

**Eating Disorders and Comorbidity in Childhood and Adolescence:
A Comparison between Children and Adolescents Diagnosed exclusively with an Eating
Disorder and those Diagnosed with another Comorbid Condition in addition to the Eating
Disorder**

Final Outcomes Report

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Executive Summary

Patients with eating disorders are frequently diagnosed with other concurrent mental health conditions, an observation termed comorbidity. The existence of a comorbid mental health diagnosis can complicate a patient's case by affecting symptom presentation and course of treatment. Few current studies have investigated how comorbidity affects youth obtaining mental health treatment; and in particular, treatment for an eating disorder. As adolescents represent a special population, it is uncertain whether these youth are affected by comorbidity to the same degree as adults. The purpose of the present study was to examine the prevalence of comorbidity among adolescents receiving treatment for an eating disorder in a pediatric clinical setting. Furthermore, whether the presence of comorbidity affects patient outcomes (i.e. recovery, hospitalization and drop out) and both academic and social functioning was also considered. To capture this information, the present project involved two studies that utilized different methods. The first study entailed conducting a retrospective file review of patient files of those who had been discharged from a pediatric eating disorder program. These files were coded for the presence of provisional and confirmed comorbid mental health diagnoses. The second study entailed collecting data on patients who completed relevant psychometrics at intake to the same program. The results of these two present studies are consistent with those in the adult literature, with evidence indicating that the prevalence of comorbidity is high in the eating disordered youth population. Also similar to the results of adult studies, the most common comorbidities experienced by the youth sampled were anxiety and mood disorders. There was no significant difference between patients with or without comorbidity in terms of recovery, hospitalization and drop out, indicating that the presence of comorbidity does not affect these particular patient outcomes. However, it was found that comorbidity was predictive of social functioning, where patients with anxiety in their presentation had significantly poorer social functioning. These findings contribute to the literature by providing evidence that comorbidity affects adolescents differently compared to adults. Thus, it is important to further the research in this area to better understand this special population.

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Introduction

Eating disorders are a significant and growing health concern for youth. In western society, evidence indicates that prevalence rates are rising (Eagles et al., 1995) and the age of onset is becoming increasingly younger (Woodside & Garfinkel, 1992). A recent review of the literature

determined that the overall incidence of anorexia nervosa is at least 8 per 100,000 population per year and at least 12 per 100,000 population per year for bulimia nervosa. Furthermore, both figures constitute underestimates of the actual incidence rates due to the number of individuals who do not seek treatment (Hoek & van Hoeken, 2003).

Most mental health disorders co-exist with other psychological conditions; an observation termed comorbidity (Seligman & Ollendick, 1998). For example, concurrent diagnosis of depression and anxiety in adult patients has been observed in staggering numbers; wherein the presence of one of these disorders predicts the presence of the other in anywhere from around 16% to 62% of clinically identified samples (Calles, 2007). Similarly, patients with eating disorders are frequently diagnosed with other mental health conditions. Particularly, there is a strong association between both mood disorders and anxiety disorders with eating disorders (Biederman et al., 2007; Geist, Davis & Heinman, 1998; Fischer & le Grange, 2007). Blinder and colleagues (2006) found that 94% of their eating disordered patients had comorbid mood disorders and 56% were concurrently experiencing an anxiety disorder. Lifetime comorbidity of at least one anxiety disorder was found in 71% of individuals with Anorexia Nervosa and Bulimia Nervosa (Godart et al., 2003). The prevalence rates of comorbidity found in the literature are derived from studies based on an adult population. Fewer studies have been conducted on a child and youth population so it is uncertain whether adolescent patients experience the same degree of comorbidity.

The existence of comorbid diagnosis can complicate a patient's case by affecting symptom presentation and course of treatment. Individuals with comorbid mental health conditions are typically recognized to represent a more disordered and impaired population (Seligman & Ollendick, 1998). For example, anxiety disorders, which frequently present with somatic symptoms, may considerably mask other psychological symptoms, resulting in poor recognition and diagnosis of depressive disorders (Wittchen et al., 1999). Clinicians can easily misdiagnose if they lack the knowledge on how comorbidity may influence symptom presentation. Left undetected, underlying comorbid conditions can affect patient prognosis and extend the length of treatment required to eliminate the eating disorder. Moreover, patients diagnosed with more than one concurrent psychological condition would require multiple treatments. Those diagnosed with coexisting disorders may require different medical treatments compared to patients that have one condition. For instance, considering that Attention-Deficit Hyperactive Disorder (ADHD) and eating disorders respond differently to both pharmacological and nonpharmacological treatments, diagnosing ADHD, or other comorbid conditions, in patients with eating disorders could lead to new therapeutic opportunities (Biederman et al., 2007). Furthermore, many psychiatric disorders and their treatments involve appetite and eating disturbances (Blinder, 1991). Ramacciotti and colleagues (2005) suggested that patients with a concurrent diagnosis of bipolar disorder and an eating disorder may be affected by bipolar medication, which typically disrupts hunger and satiety mechanisms. Because of such increased complications, paying attention to the interactions between therapies would be important for treating patients with comorbidities.

Whether associations exist between eating disorders and other comorbid mental health conditions have important implications in treatment outcomes. Considerable evidence shows that the presence of comorbidity confers poorer patient outcomes. Wittchen, Essau and Krieg (1991) found that subjects with a lifetime comorbidity of anxiety and depression had lower psychosocial functioning scores (Global Assessment Scale) and considerably less favorable long-term outcome compared with those with pure depressive disorders. With eating disorders, Thomson-Brenner and Westen (2005) found that individuals with a bulimia spectrum disorder and increased comorbidity had longer treatment duration and worse outcomes. Ormel et al. demonstrated that comorbid depression significantly affects the degree of physical functioning, impairments in activities of daily living, social role functioning, number of inactivity hours and life satisfaction.

Poor psychosocial functioning can significantly affect social relationships and school functioning for adolescents. For these reasons, the detection of comorbidity in eating disordered youth would be an important step in developing a treatment plan to improve patient outcomes and overall wellbeing.

Few studies have investigated how comorbidity affects youths struggling with eating disorders. Because most studies conducted thus far have mainly involved adult patients, it is uncertain whether adolescent patients are affected to the same degree.

The Present Studies

The present studies examined the prevalence of comorbidity among adolescents receiving treatment for an eating disorder in a pediatric clinical setting. This study also compared children and adolescents with and without comorbid conditions in terms of patient outcomes. The goal of the study is to better understand eating disorders and their relationship with comorbid mental health disorders among children and adolescents. It is hoped that findings will improve the patient care of children and youth struggling with an eating disorder and other comorbid mental health disorders.

The specific questions posed by this project included:

1. To what degree are eating disorders found to be comorbid with other mental health disorders? Which disorders are most likely to be found to be comorbid with eating disorders? Does this differ depending on which eating disorder a youth is struggling with (e.g. Anorexia Nervosa, Bulimia Nervosa)? Does this differ depending on the age of the youth at first admission?
2. Is comorbidity related to better or worse treatment outcomes (e.g. recovery, hospitalization, drop-out)?
3. Do youth diagnosed with an eating disorder and a comorbid condition experience better or worse social and/or school functioning than youth struggling with an eating disorder alone?

To examine these questions, two studies were conducted using different methods of defining comorbidity.

STUDY 1: COMORBIDITY ASSESSED THROUGH FILE REVIEW

Method

Participants

The study group comprised of 106 discharged children and youth, diagnosed with an eating disorder, who received treatment at the McMaster Children's Hospital's Pediatric Eating Disorders Program, located at the McMaster University Medical Centre. This program provides services to children and adolescents up to the age of 18 who require multi-disciplinary assessment and treatment for an eating disorder. The program primarily services children in the central south region of Ontario, Canada; although, the program accepts referrals from other regions in the province. Services at the pediatric eating disorders program include medical management, assessment, consultation, family therapy, individual therapy, group therapy, and nutritional counseling. Team members include pediatricians, psychologists, a psychiatrist, social workers, and a registered dietician. The program's treatment model is based on the work of Lock and Le Grange (Lock & Le Grange, 2005; Lock, 2001). Parents are supported in the supervision of nutritional intake and therapy is provided in order to address related psychosocial difficulties.

Procedure

This study was approved by the Hamilton Health Sciences Research Ethics Board. A file review was conducted using medical and psychological reports on patients diagnosed with an eating disorder and treated by the Pediatric Eating Disorders Program. From these patient files, relevant data was extracted and analyzed as aggregated data.

Variables

Eating Disorder Diagnosis. Youth seen by the program who were diagnosed with Anorexia Nervosa, Bulimia Nervosa, Eating Disorder – Not Otherwise Specified, or another form of disordered eating (e.g. Selective Eating, Food Avoidant Emotional Disorder) were included in the present study. Youth's diagnosis was derived from an existing database.

Age at First Admission. Youth's age at first intake was derived from an existing database developed by this student's mentor. .

Comorbidity. A file review of each patient's medical files was undertaken to determine which patients have been diagnosed with a comorbid condition(s) and which comorbid condition(s) they have been diagnosed with. This file review involved reading through the medical and psychological files associated with each patient seen by the program and coding when a reference was made to a medical or mental health diagnosis. Whether these diagnoses were confirmed or provisional was also coded. To ensure high inter-rater reliability, a detailed coding scheme was developed to ensure concordance in the coding of multiple raters (see Appendix 1). This coding scheme clearly outlined the criteria for coding a file as indicative of either a confirmed diagnosis or a provisional diagnosis (e.g. what phrasing in the reports can be considered indicative of a provisional diagnosis as opposed to a confirmed diagnosis). The primary coder coded all files and two secondary coders were thoroughly trained and coded a subset of the same files. Inter-rater reliability was then measured using Cohen's Kappa between the primary coder and each secondary coder. The kappa coefficient for agreement ranged from 0.91 to 0.93.

Statistical Method

All statistical analyses were completed using SPSS for Windows version 14.0. Descriptive data was produced to determine the prevalence of comorbidity among the patients seen by the Pediatric Eating Disorders Program. Chi-square tests of independence were conducted in order to explore whether the eating disorder diagnostic categories differed in regards to each comorbid diagnoses. A chi-square test of independence was also conducted to explore whether the prevalence of comorbid diagnoses is related to age at first admission. Diagnostic categories were considered separately and comparisons were also made between the different eating diagnosis categories.

Results

Prevalence of Comorbidity. Table 1 summarizes the prevalence of comorbidity for each of the eating disorder diagnostic categories (AN, BN and ED-NOS), as well as within the study group.

Table 1: Counts of Patients with Comorbid Conditions

Comorbid Diagnosis	AN n=44	BN n=13	ED-NOS n=14	Total n=71
Depression				
diagnosis	4	3	3	10
sub-threshold	10	2	2	14
total	14	5	5	24
Generalized Anxiety Disorder				

diagnosis	4	0	3	7
sub-threshold	3	1	3	7
total	7	1	6	14
Separation Anxiety Disorder				
diagnosis	0	0	1	1
sub-threshold	5	0	1	6
total	5	0	2	7
Social Phobia				
diagnosis	4	0	0	4
sub-threshold	3	1	0	4
total	7	1	0	8
Psychotic Disorder				
diagnosis	0	0	0	0
sub-threshold	0	0	0	0
total	0	0	0	0
Obsessive Compulsive Disorder				
diagnosis	2	0	1	3
sub-threshold	1	0	1	2
total	3	0	2	5
Bipolar Disorder				
diagnosis	0	0	1	1
sub-threshold	0	0	0	0
total	0	0	0	0
Developmental Delay				
diagnosis	0	0	0	0
sub-threshold	0	0	0	0
total	0	0	0	0
Tic/Tourette's Disorder				
diagnosis	0	0	1	1
sub-threshold	0	0	0	0
total	0	0	0	0
ADHD/ADD				
diagnosis	0	0	2	2
sub-threshold	0	0	0	0
total	0	0	0	0
Learning Difficulties				
diagnosis	2	0	0	2
sub-threshold	1	1	0	2
total	3	1	0	4
Personality Disorder				
diagnosis	0	1	1	2
sub-threshold	0	0	0	0
total	0	0	0	0
Other (i.e. sleep disorder, PTSD)				
diagnosis	0	0	0	0
sub-threshold	0	0	0	0
total	0	0	0	0
All comorbidities				
diagnosis	16	4	13	33
sub-threshold	23	5	7	35
total	39	9	20	68

Note: AN= Anorexia Nervosa; BN= Bulimia Nervosa; ED-NOS= Eating disorder not otherwise specified

Given that anxiety and mood disorders were the most prevalent comorbid conditions, comorbidity was then categorized into anxiety disorders, mood disorders and other mental health conditions (see Table 2). In the sample population of 106 youth, 42.5% of patients presented with a comorbid psychiatric disorder. When provisional and confirmed diagnoses were considered collectively, 64.2% of patients could be considered to have comorbidity. Similarly, 61.4% of youth with Anorexia Nervosa, 61.5% of youth with Bulimia Nervosa and 78.6% of youth with Eating Disorder-Not Otherwise Specified could be considered to have one or more comorbid disorders. For each of mood disorder, anxiety disorder, subthreshold mood

disorder, and subthreshold anxiety disorder, the percentages were 22.6%, 20.8%, 17.9% and 21.7% respectively.

Table 2: Percentages of Patients with Comorbid Conditions

Comorbid Diagnosis	AN n=44	BN n=13	ED-NOS n=14	All patients n=106	χ^2
Mood Disorders (i.e. depression, bipolar disorder)					
diagnosis	15.9	23.1	42.9	22.6	NS
sub-threshold	27.3	15.4	14.3	17.9	NS
total	40.9	38.5	50	37.7	NS
Anxiety Disorders (i.e. GAD, OCD, separation anxiety disorder, social phobia)					
diagnosis	27.3	0	42.9	20.8	0.034
sub-threshold	22.7	15.4	21.4	21.7	NS
total	47.7	15.4	64.3	41.5	0.033
Other (i.e. psychotic disorder, learning disability, personality disorder, developmental delay, tics/tourette's disorder, sleep disorder)					
diagnosis	20.5	23.1	35.7	23.6	NS
sub-threshold	2.3	23.1	7.1	9.4	NS
total	22.7	46.2	35.7	32.1	NS
All comorbidities					
diagnosis	34.1	38.5	64.3	42.5	NS
sub-threshold	38.6	38.5	28.6	36.8	NS
total	61.4	61.5	78.6	64.2	NS

Note: AN= Anorexia Nervosa; BN= Bulimia Nervosa; ED-NOS= Eating disorder not otherwise specified

Chi-square tests of independence were conducted to examine the relation between eating disorder diagnosis and each of the diagnosed or sub-threshold comorbid conditions. Significant χ^2 are indicated in the far right column of Table 2.

The relationship between age at first admission and prevalence of comorbidity was also considered. Youth aged 13-years-old and younger at admission were compared with youth aged 14-years-old and older at admission in regards to their experiences of comorbidity. The age categories did not differ significantly from one another when all comorbidities were considered.

STUDY 2: COMORBIDITY ASSESSED THROUGH CLINICALLY SIGNIFICANT PSYCHOMETRIC SCORES

Method

Participants

The study group comprised of 363 children and youth who were diagnosed with an eating disorder (M= 15.1 years), who receive(d) treatment at the McMaster Children's Hospital's Pediatric Eating Disorders Program. For each analysis, only patients who completed relevant psychometrics at intake were included.

Variables

Eating Disorder Diagnosis. Youth seen by the program who were diagnosed with Anorexia Nervosa, Bulimia Nervosa, or Eating Disorder – Not Otherwise Specified were included in the present study. Youth's diagnosis was derived from an existing database.

Age at First Admission. Youth's age at first intake was derived from an existing database.

Comorbidity. Youth with clinically significant scores in relevant psychometrics were noted as having a probable comorbid mood or anxiety disorder.

Children's Depression Inventory (CDI) (Kovacs, 1985). The CDI is a 27-item questionnaire designed to assess cognitive, behavioural, and affective symptoms of depression. Total scores in the clinically significant range were considered to be indicative of a probable depressive disorder. The CDI has demonstrated good internal consistency (Saylor, Finch, Spirito, & Bennett, 1984) and acceptable reliability (Smucker, Craighead, Craighead, & Green, 1986).

Multi-dimensional Anxiety Scale for Children (MASC). The MASC is a 39-item questionnaire designed to measure a spectrum of anxiety symptoms among children (March et al., 1997). Total scores in the clinically significant range were considered to be indicative of a probable anxiety disorder. This measure has shown high reliability and validity (March, Sullivan, & Parker, 1999).

Treatment Outcomes. Treatment outcomes considered included whether or not youth recover, are hospitalized, or drop-out of treatment. Patients were defined as recovered when they have not met the criteria for any kind of eating disorder for the last 6 months of treatment. Information was derived from an existing database.

Social Functioning. Social functioning was assessed through subscales of larger questionnaires. These included the subscales of:

Eating Disorder Inventory-3 (EDI-3) (Garner, 2004). The EDI-3 is a 91-item questionnaire designed to measure the behavioural and symptomatic patterns of anorexia nervosa and bulimia nervosa in patients. To assess youth social functioning, the Interpersonal Problems composite was considered. This includes the subscales related to Interpersonal Insecurity (e.g. "I would rather spend time by myself than with others") and Interpersonal Alienation (e.g. "I need to keep people at a certain distance"). The EDI has established internal consistency, criterion-related validity, and convergent and discriminant validity for all subscales (Garner, 2004; Garner et al., 1983).

Peer Network and Dyadic Loneliness Scale (PNDLS) (Hoza, Bukowski & Beery, 2000). The PNDLS consists of 16 items designed to assess simultaneously children's loneliness at multiple levels of peer relationships. Specifically, this scale measures loneliness associated with lack of involvement in a social network and the absence of close dyadic friendship. Both subscales, Peer Network and Dyadic Loneliness, were considered. The PNDLS has demonstrated good internal consistency and validity (Hoza, Bukowski & Beery, 2000).

Academic Functioning. Youth responded to two questions related to their academic functioning that are contained within a larger survey. These include two questions: 'In terms of schoolwork, what kind of study would you say you are?' and 'When do you expect to finish your education?'

Statistical Methods

All statistical analyses were completed using SPSS for Windows version 14.0. Descriptive data was produced to determine the prevalence of clinically significant scores in relevant psychometrics among the patients seen by the Pediatric Eating Disorders Program. Logistic regression was used to determine the relationship between the presence of comorbidity and age of admission. Whether or not comorbidity predicted various treatment outcomes were considered using chi-square tests of independence. ANOVA's were conducted to determine whether or not comorbidity predicted social adjustment and academic functioning. Diagnostic categories were considered separately and comparisons were also made between the different eating diagnosis categories.

Results

Prevalence. In order to determine the prevalence of probable comorbidity, descriptive data on the rates of clinically significant MASC and CDI scores were considered. 26.9% of patients had clinically significant MASC total scores, indicating a probable anxiety disorder; and 41.0% had clinically significant CDI scores, indicating a probable mood disorder. 22.2% of youth with Anorexia Nervosa, 40.0% of youth with Bulimia Nervosa and 24.6% of youth with Eating Disorder-Not Otherwise Specified had significant MASC scores. 30.3% of youth with Anorexia Nervosa, 68.9% of youth with Bulimia Nervosa and 37.7% of youth with Eating Disorder-Not Otherwise Specified had significant CDI scores.

Table 4: Percentages of Patients with Significant MASC and CDI Scores

	AN n= 187	BN n= 74	ED- NOS n=102	All patients n= 363
MASC Score (Anxiety)	22.2	40.0	24.6	26.9
CDI Score (Depressed Mood)	30.3	68.9	37.7	41.0
Both MASC & CDI	12.1	31.1	16.4	17.6
None	59.6	22.2	54.1	49.8

Note: AN= Anorexia Nervosa; BN= Bulimia Nervosa; ED-NOS= Eating disorder not otherwise specified

Age at First Admission. A one-way ANOVA was conducted in order to determine the relationship between age at first admission and comorbidity. Results indicated that age did not differ significantly between comorbidity categories (none, anxiety, depressed mood, both).

Patient Outcomes. Chi-square tests of independence were conducted to examine the relationship between clinically significant MASC and/or CDI scores indicative of comorbidity and patient outcomes, such as recovery, hospitalization and drop out. No significant results were found for likelihood of recovery ($\chi^2= NS$, $p > 0.05$), hospitalization ($\chi^2= NS$, $p > 0.05$), and dropping out of treatment ($\chi^2= NS$, $p > 0.05$). Results were consistent across all eating disorder diagnostic groups.

Social Functioning. To test the relation between comorbidity and social functioning, two one-way ANOVAs were conducted. Results indicated that neither peer-network nor dyadic loneliness differed significantly between comorbidity categories (none, anxiety, depressed mood, both). A one-way ANOVA indicated that interpersonal problems, as measured by the EDI Interpersonal Problems Composite, differed depending on comorbidity, $F(3,108)= 11.89$, $p < 0.01$ ($n=112$). Bonferoni post hoc analyses indicated that patients with clinically significant scores indicative of anxiety had significantly poorer social functioning than all other patients.

Academic Functioning. The effect of comorbidity on academic functioning, based on answers to the question 'what kind of student would you say you are?', was determined by an ANOVA. The means were 2.18, 3.60, 4.0 and 2.75 for none, anxious, depressed mood and both respectively. However, these means did not differ significantly from one another ($n=22$). Based on answers to the question 'when do you expect to finish your education', an ANOVA showed no significant difference between patient groups (see Table 5).

Table 5: Academic Aspirations based on Answers to 'When do you expect to finish your education'

	None n=11	MASC n=6	CDI n=2	Both MASC & CDI n=4	Total n=23
Before I graduate from high school	0	1	0	0	1
When I graduate from high school	0	0	0	0	0
When I graduate from community college or a technical institute	1	1	0	0	2
When I graduate from university	8	3	1	3	15
I don't know	0	0	1	0	1

Conclusions and Recommendations

Eating disorder patients presenting with comorbid conditions represent a special population. It is clear that a large number of the eating disordered adolescents in this clinical sample experience comorbid mental health conditions; which are similar to those prevalence rates reported in the adult literature. Furthermore, anxiety and mood disorders are the most frequently diagnosed comorbid conditions in this population, similar to what was found in other studies on comorbidity in eating disordered patients. However, it was found that the presence of comorbidity in children and adolescents does not necessarily confer poorer outcomes, unlike what has been reported in adult populations. In fact, there was no significant difference between patients with or without comorbidity in terms of hospitalization, recovery and drop out. Yet, there was significant difference observed between patients with and without anxiety in their presentation, where anxious patients tend to have poorer social functioning than the overall population. It is also important to notice that the prevalence of comorbid anxiety differed significantly between eating disorder diagnostic categories. Because of these observations, it is important that clinicians recognize that comorbidity affects children and youth differently than in adults; even varying in the degree of comorbidity depending on the eating disorder diagnosis. Understanding dissimilarities between eating disorder patients with comorbidity and those who do not have comorbidities will better equip clinicians to make clinically relevant and applicable diagnoses; and subsequently create and tailor appropriate treatment plans for their patients.

Next Steps

The primary next steps for this project include the continued coding of discharged patient files in order to increase statistical power and the dissemination of research findings. The knowledge exchange plan, outlined below, will be completed in the near future.

Knowledge Exchange Plan

To date, a presentation has been given to other research assistants on the process of applying for a research grant as well as the steps necessary in developing research methodology. This study was also recently presented in a symposium at the Canadian Psychology Association Annual Research Conference in Montreal in June, 2009. Acquired knowledge will be formally presented to staff members of the Pediatric Eating Disorders Program in the fall. Lastly, a manuscript of the study is being produced for submission to a scholarly journal, specifically the International Journal of Eating Disorders.

Future Plans

As stated in the application for this undergraduate research grant previously, I plan to pursue medical school following graduation, specializing in pediatric psychiatry. During the course of this award, I wrote the Medical College Admission Test in pursuit of this goal. I am currently in the process of preparing medical school applications for admission in the upcoming year.

During the course of this award, I conducted a literature review study for the diabetes transition clinic at the McMaster Children's Hospital. I will be continuing with the clinic for my thesis research project in the upcoming academic year in order to expand my skills and experience in the area of research. I hope to submit both studies to conferences and scholarly journals in the future.

Along with finishing file coding for the present studies, I will be completing another research project on the topic of caregiver mental health and eating disordered youths with my second undergraduate research award from CHEO. As I have gained considerable knowledge and experience during the course of this award, I am confident that I will be able to complete the next project successfully and more independently in the upcoming academic year. This will allow me to expand my expertise in implementing a research study and allow me to further my career as a researcher in the field of children's mental health.

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Appendix 1 Comorbidity Coding Scheme

Review each patient chart and document (code) for the presence or absence of comorbid diagnoses, use of medication, and demographic information. The coding scheme below provides information as to how to use the coding sheets to code the files you read. This coding scheme contains a section related to each of the sections on the coding sheet.

Some General Rules for Coding:

1. Always code the most extreme or severe coding for which evidence is found in the patient files (e.g. if at one assessment they are not diagnosed with depression, but they are diagnosed with depression at a later date, on the coding scheme you would code for the *presence of depression*).
2. Read the patient's file in its entirety.

PATIENT RELATED CODING

Eating Disorder Diagnosis:

In order to code the presence of an eating disorder, somewhere in the patient's chart it must specifically be stated as a diagnosis by a pediatrician, psychologist or psychiatrist according to DSM-IV criteria. If the eating disorder diagnosis changes through the course of treatment, note the *change* under 'other confirmed diagnosis'. The ED diagnosis at intake is the one to be written down under ED Diagnosis. If there are discrepancies, use the diagnosis entered in the patient's Excel intake data file.

NOTE: Pre-intake diagnoses and post-intake diagnoses are both recorded under the 'other confirmed diagnosis' category. Specify whether it is pre or post intake.

Confirmed Diagnosis:

In order to code for the presence of a **confirmed** comorbid condition, somewhere in the patient's chart it must be stated by a pediatrician, psychologist or psychiatrist that the patient has such a condition. Alternatively, the patient may have stated that he/she has been diagnosed in the past and is currently taking medication for the condition. Diagnoses may be listed under the heading "Axis I" or "Axis II"

Examples/phrases to look for:

- 'Symptoms consistent with a diagnosis of ...'
- "patient has been treated for..."
- 'patient's past medical history is notable for a diagnosis of ...'
- 'patient is clearly experiencing a variety of ... symptoms that can be considered clinically significant'
- 'patient is experiencing difficulty with ...'
- 'does not meet criteria at the time but would have several months ago'

DO NOT code that a diagnosis is present if you note statements such as:

- If stated that patient is within normal ranges (i.e. for behavioural problems, 'rebellion consistent with age')
- 'does not meet criteria for ...'
- 'does not endorse any ... symptoms'
- Medical conditions as a result of eating disorder (i.e. gastrointestinal reflux due to frequent purging)
- Secondary complications to medical conditions (i.e. hypertension, sleep apnea, high cholesterol or high blood pressure due to obesity)
- Common medical conditions including chicken pox, mono, tonsillitis, appendicitis, influenza
- Misdiagnoses.
 - o For example, 'patient was diagnosed for OCD and later determined that she did not in fact have OCD'
- If psychometrics are mentioned as significant in the report BUT no clinical diagnosis is made.

Comorbid Diagnosis Specific Coding Criteria;

- *Depression:*
- *Generalized Anxiety Disorder:*
- *Social Phobia:*
 - Social Anxiety = Social Phobia
- *Psychotic Disorder:*
- *OCD:*
 - **DO NOT** include OCD behaviours that relate to exercise or other secondary symptoms of an eating disorder.
- *Bipolar Disorder:*
- *Developmental Delay:*
- *Tic/Tourette's Disorder:*
- *ADHD/ADD:*
- *Learning Difficulties:*
- *Separation Anxiety Disorder:*
- *Personality Disorder:*
 - This includes Borderline Personality, Histrionic, Antisocial etc.
 - Specify which disorder
- *Medical diagnosis:*

Provisional Diagnosis:

In order to code for the presence of a **provisional** comorbid condition, somewhere in the patient's chart it must be stated by a pediatrician, psychologist or psychiatrist that the patient has **1) symptoms of a condition but does not meet full criteria for a diagnosis for that condition, 2) the patient has significant and/or subclinical symptoms associated with a condition, 3) they suspect a diagnosis but need to conduct a more thorough assessment/interview or suggest they monitor the patient further in regards to their symptoms related to a condition, or 4) patient is prescribed medication for a mental health condition without a confirmed diagnosis.**

Examples/phrases to look for:

- 'patient exhibits subclinical symptoms of ...'
- 'does not currently meet full criteria for ... but has **significant** symptoms of ...'
- 'likely suffers from ...'
- 'patient exhibit many features of ...'
- 'it appears that patient may also be suffering from ...'
- 'patient is endorsing symptoms of, though not to the extreme'
- 'patient should be monitored for further symptoms of ...'
- 'although patient is experiencing symptoms of, it is difficult to make a definitive diagnosis at present'
- 'patient is experiencing significant symptoms that are similar to ... at this time'
- 'patient has been tried on anti-depression medication in the past but the medication did not have an impact on her mood'
- 'patient has a number of symptoms and is at risk for ...'
- 'patient has been on Prozac for several months for low mood'
- 'symptoms of ... should be explored further when patient is medically stable'
- 'patient does not fit full criteria for ... at this time'
- The patient was prescribed medication for a condition in the past that had no positive effect.
- Clinician questions current diagnosis and suggests another condition that he/she deems more appropriate.

DO NOT code that a diagnosis is present if you note statements such as:

- 'patient has **some** symptoms of ...'
- 'patient is at risk for ... due to present life stressors'
- 'parent thinks that patient has'
- symptoms that are secondary to the eating disorder diagnosis
- 'symptoms insufficient to make a diagnosis of ... as it is likely related to underlying AN'

Comorbid Diagnosis Specific Coding Criteria;

- *Depression:*
- *Generalized Anxiety Disorder:*
- *Social Phobia:*
 - o Social Phobia = Social Anxiety
- *Psychotic Disorder:*
- *OCD:*
- *Bipolar Disorder:*
- *Developmental Delay:*
 - o Parent stated in Parent Intake Form that patient did not reach certain developmental milestones at an age-appropriate time
 - o Example: 'History shows that patient was notably delayed in ...'
- *Tic/Tourette's Disorder:*
- *ADHD/ADD:*
- *Learning Difficulties:*
 - o Receives remedial help at school for reasons unknown
 - o Level of academic performance below average
 - o Example: 'patient has some trouble with ... and requires extra help in this area'
 - o Exclusion criteria:
 - Patient receives extra help due to lack of attendance in school for a prolonged period of time
 - Patient has been diagnosed with ADHD/ADD that affects his/her ability to concentrate in school
- *Separation Anxiety Disorder:*
- *Personality Disorder:*
 - o This includes Borderline Personality, Histrionic, Antisocial etc.
 - o Specify which disorder
- *Medical diagnosis:*