Who Should Be Seen When? Establishing Wait Time Benchmarks for Children's Mental Health

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ABSTRACT

To develop wait time guidelines, case vignettes were designed corresponding to varying levels of clinical urgency based on an objective measure (Western Canada Waitlist Mental Health Priority Criteria). Experts provided maximum acceptable wait times (MAWT) for each vignette. Raters' estimates of urgency aligned with the vignettes' designed ranking. "Very high" and "high" clinical urgency cases were assigned a mean MAWT of approximately 2 weeks and a month, respectively. For "moderate" urgent cases, the mean MAWT was 3.5 months, with a MAWT over 4 months estimated for "low" urgency cases. These results may inform local children's mental health service triage practices.

Keywords: wait times, children, mental health, triage, guidelines

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RÉSUMÉ

Afin de développer des directives concernant les temps d'attente, des vignettes cliniques ont été conçues pour les différents niveaux d'urgence selon le *Western Canada Waitlist Mental Health Priority Criteria*. Des spécialistes ont identifié un temps d'attente maximal acceptable (MAWT) pour chaque vignette, concordant avec le classement objectif. Des MAWT de 2 semaines et de 1 mois ont été attribués aux cas de priorité clinique dits « très élevés » et « élevés », de 3,5 mois pour les cas « modérés » et de plus de 4 mois pour les cas « faibles ». Ces résultats pourraient aider les pratiques de triage des services locaux de santé mentale pour enfants.

Mots clés : temps d'attente, enfants, santé mentale, triage, directives

Wait times for children's mental health care are often lengthy (Kowalewski et al., 2011; Reid & Brown, 2008; U.S. Public Health Service, 2000) and have been cited as a major barrier to care (Owens et al., 2002; Tarico et al., 1989). They add to the burden of illness for children and families (Angold et al., 1998; Brown et al., 2002) and can lead to further deterioration, increased suicide risk, and the need for emergency room visits (Williams et al., 2008). Although lengthy wait times are widely recognized as a significant treatment barrier, there is a lack of data on how long children and youth wait for mental health services in Canada, as well as inconsistencies in how wait times are defined and measured (Blake, 2005; Sanmartin et al., 2000). In fact, the Mental Health Commission of Canada (2012) identified the lack of information about wait times for mental health services as a significant area of concern and called for improved collection and measurement of wait times. They also advocated for the establishment of wait time benchmarks for mental health care, similar to those in place for several physical illnesses. A standardized approach to estimating benchmarks is important, as current wait times may be a product of several variables, such as service demand *versus* supply or available service resources, with or without active waitlist management strategies at the local level (e.g., first come, first served).

In 2006, the Canadian Psychiatric Association (CPA, 2006) established preliminary wait time benchmarks for five "sentinel" mental health disorders (defined as psychiatric illnesses that are easily identified, have a clear onset, and have an identifiable deterioration if left untreated), as well as for general diagnostic and management consultation, to help guide clinical decision-making. They established three levels of clinical urgency: (1) *emergent*, which stems from immediate possible danger to life, limb, or organ (e.g., a person with suicidal ideation or acute mania); (2) *urgent*, which includes unstable mental health conditions, wherein the person might deteriorate quickly, but does not require emergency care (e.g., has supports and a safety plan). Lastly, the (3) *scheduled* category, which consists of those individuals who display palpable but stable symptoms, with a lower risk of deterioration, marginal impairment in daily functioning, and identified access to appropriate social supports. Recommended wait times from the time of referral to psychiatric assessment were within 24 hours for emergent cases; within 1 week for urgent cases involving first episode psychosis, mania, and severe post-partum mood disorder or psychosis; and within 2 weeks for urgent cases involving hypomania, major depression, or urgent general diagnostic and management consultation. Recommended wait times for scheduled cases were within 2 weeks for first episode psychosis; and within 4 weeks for the other scheduled sentinel disorders. It was not clear how these guidelines were derived, although they appeared

to be based on available evidence on the course and treatment of the sentinel disorders and on consultation with senior colleagues. Neither is it clear to what extent wait time guidelines that appear to be more adult-focused are generalizable to children and adolescents.

The Western Canada Waitlist (WCWL) project included a developmental group that focused on establishing a standardized method of fairly prioritizing the urgency of cases among those referred to, and waiting for, scheduled child and adolescent mental health services. The WCWL-Children's Mental Health Priority Criteria Score (WCWL-CMH-PCS) instrument was developed in alignment with classical test theory (Crocker & Algina, 1986) by a panel of experts in children's mental health. The criteria were validated employing expert review and assessment of case scenarios. The criteria were then applied to a convenience sample of 817 patients across three provinces in Western Canada in order to estimate maximum allowable wait times and to assess the clinical utility of the WCWL-CMH-PCS for assigning priority to patients on waiting lists for scheduled services based on need and potential benefit (Smith et al., 2002). The resulting WCWL-CMH-PCS instrument permitted prioritizing referred cases on waitlists for services as a function of observed urgency, rather than on a first-come-first-served basis (Smith et al., 2002). The final 17-item scale was found to have acceptable internal consistency (coefficient alpha = .76), with the total score significantly related to clinician-perceived clinical urgency and maximum acceptable wait times (Cawthorpe et al., 2007). Further, the WCWL-CMH-PCS has been shown to discriminate patient placement across clinical settings representing different levels of urgency (i.e., community, day treatment, and inpatient settings; Cawthorpe et al., 2007; Novick et al., 2016). The WCWL-CMH-PCS has been validated in Finland (Kaltiala-Heino et al., 2007) with total scores on an adapted 15-item version corresponding well with clinicians' ratings of urgency. The WCWL-CMH-PCS form has been implemented to prioritize referrals to scheduled services in Calgary, Alberta since 2002, with subsequent analysis of the form's metrics supporting the original field study (Novick et al., 2016). The WCWL-CMH-PCS form has been implemented in other regions in Canada (Cawthorpe et al., 2007; Novick et al., 2016; Smith et al., 2002) as a standard of care used to objectively measure clinical urgency for first time referrals to child mental health services. Finally, the WCWL-CMH-PCS items have been found to be important predictors when measuring clinical outcomes (Novick et al., 2017) and adverse childhood experiences (Rahman et al., 2018). Importantly, the WCWL-CMH-PCS items have proven instrumental in measuring the effect of community mental health literacy training in pediatric primary care (McCaffrey et al., 2017).

The purpose of the present paper was to develop a standardized method for formulating wait time guidelines that could potentially inform local children's mental health service triage practices. Specifically, a similar case vignette methodology as the original Western Canada Waitlist (Smith et al., 2002) project was employed in conjunction with the WCWL-CMH-PCS instrument. Clinical vignettes were designed to correspond to neutral, low, moderate, high, and very high levels of urgency based on the WCWL-CMH-PCS, with the latter serving as an objective measure of clinical urgency. Expert raters were then asked to provide maximum acceptable wait times for each vignette. For consistency, in relation to local practice and roles, only psychologists and psychiatrists were selected as independent expert raters; both professions share a focus on clinical assessment and have the diagnostic expertise needed to determine how long patients could maximally wait before deterioration in functioning would be anticipated. In other areas of healthcare, provider expertise (usually physicians) was used to similarly estimate maximum acceptable wait times (Conner-Spady

et al., 2005, 2007). In these previous studies, patient perceptions of maximum acceptable wait times were also sought; however, physicians' ratings of maximum acceptable wait times were found to be more highly correlated with priority criteria than patient ratings. As the focus of the current study was on developing wait time guidelines that could be tied to the WCWL-CMH-PCS instrument, only provider input was sought.

Given that the process employed for estimating wait times depended on the ability of the WCWL-CMH-PCS to distinguish between case vignettes of varying urgency, the first objective of the present paper was to examine the face-validity, reliability, and internal consistency of the urgency ratings of the vignettes. The second objective was to examine the validity of estimated maximum allowable wait-times in an independent sample of expert raters, who were blind to the urgency ranking of the vignettes.

METHOD

This study was conducted in 2015–2016 and was approved by the Western University Health Science Research Ethics Board (ID#: 103387).

Vignettes

A total of 12 clinical vignettes were developed by two of the authors who are clinical psychologists working in a hospital-based child and adolescent mental health setting. The vignettes were developed to reflect a wide range of mental health problems and patients of diverse backgrounds (e.g., age, developmental level, socioeconomic status). Three of the vignettes corresponded to each level of clinical urgency as measured by the WCWL-CMH-PCS (low, moderate, high, and very high). An additional two neutral vignettes were developed that corresponded to asymptomatic patients that were used to assess and control for possible response bias. Two orders of presentation of the vignettes were used to control for possible presentation order effects, with the two asymptomatic vignettes flanking the 12 clinical vignettes. Half of the participants received the first order of presentation, with the remainder receiving the second order of presentation.

Each vignette included a description of the patient's reason for referral, current functioning, relevant history, and family background. Sex was equally represented in the vignettes (7 male, 7 female), with an age range of 4 to 17 years. The vignettes involved a wide range of presenting problems, including mood and anxiety difficulties, obsessive-compulsive tendencies, post-traumatic stress disorder, suicidal and self-harm behaviours, behavioural problems, substance use, attention-deficit/hyperactivity disorder, developmental challenges, and atypical behaviours and symptoms (e.g., hearing voices).

WCWL-CMH-PCS

The WCWL-CMH-PCS is a 17-item scale that yields a total clinical urgency score ranging from the lowest urgency score of 0 to a maximum score of 100 (Appendix 1). The items comprising the scale assess the urgency and severity of mental illness across several domains, including severity of internalizing and externalizing symptoms, danger to self and others, global functioning, presence of psychotic symptoms, and comorbid conditions; as well as family and social functioning; and family functioning or family factors affecting the child, such as a parental mental health disorder. The WCWL-CMH-PCS also captures the

expected results of mental health care (e.g., prognosis without further intervention, degree of likely benefit with intervention). The last items estimate global urgency on a visual analogue scale (VAS) and the maximum allowable wait time (MAWT) and were included in the original WCWL-CMH-PCS form as an internal validity measure.

Reliability of the vignettes based on WCWL-CMH-PCS ratings by four raters. To examine the inter-rater reliability and face validity to confirm the estimated urgency ranges, four raters with experience both in children's mental health and with the WCWL-CMH-PCS, evaluated the vignettes using the WCWL-CMH-PCS and provided item scores and a total score for each case, including a measure of global function (item #5, Children's Global Assessment Scale score; Shaffer et al., 1983). The four raters were blind to the vignettes' assigned urgency categories.

Participants' rating of maximum acceptable wait time (MAWT), global urgency (VAS), and global function (CGAS) for each vignette. A total of 45 child and adolescent psychologists and/or psychiatrists were contacted to participate in the study via email using convenience sampling. They represented a range of child and adolescent mental health settings across Ontario, Canada, including hospitals, tertiary mental health, community mental health agencies, and private practice. Seven declined to participate, mostly due to time constraints, and another 17 did not respond to the initial recruitment email. Those who replied expressing interest in participating were mailed a study package containing the letter of information and the clinical vignettes. Completion and return of the vignette package indicated participants' consent to participate in the study.

A total of 10 psychologists (4 male, 6 female) and 11 psychiatrists (7 male and 4 female) participated in the study. In terms of primary setting, 9 of the clinicians reported working in hospitals, 5 reported working in tertiary mental health, 5 reported working in community mental health agencies, and 2 reported working in private practice, with 5 participants indicating that they worked in multiple settings. The mean number of years working in child and adolescent mental health care was 19.12 years (SD = 10.56).

Procedure

Each participant was mailed a booklet containing instructions on the first sheet, followed by the 14 vignettes, and a demographic information form. Participants were asked to read each clinical vignette carefully. After reading the vignette, they were asked to rate the overall urgency of the case (VAS) ranging from a low of 1 to a maximum of 100, with ratings of 1–25 corresponding to low urgency, 26–50 corresponding to moderate urgency, 51–75 corresponding to high urgency, and 76–100 corresponding to very high urgency. They were also asked to provide a Children's Global Assessment Scale score (CGAS; Shaffer et al., 1983), a C-GAS scoring chart was provided in the booklet, and a perceived estimate of the MAWT in days for each vignette. The MAWT was defined as the longest wait time the respondent felt was clinically appropriate for this patient, rather than the ideal or preferred wait time. It was explained that the MAWT should not be informed by typical wait times at their setting or other service delivery constraints. The C-GAS was one variable estimated by the expert raters that corresponded directly to item #5 on the WCWL-CMH-PCS. The expert raters were not required to complete a full WCWL-CMH-PCS form for each vignette as it was felt that adding to the amount of time needed to complete the study might limit participation due to clinical time

constraints. Nevertheless, the expert raters could, based on their experience, evaluate the vignettes according to urgency and severity.

Analysis

The rank order of the vignette design urgency (0 – Control, 1 – Low, 2 – Moderate, 3 – High, 4 – Very High) constituted the main dependent variable. All raters were blind to the ranking of the vignettes at the time of estimating their ratings of the independent variables: WCWL-CMH-PCS; WCWL-CGAS; VAS; CGAS; and MAWT. The four WCWL-CMH-PCS raters completed one form for each vignette. The inter-rater reliability of the WCWL-CMH-PCS ratings of vignettes among the four raters was examined employing the intra-class coefficient (ICC). The inter-rater reliability (ICC) of the MAWT, VAS, and CGAS among the 21 expert raters of the vignettes was also calculated.

For all analyses, the vignette urgency ranking was considered as the dependent variable. To examine the validity of the independent measures, the rank order of the mean MAWT, VAS, and CGAS, as well as the WCWL-CGAS (item #5) and WCWL-CMH-PCS total score ratings as independent variables were compared across the vignette urgency rankings. The main hypothesis tested was that the WCWL-CMH-PCS total score and WCWL-CGAS from the four raters would align meaningfully with the MAWT, VAS and CGAS estimates of the 21 expert raters. Comparisons of means and 95% confidence intervals as well as analysis of variance formed the basis of examining the validity of the raters' estimates. Due to the degree of the shared variance among the independent variables and the dependent variable, the analysis of variance and associated regression results were calculated uniquely for each independent variable with a Bonferroni correction to determine significance, rather than employing a multivariable approach. For comparisons of means, non-overlapping 95% confidence intervals (95% CIs) were considered significant ($p < 0.05$). Stata 16 was employed for statistical analysis.

RESULTS

WCWL-CMH-PCS Ratings of Vignettes

For the four raters, the average inter-rater reliability across the vignettes was excellent for the WCWL-CMH-PCS (0.96) and WCWL-CGAS (0.98). In the expert group, the ICC was also excellent for the Urgency Category (0.99), VAS (0.99), CGAS (0.99) and MAWT (0.94).

Table 1 presents the values of each independent variable by the ranked order of the vignettes from control, the lowest based on no symptoms or urgency, through low to very high urgency. The means and upper and lower 95% confidence intervals of each of the independent variables ranged consistently in alignment with the intended or designed urgency category of the vignettes for both the expert raters' group and the group of four raters.

Based on ratings of the expert raters (Table 1), the mean urgency rating for the "moderate" vignettes fell within the moderate range (26–50). Similarly, the "high" vignette category fell within the high range (51–75), and the mean ratings for the "very high" vignette category fell in the very high range (76–100). The vignettes designed to fall in the "low" range of clinical urgency (1–25 range) were rated by the participants

as moderate (26–50) in clinical urgency. The control vignettes, designed to be asymptomatic, had the lowest mean clinical urgency, falling in the low range (1–25) of clinical urgency. The CGAS scores corresponded as expected with the participants' ratings of clinical urgency, with lower CGAS scores or greater functional impairments associated with higher clinical urgency ratings (Table 1).

For each level of clinical urgency, the expert raters were asked to provide estimates of the MAWT that would be clinically appropriate for the hypothetical patient. For cases from the highest to lowest levels of urgency, the mean MAWTs of the expert raters ranked as expected from lowest to highest wait times.

Each of the independent variables in Table 1 aligned for both groups as expected in association with the vignette rank order for both groups of raters, with higher scores indicating greater clinical urgency.

For the expert raters, analysis of variance was employed to examine the combined effects of the independent variables in association with the vignette rank order. Table 2 shows the results of the analyses of variance conducted with the Urgency Category as the dependent variable and each of the three independent variables from the expert rater group, as well as the WCWL total score and the WCWL-CGAS scores from the group of four raters.

A Bonferroni correction for multiple tests was employed and set at alpha = .001. The independent variables each contributed significantly to the rank order of the vignettes within the expert raters' group. The MAWT accounted for the least amount of variance (R-squared = .48), followed by CGAS (R-squared = .72) and VAS (R-squared = .93). Similarly, within the group of four raters, the WCWL total scores (R-squared = .88) and WCWL-CGAS scores (R-squared = .86) contributed significantly to the rank order of the vignettes.

In summary, the results provide evidence of the vignettes' reliability and validity as a tool to assess clinicians' conceptualizations of child mental health service wait times. Further, the WCWL-CMH-PCS' ability to grade the vignettes in close alignment with the expert raters' results confirms the instruments' reliability and validity, indicating potential for more widespread use.

Table 1

Comparison of Estimated Variables by the Urgency Rank Order of the Vignettes

Expert Raters (n = 21)			WCWL raters (n = 4)		
Vignette Rank Order	n	Mean [95% CI]	Variable	n	Mean [95% CI]
Estimated Urgency Category (Control 0–4 Highest)					
Control	41	1.07 [0.93, 1.22]	-	-	-
Low	63	1.68 [1.53, 1.83]	-	-	-
Moderate	62	2.34 [2.16, 2.52]	-	-	-
High	63	3.22 [3.03, 3.41]	-	-	-
Very high	62	3.89 [3.79, 3.98]	-	-	-
Estimated Urgency Score (VAS) (Lowest 1–100 Highest)			WCWL Rater Total Score		
Control	42	9.83 [5.11, 14.56]	WCWL-CMH-PCS	2	6.50 [0.15, 12.85]
Low	63	34.32 [30.81, 37.82]	WCWL-CMH-PCS	3	15.17 [10.51, 19.83]
Moderate	62	48.27 [44.02, 52.53]	WCWL-CMH-PCS	3	40.42 [30.47, 50.36]
High	63	68.06 [63.13, 72.99]	WCWL-CMH-PCS	3	54.67 [34.58, 74.75]
Very high	63	85.43 [81.69, 89.17]	WCWL-CMH-PCS	3	73.58 [64.88, 82.29]
Estimated CGAS (1 Poorest–100 Highest)			WCWL Rater CGAS (1 Poorest–100 Highest)		
Control	42	88.52 [83.81, 93.23]	WCWL CGAS	2	68.50 [49.44, 87.56]
Low	63	66.18 [64.04, 68.32]	WCWL CGAS	3	68.33 [61.16, 75.50]
Moderate	63	53.52 [51.24, 55.79]	WCWL CGAS	3	57.33 [51.08, 63.58]
High	63	42.39 [39.5, 45.28]	WCWL CGAS	3	47.33 [30.42, 64.24]
Very high	63	31.72 [29.17, 34.27]	WCWL CGAS	2	42 [42, 42]
MAWT					
Control	36	212.97 [166.36, 259.58]	-	-	-

Table 1, continued

Comparison of Estimated Variables by the Urgency Rank Order of the Vignettes

Expert Raters (n = 21)			WCWL raters (n = 4)		
Vignette Rank Order	n	Mean [95% CI]	Variable	n	Mean [95% CI]
Low	63	119.22 [100.54, 137.9]	-	-	-
Moderate	63	72.57 [60.54, 84.6]	-	-	-
High	63	37.08 [27.28, 46.88]	-	-	-
Very high	63	12.74 [7.92, 17.55]	-	-	-

Table 2

Analysis of Variance and Regression Results of Raters' Estimated Variables Prediction of Designed Vignette Urgency Rank

Expert Group	Urgency Category	Coef.	St. Err.	*t*-value	*p*-value	(LCI, UCI)
	CGAS	-0.046	0.002	-27.07	0.0001	(-0.049, -0.043)
	Constant	5.046	0.099	50.83	0.0001	(4.851, 5.242)
	Mean	2.54	SD	1.148		
	R-squared	0.717	Number of obs	291		
	F-test	733.044	Prob > F	0.0001		
	VAS	0.038	0.001	62.33	0.0001	(0.036, 0.039)
	Constant	0.574	0.036	15.87	0.0001	(0.503, 0.645)
	Mean	2.54	SD	1.148		
	R-squared	0.931	Number of obs	291		
	F-test	3885.133	Prob > F	0.0001		
	MAWT	-0.009	0.001	-16.14	0.0001	(-0.01, -0.008)
	Constant	3.253	0.065	50.27	0.0001	(3.125, 3.38)
	Mean	2.566	SD	1.14		
	R-squared	0.478	Number of obs	286		
	F-test	260.336	Prob > F	0.0001		
Four Raters	WCWL Score	0.046	0.002	19.09	0.0001	(0.041, 0.05)
	Constant	0.251	0.12	2.09	0.042	(0.01, 0.492)
	Mean	2.189	SD	1.316		
	R-squared	0.877	Number of obs	53		
	F-test	364.226	Prob > F	0.0001		
	WCWL-CGAS	-0.112	0.014	-8.27	0.0001	(-0.142, -.082)
	Constant	8.384	0.785	10.67	0.0001	(6.655, 10.33)
	Mean dependent var	2	SD	1.354		
	R-squared	0.862	Number of obs	13		
	F-test	68.427	Prob > F	0		

DISCUSSION

The goal of the present study was to employ a standardized method with novel case vignettes to establish guidelines for access to scheduled children's mental health services based on ratings of clinical urgency. The WCWL-CMH-PCS was used as the measure of clinical urgency (Cawthorpe et al., 2007; Kaltiala-Heino et al., 2007; Novick et al., 2016; Smith et al., 2002) given its total score has been found to be associated with clinicians' ratings of perceived urgency and maximum acceptable wait times. The results of the present study support the use of standardized vignettes and the WCWL-CMH-PCS form with experts in the field to establish meaningful wait times. In the comparative analyses, the raters' independent estimates of urgency aligned with the designed ranking of the vignettes to which the raters were blind. Further, these findings aligned in rank order with related research (Novick et al., 2016) employing the WCWL-CMH-PCS as a standard of care to objectively prioritize children on wait lists for mental health services.

In terms of wait time guidelines, the expert raters were asked to generate the MAWT that would be clinically appropriate for each case, independent of service delivery constraints or typical wait times experienced in their settings. For cases with "very high" clinical urgency (clinical urgency scores in the 76–100 range), the expert raters provided a mean MAWT of approximately two weeks. The "very high" category corresponded most closely with the emergent and urgent categories used by the Canadian Psychiatric Association (CPA, 2006), with the hypothetical patients presenting with active suicidal thoughts, a recent overdose attempt, or potential psychotic symptoms. In the CPA (2006) guidelines, emergent cases were recommended to be seen within 24 hours, and urgent cases within 1–2 weeks. A study by Kowalewski and colleagues (2011), which examined actual wait times reported by 379 child and adolescent mental health agencies across Canada, suggested that the actual mean wait time for cases with very high clinical urgency was 3.4 days. For "high" urgency cases, the mean MAWT provided by the expert raters in the current study was just over a month. This MAWT was significantly longer than the suggested wait time benchmark provided for urgent cases in the CPA guidelines, which is 2 weeks for urgent general diagnostic and consultation cases. However, it was in line with the actual wait times for cases with high clinical urgency reported in the Kowalewski et al. (2011) study, which was 29.4 days. For cases with "moderate" clinical urgency, the expert raters provided a mean MAWT of just under 3.5 months. In contrast, the CPA guidelines propose a wait time of 4 weeks for scheduled cases, which would include patients who display stable symptoms, have a low risk of deterioration or functional impairment, and have adequate social support. The actual mean wait time for cases of moderate urgency in the Kowaleski et al. (2011) study was approximately 2.5 months, closer to the obtained MAWT in the present study. Although a MAWT was unable to be generated for the "low" category, it can be assumed that it would be longer than 4 months given this was the MAWT generated for the cases felt to be more "moderate" in urgency than low. This, again, is similar to the actual mean wait times reported for cases with low clinical urgency in the Kowaleski et al. (2011) study, which was approximately 3.7 months.

The difference between the CPA benchmarks and the MAWTs generated by the expert raters might be due to a variety of factors. The CPA benchmarks were based on available evidence about the course and treatment of five sentinel disorders, as well as input from senior colleagues. It represents ideal wait times for three levels of severity: emergent, urgent, and scheduled. The MAWTs were based on raters' judgments of the *maximum* time a patient could wait without experiencing further deterioration. They were specifically advised that this should not represent their ideal or preferred wait time. It is also possible that raters' judgments

were impacted by differences between adult and child populations, such as considerations of parental support and school resources available to children that may assist them while waiting for specialized mental health services. The fact that the MAWTs generated in the current study were more in line with actual wait times reported by child and adolescent mental health care programs across Canada supports that these likely represent reasonable wait time guidelines for this population.

The participants in this study had an average of 19.12 years of experience in child and adolescent mental health care and represented a range of settings across Ontario, from hospital, tertiary care, community mental health settings, and private practice; hence, they were considered to have the necessary expertise to evaluate the clinical vignettes. Although they were told to not consider service delivery demands or typical wait times in their practice setting, it is unclear if these factors influenced their estimates of wait times. Kowalewski et al. (2011) have shown that a minority of settings (31%) were able to meet the CPA benchmarks for scheduled care, with only 64% of agencies able to meet recommended wait times for urgent care. This suggests that the CPA benchmarks, while an ideal goal, may not be realistic guidelines for informing care in the absence of substantial service investment.

A strength of the current study is that wait time guidelines are specifically tied to an objective measure of clinical urgency, the WCWL-CMH-PCS form, which can be used to prioritize patients waiting for urgent and scheduled care. These wait time guidelines were also based on expert raters who had extensive experience in child and adolescent mental health. The CPA benchmarks appeared to be derived primarily from adult sentinel disorders.

Limitations of the study included use of a convenience sample, which may have limited the generalizability of the results. Only a limited range of vignettes were generated, which means that not all presenting problems could be represented. This may also limit generalizability. As noted previously, the practice setting and the demand for services (which could be based on geographical region, type of service provided, or practice setting) may have influenced participants' ratings of maximum acceptable wait times. It is possible that participants may have given longer maximum acceptable wait times if patients in their community and/or setting typically experienced longer wait times. The foregoing suggests that the MAWTs generated should be considered as tentative guidelines, requiring further validation, rather than as prescriptive benchmarks.

Despite the above limitations, the current study was able to reproduce results that largely aligned with the published literature. It presented wait time guidelines for child and adolescent mental health based on objective measures of clinical urgency that might serve as benchmarks to guide local clinical screening and triaging practices. Prioritization of patients on wait lists is an important management strategy. Use of a prioritization instrument, such as the WCWL-CMH-PCS instrument, coupled with setting wait time guidelines as suggested in the present study may help ensure patients receive timely care.

Limited data exists on the impact of wait times on children's mental health and functioning (for exceptions see Brown et al., 2002; Williams et al., 2008). This is an important area of future research in order to determine the impact of delay on children's mental health and to determine if the wait time guidelines suggested by the current paper are reasonable. Furthermore, the present paper considers wait time guidelines solely from the perspective of preserving the functioning of the patient, without considering what might

be an acceptable wait time from the standpoint of the child, their family, or the referral source. A study by Potter, Langley, and Sakhuja (2005) suggested that referral sources ranged widely in what they considered acceptable wait times for children's mental health services, varying from 2 weeks to 12 months. Studies that have evaluated both provider and patient perspectives of MAWTs have suggested that patients provide shorter maximum acceptable wait times than do providers (Conner-Spady et al., 2005, 2007). Future research is needed to explore the perspectives of children and their families regarding acceptable wait times for services, as well as the burden on the family system during the waiting period.

Establishing and implementing standardized approaches to measuring clinical urgency is a first step in the development of practical guidelines that can promote greater objectivity and fairness within a common accountability framework. Having a common accountability framework may serve to harmonize efforts and disseminate shared standards within children's mental health services. The literature on strategies to reduce wait times for children's mental health remains limited and continues to be an important topic of future research due to the ongoing paucity of resources available to serve the mental health needs of children in Canada.

Appendix 1

Children's Mental Health Priority Criteria Tool and Children's Global Assessment of Functioning (GAF) Scale

WCWL
Western Canada Waiting List Project

CHILDREN'S MENTAL HEALTH PRIORITY CRITERIA TOOL

PLEASE PRINT CLEARLY

Provincial Health Care Number: _____

Patient Name: _____

Patient Age: _____ Sex: [circle one] M F

Reason for referral: _____

Clinician's Name: _____ Phone: _____

Clinician's Profession: _____

Facility: _____ Program: _____

Referral Source: _____

Date: _____

Please check the box that most accurately describes the patient's current situation

1. **Danger to self**
   - ☐ None (0)
   - ☐ Minor (1)
   - ☐ Moderate (2)
   - ☐ Severe (10)
2. **Danger to others**
   - ☐ None (0)
   - ☐ Minor (0)
   - ☐ Moderate (1)
   - ☐ Severe (2)
3. **Psychotic symptoms**
   - ☐ None (0)
   - ☐ Mild (2)
   - ☐ Moderate (7)
   - ☐ Severe (11)
4. **Global age-appropriate developmental progress**
   - ☐ No delay and/or risk of delay (0)
   - ☐ Minor delay and/or minor risk of delay (0)
   - ☐ Moderate delay and/or risk of delay (1)
   - ☐ Severe delay and/or high risk of delay (1)
5. **Children's GAF score (see Attachment, Children's Global Assessment of Functioning – higher is healthier)**
   - ☐ 40 or less (12)
   - ☐ 41-50 (8)
   - ☐ 51-60 (4)
   - ☐ More than 60 (0)
6. **Internalized symptoms**
   - ☐ None (0)
   - ☐ Minor (0)
   - ☐ Moderate (6)
   - ☐ Severe (14)
7. **Externalized/disruptive behaviour**
   - ☐ No problems (0)
   - ☐ Minor problems (0)
   - ☐ Moderate problems (2)
   - ☐ Severe problems (4)
8. **Comorbid medical conditions**
   - ☐ None (0)
   - ☐ Minor (1)
   - ☐ Moderate (2)
   - ☐ Severe (2)
9. **Comorbid psychiatric conditions**
   - ☐ None (0)
   - ☐ Minor (0)
     Please specify: _____
   - ☐ Moderate (2)
   - ☐ Severe (6)

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Appendix 1, continued

Children's Mental Health Priority Criteria Tool and Children's Global Assessment of Functioning (GAF) Scale

10. Harmful substance use/misuse

- ☐ No problems (0)
- ☐ Minor problems (0)
- ☐ Moderate problems (1)
- ☐ Severe problems (1)

11. Significant biological family history of mental illness

- ☐ Yes (2)
- ☐ No (0)
- ☐ Unknown (0)

12. School and/or work

- ☐ No problems (0)
- ☐ Minor problems (0)
- ☐ Moderate problems (0)
- ☐ Severe problems (1)

13. Social/friendships/community functioning

- ☐ No problems (0)
- ☐ Minor problems (0)
- ☐ Moderate problems (1)
- ☐ Severe problems (1)

14. Does the patient have problems in the context of the home?

- ☐ No problems (0)
- ☐ Minor problems (2)
- ☐ Moderate problems (4)
- ☐ Severe problems (6)

15. Family functioning or factors affecting child

- ☐ No problems (0)
- ☐ Minor problems (0)
- ☐ Moderate problems (1)
- ☐ Severe problems (1)

16. Prognosis without further intervention

- ☐ Good (0)
- ☐ Moderate (0)
- ☐ Guarded (2)
- ☐ Poor (11)

17. Degree of likely benefit with further intervention

- ☐ Very High (15)
- ☐ High (9)
- ☐ Moderate (6)
- ☐ Low (3)

18. All things considered, how would you rate the urgency or relative priority of this patient? (Draw a line across the scale)

Not Urgent at all **Extremely Urgent (just short of an emergency)**

Appendix 1, continued

Children's Mental Health Priority Criteria Tool and Children's Global Assessment of Functioning (GAF) Scale

Children's Global Assessment of Functioning (GAF) Scale

Rate the subject's most impaired level of general functioning for the specified time period by selecting the lowest level which describes his/her functioning on a hypothetical Continuum of health-illness. Use intermediary levels (e.g. 35, 58, 62). Rate actual functioning regardless of treatment or prognosis. The examples of behaviour provided are only illustrative and are not required for a particular rating.

Specified Time Period: 1 month

91-100 Superior functioning in all areas (at home, at school, and with peers); involved in a wide range of activities and has many interests (e.g. has hobbies or participates in extracurricular activities or belongs to an organized group such as Scouts, etc): likeable, confident; "everyday" worries never get out of hand; doing well in school; no symptoms

81-90 Good functioning in all areas; secure in family, school, and with peers; there may be transient difficulties and "everyday" worries that occasionally get out of hand (e.g. mild anxiety associated with an important exam. occasionally 'blowups" with siblings parents, or peers)

71-80 No more than slight impairment In functioning at home, at school; or with peers; some disturbance of behaviour or emotional distress may be present in response to life stresses (e.g. parental separations, deaths, birth of a sib), but these are brief and interference with functioning is transient; such children are only minimally disturbing to others and are not considered deviant by those who know them

61-70 Some difficulty in a single area, but generally functioning pretty well (e.g. sporadic or isolated antisocial acts, such as occasionally playing hooky or petty theft; consistent minor difficulties with school work; mood changes of brief duration; fears and anxieties which do not lead to gross avoidance behaviour; self-doubts); has some meaningful interpersonal relationships; most people who do not know the child well would not consider him/her deviant but those who do know him/her well might express concern

51-60 Variable functioning with sporadic difficulties or symptoms in several but nor all social areas; disturbance would be apparent to those who encounter the child in a dysfunctional setting or time but not to those who see the child in other settings

41-50 Moderate degree of interference in functioning in most social areas or severe impairment of functioning in one area, such as might result from, for example, suicidal preoccupations and ruminations, school refusal and other forms of anxiety, obsessive rituals, major conversion symptoms, frequent anxiety attacks, poor or inappropriate social skills, frequent episodes of aggressive or other antisocial behaviour with some preservation of meaningful social relationships

31-40 Major impairment in functioning in several areas and unable to function in one of these areas, e.g. disturbed at home, at school, with peers or in society at large, e.g., persistent aggression without clear instigation; markedly withdrawn and isolated behaviour due to either mood or thought disturbance, suicidal attempts with clear lethal intent: such children are likely to require special schooling and/or hospitalization or withdrawal from school (but this is not a sufficient criterion for inclusion in this category)

21-30 Unable to function in almost all areas, e.g., stays at home, in ward, or in bed all day without taking part in social activities or severe impairment in reality testing or serious impairment in communication (e.g., sometimes incoherent or inappropriate)

11-20 Needs considerable supervision to prevent hurting others or self (e.g. frequently violent, repeated suicide attempts) or to maintain personal hygiene or gross impairment in all forms of communication, e.g. severe abnormalities in verbal and gestural communication, marked social aloofness, stupor, etc.

0-10 Needs Constant supervision (24-hr care) due to severely aggressive or destructive behavior or gross impairment in reality testing, communication, cognition, affect, or personal hygiene

Children's Global Assessment Scale was adapted from the Global Assessment Scale for Adults
Children's Global Assessment Scale- Shaffer D. et al, Arch Gen Psychiatry 1983 Nov; 40 (11): 1128-31

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