that intervention prior to school entry reduces the length and intensity of intervention necessary to prevent the associated sequelae referred to in (2). Most notably, Snowling et al. (2006) reported that children whose language delay had resolved by 5.5 years had a good outcome relative to those whose language difficulties persisted through the school years. And Young et al. (2002) reported that children first identified at 5 years continued to lag behind their peers at age 19 years in intellectual ability and all domains of academic achievement.

5. **Amount of Intervention**: Some research suggests that children require about 8 to 20 weeks of intervention to achieve each language goal; thus, delayed initiation of the treatment program may not leave enough time for resolution of a child's language disorder prior to school entry. Reports of optimal length of intervention vary. Bellon-Harn (2012) suggests the ideal length lies between 4 and 13 weeks based on their work; Jacoby, Lee, Kummer, Levin, & Creaghead (2002) found noteable improvement after 20 hours of treatment. Law, Garrett & Nye (2004) reported that interventions longer than 8 weeks are more effective than those less than 8 weeks. Roberts & Kaiser (2011) mentioned 12-18 weeks of intervention whereas McCartney et al. (2011) suggested that a minimum of 22 hours of therapy by adequately trained individuals is necessary in order for children to make significant gains in language targets. In a systematic review on narrative intervention Peterson (2011) suggested that a minimum of 320 minutes of intervention or longer was required in order to see moderate-large effect sizes.

6. **Prioritization**: The literature suggests that for preschool children the following factors place children at high-risk for severe, persistent language disorder: combined receptive and expressive language disorder; family history of speech and language problems, lower frequency of communication acts, less mature syllable structure, lower levels of symbolic play (Chowdhury & Benasich, 2003; Olswang, Rodriguez, & Timler, 1998). Other risk factors identified in this age group relate to: gender, temperament, and familial support, among others (Harrison & McLeod, 2010). For school age children, the presence of one or more of the following factors place children in the high-risk category: reported family history of speech-language delays/disorders and/or reading difficulties (Prathanee, Thinkhamrop & Dechongkit, 2007; Tomblin, Records, Buckwalter, Zhang, Smith, & O'Brien, 1997); combined receptive and expressive language disorders (Clegg, Stackhouse, Finch, Murphy, & Nicholls, 2009; Flax, et al., 2009; Olswang, Rodriguez, & Timler, 1998; Justice, Bowles, Turnbull, & Skibbe, 2009); identified phonological processing and/or reading difficulties in conjunction with oral language impairments at the time of assessment (Tomblin et al., 2000); entering school (kindergarten or grade one) in September of the coming school year (Snowling et al., 2006; Young et al., 2002); the language difficulties noted at the time of assessment are impacting the client's

ability to participate in activities and roles in his/her daily life (Hart, Fujiki, Brinton, & Hart, 2004). Preschool and school age children who fall in the high-risk categories should be prioritized for service.

Summary

Given the serious negative consequences of untreated language disorders, it is recommended that all children referred to a speech-language pathologist receive timely assessment. Timely assessment is important not only because it enables timely language intervention but because it enables prompt referrals to other services children may require. We know that in some cases Speech-Language Pathologists are the first professionals young children with more complex needs see. Because it is often difficult from intake information to determine the severity and scope of a language disorder a prompt initial assessment is critical for all children. Thus, we have made no distinction among age groups when establishing the benchmark for time to assessment. We emphasize, however, that in the case of preschool children, it is important that assessment occur quickly enough to allow for adequate intervention to take place prior to school entry.

Some research suggests that a minimum of 8 hours of intervention is required in order to achieve a single language goal; many children with language disorders will have multiple goals. Other studies suggest that the optimal time frame for intervention lies around 20 weeks. The clinical reality means that it is necessary to establish priorities for intervention. Given the compelling evidence that children with receptive/expressive language disorders are at greater risk for long-term problems than children with expressive-only disorders, it is recommended that those children be prioritized for service. Other variables mentioned previously (e.g., family history, co-occurring difficulties with phonological processing and/or reading) should also be considered. Haynes & Pindzola (2012) suggest that decisions should not be based on any one indication alone but a pattern of signs. Risk-factors described in this document, as well as others identified in the literature, should be weighed for each individual client.

Wait Time Definitions

The following definitions were established for wait times:

Time to Assessment: The maximum time clients should wait for an initial response following the service provider's receipt of a referral/self-request for service and accompanying intake information.

Time to Intervention: The maximum time clients (i.e., children with an identifiable language disorder) should wait for intervention following the service provider's assessment.

The terms "time to assessment" and "time to intervention" are used in a broad sense to encompass a variety of forms of service delivery. For example, assessment might include a relatively brief initial screening. Intervention may include the provision of parent training program or group-based intervention provided through supportive personnel.

Benchmark Recommendations

In this section we present recommended wait time benchmarks for assessment and intervention. They were developed with consideration of existing literature, clinical survey data collected by CASLPA, and the collective experience and expertise of the group members. The benchmarks are expressed as 'ranges' in months; this leeway takes account of unique realities faced by each service provider, differing pressures at particular times of the year, as well as unforeseen circumstances that may arise for any provider from time to time.

Time to Assessment

Summary recommendation*: The maximum time patients/clients should wait from the time they receive a referral until the date of the first available appointment is 2-3 months.*

Time to Intervention

Summary recommendation: *The maximum time patients/clients should wait from the time of initial assessment until intervention is as follows:*

	Birth to 3 Years	4 to 6 Years	School Age
• high risk	2-3 months[1]	1-2 months	2-3 months
• low risk		3-4 months	4-6 months

1 Establishing risk is challenging in this age group because dramatic shifts can occur in short periods of time. Therefore, all children in the birth-3 years age group should wait no more than 2-3 months between assessment and intervention. Prompt intervention should be enabled by the fact that, at this age, communicators of many different levels of ability can typically be served in a single group. Further, a common initial intervention option involves caregiver training, which is less resource-intensive.

For school age children, the presence of one or more of the following factors place children in the high-risk category:

- reported family history of speech-language delays/disorders and/or reading difficulties (Prathanee, Thinkhamrop & Dechongkit, 2007; Tomblin, Records, Buckwalter, Zhang, Smith, & O'Brien, 1997);
- combined receptive and expressive language disorders (Clegg, Stackhouse, Finch, Murphy, & Nicholls, 2009; Flax, et al., 2009; Olswang, Rodriguez, & Timler, 1998; Justice, Bowles, Turnbull, & Skibbe, 2009);
- identified phonological processing and/or reading difficulties in conjunction with oral language impairments at the time of assessment (Tomblin et al., 2000);
- entering school (kindergarten or grade one) in September of the coming school year (Snowling et al., 2006; Young et al., 2002);
- the language difficulties noted at the time of assessment are impacting the client's ability to participate in activities and roles in his/her daily life (Hart, Fujiki, Brinton, & Hart, 2004).

References

Aram, D.M. & Nation, J.E. (1980). Preschool language disorders and subsequent language and academic difficulties. *Journal of Communication Disorders 13*, 159-170.

ASHA (2008). *Incidence and prevalence of communication disorders and hearing loss in children - 2008 edition*. Retrieved from http://www.asha.org/Research/reports/children/

ASHA Ad Hoc Committee on Service Delivery in the Schools. (1993, March). Definitions of communication disorders and variations. *Asha, 35* (Suppl. 10), 40-41.

Beitchman, J.H., Wilson, B., Johnson, C.J., Atkinson, L., Young, A., Adlaf, E., Escobar, M., & Douglas, L. (2000). Fourteen-year follow-up of speech/language-impaired and control children: psychiatric outcome. *Journal of the American Academy of Child and Adolescent Psychiatry*, 75-82.

Bellon-Harn, M. (2012). Dose-frequency: Comparison of language outcomes in preschool children with language impairment. *Child Language Teaching and Therapy, 28*(2), 225-240.

Bickford-Smith, A., Wijayatilake, L., & Woods, G. (2005). Evaluating the effectiveness of an early years language intervention. *Educational Psychology in Practice*, *21*(3), 161-173

Brownlie, E.B., Beitchman J.H., Escobar M., Young, A., Atkinson, L., Johnson, C., Wilson, B., & Lori, D. (2004) Early language impairment and young adult delinquent and aggressive behavior. *Journal of Abnormal Child Psychology, 32*, 453–67.

Choudhury, N. & Benasich A. A. (2003). A family aggregation study: The influence of family history and other risk factors on language development. *Journal of Speech, Language and Hearing Research. 46*, 261-272.

Clegg, J., Stackhouse, J., Finch, K., Murphy, C., & Nicholls, S (2009). Language abilities of secondary age pupils at risk of school exclusion: A preliminary report. *Child Language Teaching and Therapy* 25: 123–39.

Cohen, N.J., Davine, M. and Meloche-Kelly, M. (1989). Prevalence of unsuspected language disorders in a child psychiatric population. *American Academy of Child and Adolescent Psychiatry,*107-111.

Conti-Ramsden, G. & Botting, N. (2004) Social difficulties and victimisation in children with SLI at 11 years of age. *Journal of Speech, Language and Hearing Research* 47, 145–61.

Conti-Ramsden, G. & Botting, N. (2008) Emotional health in adolescents with and without a history of specific language impairment (SLI). *Journal of Child Psychology and Psychiatry* 49, 516–25.

Dockrell, J.E. & Lindsay, G. (1998). The ways in which children's speech and language difficulties impact on access to the curriculum. *Child Language Teaching and Therapy* 14: 117–33.

Donlan, C., Cowan, R., Newton, E.J., & Lloyd, D. (2007) The role of language in mathematical development: Evidence from children with specific language impairment. *Cognition* 103: 23–33.

Durkin, K. & Conti-Ramsden, G. (2010). Young people with specific language impairment: A review of social and emotional functioning in adolescence. *Child Language Teaching and Therapy, 26*(2), 105-121.

Flax, J.F., Realpe-Bonilla, R., Roesler, C., Choudhury, N., & Benasich, A. (2009). Using early standardized language measures to predict later language and early reading outcomes in children at high risk for language-learning impairments. *Journal of Learning Disabilities, 42*(1), 61-65.

Gallagher, A.L. & Chiat, S. (2009). Evaluation of speech and language therapy interventions for pre-school children with specific language impairment: a comparison of outcomes following specialist intensive, nursery-based and no intervention. *International Journal of Language and Communication Disorders, 44*(5), 616-638.

Harrison, L. J. & McLeod, S. (2010). Risk and protective factors associated with speech and language impairment in a nationally representative sample of 4 to 5-year-old children. *Journal of Speech, Language, and Hearing Research, 53(2),* 1-22.

Hart, K.I., Fujiki, M., Brinton, B., & Hart, C. H. (2004). The relationship between social behavior and severity of language impairment. *Journal of Speech, Language, and Hearing Research, 47*, 647-662.

Haynes, W.O., & Pindzola, R.H. (2012). *Diagnosis and evaluation in speech pathology* (8th ed.). Boston, MA: Pearson.

Jacoby GP, Lee L, Kummer AW, Levin L, & Creaghead N (2002). The number of individual treatment units necessary to facilitate functional communication improvements in the speech and language of young children. *American Journal of Speech-Language Pathology 11*: 370–80.

Jerome A,, Fujiki, M., Brinton, B. & James, S (2002) Self-esteem in children with specific language impairment. *Journal of Speech, Language and Hearing Research* 45, 700–14.

Justice, L.M., Bowles, R.P., Turnbull, K.L.P. & Skibbe, L.E. (2009). School readiness among children with varying histories of language difficulties. *Developmental Psychology 45*(2), 460-476.

Knox, E., & Conti-Ramsden, G. (2003) Bullying risks of 11-year-old children with specific language impairment (SLI): Does school placement matter? *International Journal of Language and Communication Disorders* 38, 1–12.

Law, J., Garrett, Z., & Nye, C. (2004). The efficacy of treatment for children with developmental speech and language delay/disorder: A meta-analysis. *Journal of Speech, Language, and Hearing Research*, *47*, 924-943

McCartney, E., Boyle, J., Ellis, S., & Bannatyne, S. (2011). Indirect language therapy for children with persistent language impairment in mainstream primary schools: outcomes from a cohort intervention. *International Journal of Language and Communication Disorders 46*(1), 74-82.

McCue Horwitz, S., Irwin, J.R., Briggs-Gowan, M.J., Bosson Heenan, J.M., Mendoza, J., & Carter, A.S. (2003). Language delay in a community cohort of young children. *Journal of American Academy Child and Adolescent Psychiatry, 42*(8), 932-940.

Naylor, M.W., Staskowski, M., Kenney, M.C., & King, C.A (1994). Language disorders and learning disabilities in school-refusing adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 33(9), 1331-1337.

Nelson, K.E., Welsh, J.A., Vance Trup, E.M., & Greenberg, M.T. (2010). Language delays of impoverished preschool children in relation to early academic and emotion recognition skills. *First Language*, *31*(2), 164-194

Olswang, L., Rodriguez, B., & Timler, G. (1998). Recommending intervention for toddlers with specific language learning disabilities: we may not have all of the answers but we know a lot. *American Journal of Speech-Language Pathology, 7*, 23-32.

Owens, R.E. (2014). *Language disorders: A functional approach to assessment and intervention* (6th ed.), Boston, MA: Pearson.

Peterson, D.B. (2011). A systematic review of narrative-based language intervention with children who have language impairment. *Communicative Disorders Quarterly, 32*(4), 207-220.

Prathanee, B., Thinkhamrop, B., & Dechongkit, S. (2007). Factors associated with specific language impairment and later language development during early life: A literature review. *Clinical Pediatrics, 46*(1), 22-229

Prior, M., Bavin, E., Cini, E., Eadie, P., & Reilly, S. (2011). Relationships between language impairment, temperament, behavioural adjustment and maternal factors in a

community sample of preschool children. *International Journal of Language and Communication Disorders, 46*(4), 489-494.

Puranik, C.S. & Lonigan, C.J. (2012) Early writing deficits in preschoolers with oral language difficulties. *Journal of Learning Disabilities 45*(2) 179-190.

Rescorla, L. (2002). Language and reading outcomes to Age 9 in late-talking toddlers. *Journal of Speech, Language, and Hearing Research*, *45,* 360-371.

Ripley, K. & Yuill, N. (2005). Patterns of language impairment and behaviour in boys excluded from school. *British Journal of Educational Psychology* 75: 37–50.

Roberts, M. & Kaiser, A.P. (2011). The Effectiveness of parent-implemented language interventions: A meta-analysis. *American Journal of Speech-Language Pathology, 20*, 180-199.

Savage, R. (2005) Friendship and bullying patterns in children attending a language base in a mainstream school. *Educational Psychology in Practice* 21: 23–36.

Snowling, M.J., Adams, J.W., Bishop, D.V.M., & Stothard, S.E. (2001) Educational attainments of school leavers with a preschool history of speech–language impairments. *International Journal of Language and Communication Disorders* 36: 173–83.

Snowling, M.J., Bishop, D.V.M., Stothard, S.E., Chipchase, B., & Kaplan, C. (2006) Psychosocial outcomes at 15 years of children with a preschool history of speech–language impairment. *Journal of Child Psychology and Psychiatry* 47: 759–65.

Stanton-Chapman, T.L., Chapman, D.A., Bainbridge, N.L., & Scott, K.G. (2002). Identification of early risk factors for language impairment. *Research in Developmental Disabilities, 23*, 390-405.

Tomblin, J.B., Records, N.L., Buckwalter, P., Zhang, X., Smith, E., & O'Brien, M. (1997). Prevalence of specific language impairment in kindergarten children. *Journal of Speech, Language, and Hearing Research, 40*(6), 1245-1260.

Tomblin, J. B., Zhang, X., Buckwalter, P. & Catts, H. (2000). The association of reading disability, behavioral disorders, and language impairment among second-grade children. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 41*, 473-482.

Toppelberg, C.O. & Shapiro, T. (2000). Language disorders: A 10-year research update review. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*, 143–52.

Young, A.R., Beitchman, J.H., Johnson, C., Douglas, L., Atkinson, L., Escobar, M. & Wilson, B. (2002) Young adult academic outcomes in a longitudinal sample of early identified

language impaired and control children. *Journal of Child Psychology and Psychiatry 43*(5), 635-645.

Zubrick, S.R., Taylor, C.L., Rice, M.L. & Slegers, D.W. (2007). Late language emergence at 24 months: An epidemiological study of prevalence, predictors and covariates. *Journal of Speech, Language, and Hearing Research, 50*, 1562-1592.