

# Weight Recovery in an Outpatient Medical Eating Disorders Clinic: A Retrospective Review

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## ABSTRACT

**BACKGROUND:** The purpose of this study was to identify rates of weight recovery among adolescents and young adults with restrictive eating disorders (RED) as part of a quality improvement assessment in an Adolescent Medicine outpatient clinic in Rhode Island.

**METHODS:** A retrospective chart review was completed on 94 randomly selected patients ages 10–21 years old. Demographics, descriptors, time to weight recovery, and participation in other care were recorded.

**RESULTS:** The average age of participants was 15 years; most were female, cis-gender, White, had private insurance, and had one or more co-morbid psychiatric diagnosis. At intake, 81% were <95% treatment goal weight (TGW), with 27% at <80% TGW. Among participants who started at <95% of TGW, 51% achieved  $\geq 95\%$  of TGW; participants who engaged in a higher level of care were more successful.

**CONCLUSIONS:** This study identifies outcomes and highlights the challenge of weight recovery among patients with RED, even when managed by an expert clinical team.

**KEYWORDS:** eating disorder program, weight recovery, outcomes

## BACKGROUND

Eating disorders among children, adolescents and young adults (AYA) ages 5 to 26 years are increasingly common,<sup>1</sup> and the process of recovery can be hampered by setbacks and relapse.<sup>2</sup> Identifying outcomes among AYA with restrictive eating disorders (RED) is challenging due to multiple factors, including absence of a clear definition of recovery and difficulty with sustained follow-up;<sup>2-4</sup> however, achieving or maintaining a healthy body weight is a well-established primary goal of treatment<sup>5</sup>

Most AYA with RED are medically managed in the primary care or eating disorder-specialized outpatient setting. A retrospective chart review by the National Eating Disorders Quality Improvement Collaborative examined treatment outcomes among patients with RED in 14 Adolescent Medicine clinics.<sup>2</sup> The Collaborative used  $\geq 90\%$  of the mean

body mass index (BMI) as its definition of weight recovery and showed that patients do make progress towards this goal in the first year of treatment. Engagement in a higher level of care (HLOC) did not improve weight outcomes. Though  $\geq 90\%$  mean BMI has been used as a minimum goal to establish physical recovery,<sup>6</sup> some studies suggest that using a higher target might better support physical and psychological recovery.<sup>7,8</sup> As a reference point, medical hospitalization is recommended for increased risk of physiologic complications when a patient is <75% of an appropriate body weight. The current study was undertaken as part of a program assessment determine how AYA with RED in an Adolescent Medicine-based eating disorders program fared with weight recovery to and maintenance at  $\geq 95\%$  of treatment goal weight (TGW) over time as a key indicator of progress towards recovery from the eating disorder.<sup>9</sup> In addition, it examines whether engagement in a higher level of care during treatment enhanced the weight recovery process.

## METHODS

The Hasbro Children's Hospital Eating Disorders Program (HEDP) in Providence, Rhode Island, serves AYA with eating disorders in an outpatient Adolescent Medicine clinic, including medical providers, dietitians, and social work program support; it does not include individual or family therapy. Principles of Family-Based Treatment are integrated into the HEDP medical setting.<sup>10</sup> Patients are required to engage in community-based eating disorder-focused psychotherapy as part of treatment, but the method(s) used depends on the individual clinician's approach. Higher levels of care available through the HEDP include medical inpatient, medical-psychiatric inpatient, and medical-psychiatric partial hospital programs. An institutional review board-approved retrospective chart review was conducted on a randomly selected sample of 94 patients who followed in the HEDP between January 2012 and May 2022 and reported restrictive eating. Patients were randomized using an alphabetized list by last name of active patients, and by selecting every 5th patient. Charts were reviewed for information at the initial appointment and at 6, 12, 24, 36 months and/or the most recent appointment to clinic.

Collected data included demographic information, anthropometrics, additional eating disorders behavior(s), and any

HLOC treatment (Tables 1,2). Participants included patients who reported a restrictive eating pattern; some reported additional disordered eating behavior as well. Each patient's TGW was identified by an eating disorder-experienced dietitian based on individual patient growth chart review and consideration of mean BMI at the 50th percentile for age and gender.<sup>9</sup> REDCap was used for data de-identification and storage Data analysis included percent of patients who achieved ≥95% of TGW.

**RESULTS**

The average participant age was 15 years (range 10–21 years). Most were female, cis-gender, White, and had private insurance. At intake, 81% were <95% TGW, with 27% at <80% TGW. During the study period, 79% reported at least one co-morbid psychiatric diagnosis. Table 1 describes

**Table 1.** Demographic and descriptive features

	Total sample N=94 (%)
Female	84 (89)
Transgender or non-binary	6 (6)
Non-White	24 (26)
Public insurance	30 (32)
Eating Disordered behavior reported in addition to restricting*	
Vomiting	31 (33)
Excessive exercise	35 (37)
Calorie counting	19 (20)
Binge eating	10 (11)
Weight loss pills/supplements/laxatives	6 (6)
Percent of TGW <sup>†</sup> at intake	
<80	25 (27)
80–84	19 (20)
85–95	33 (35)
>95	18 (19)
Started >95% TGW and lost to <95% TGW	3 (3)
Comorbid psychiatric Diagnoses* <sup>°</sup>	
0	19 (20)
1	23 (24)
2	15 (16)
>2	39 (41)
Participated in higher level ED care**	
Medical inpatient setting only*	20 (21)

\*at any point during study period

<sup>†</sup>treatment goal weight

<sup>°</sup>including depression, anxiety, attention deficit disorder/attention deficit hyperactivity disorder, obsessive compulsive disorder, post-traumatic stress disorder, oppositional defiant disorder, adjustment disorder, passive suicidal ideation, suicidal ideation with a plan, suicide attempt, self-harm, substance use, history of trauma

\*\*including residential, partial hospital, intensive outpatient, and/or medical inpatient

participant characteristics. Among participants who started at <95% of TGW, 51% achieved ≥95% of TGW. Participants who engaged in HLOC more often achieved ≥95% of TGW. Table 2 describes weight recovery to ≥95% of TGW among participants.

**Table 2.** Patients who started at <95% and reached ≥95% treatment goal weight over time

	N (%) ever achieved ≥95% TGW	N (%) at ≥95% TGW at <7 months	N (%) at ≥95% TGW at 8–13 months	N (%) at ≥95% TGW in 14+ months
Patients who started at <95% TGW* (N=77)	40 (51)	25 (32)	9 (12)	6 (8)
Initial % TGW weight				
<80 (N=25)	14 (56)	8 (32)	4 (16)	2 (8)
80–84 (N=19)	9 (47)	2 (11)	5 (26)	2 (11)
85–95 (N=33)	17 (50)	15 (88)	0 (0)	2 (12)
Participated in other ED care (N=28) <sup>°x</sup>	20 (71)	12 (43)	5 (18)	3 (11)
Admitted to medical inpatient setting (N=18) <sup>°</sup>	13 (72)	8 (44)	4 (22)	1 (6)

\*Treatment goal weight

<sup>°</sup> at any point during the study period

<sup>x</sup> including residential, partial hospital, intensive outpatient, and/or medical inpatient

**DISCUSSION**

Our study shows that just over half of AYA with RED who started out underweight achieved ≥95% TGW during the study period; most achieved this goal relatively early in treatment, suggesting that the first few months of treatment in an eating disorder clinical setting can be critical to successful weight recovery. In addition, those who engaged in HLOC were more likely to successfully weight restore.

The current study aligns with the findings of the National Eating Disorders Quality Improvement Collaborative showing successful weight recovery can occur in the Adolescent Medicine clinical setting,<sup>2</sup> though fewer patients in our study achieved this goal. Our less robust findings are likely explained by several factors. When a lower target weight range is used (≥90% of TGW, as in the Collaborative study) the proportion of patients who achieve the goal will be greater than when a higher (≥95% of TGW) target range is used. In our study we used the higher range because it is more likely to support both physical and therapeutic recovery.<sup>7,8</sup> In addition, nearly half of the current sample had >2 co-morbid psychiatric diagnoses, suggesting significant emotional complexity, a recognized challenge to successful weight restoration.<sup>4</sup>

Our findings show that HLOC engagement was more common among patients who achieved target TGW, which differs from the Collaborative's findings among a similar

population.<sup>2</sup> The current study did not explore whether weight gain during HLOC participation was maintained long-term, but past studies suggest that assertive weight gain early in treatment might improve chances for sustained recovery,<sup>11</sup> making any weight gain in the early phase of treatment an opportunity to establish a path to wellness.

## STRENGTHS AND LIMITATIONS

Our study provides a closer examination of outcomes in a specific treatment setting; findings will be applied to future quality improvement efforts in the participating clinic and might inform practice in similar outpatient eating disorder medical settings elsewhere. The study was limited by several factors. Data reflected a random sample of patients, some long-term and others relatively new to treatment. This inconsistency in length of time in care and small sample size prevented analysis of average length of time to weight recovery; some participants may not have been in treatment long enough to allow for weight recovery, and others may have started treatment in a HLOC setting where weight gain was established more aggressively, giving them a “jump start” in weight recovery compared to patients who only engaged in outpatient treatment. In addition, though the chart review included extraction of private vs public insurance data as one measure of socioeconomic status, it did not use other methods (zip codes, for example) that might have allowed a better understanding of contributing social determinants of health (e.g., density of grocery stores by zip code) in recovery. Finally, there were time constraints on the study’s first three authors (graduation from training programs (GG, DM) and transition to medical clerkship (HF)) such that the period for chart review was limited.

## CONCLUSIONS

This descriptive study of patient progress in an Adolescent Medicine eating disorders program provides an assessment of program outcomes to enhance quality improvement efforts and highlights the challenge of weight recovery among patients with RED, even when managed by an expert clinical team. While weight restoration is a prerequisite for recovery, using it alone over-simplifies the assessment of recovery. Future outcomes studies in this population should work towards standardized measures of physical and emotional recovery that can be better applied to the interdisciplinary care settings so often utilized in eating disorder treatment.

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## Disclosures

**Disclaimer:** The views herein are those of the authors and do not necessarily reflect the views of any of the author-affiliated employers or universities.

**Authors’ contributions:** Chart review was conducted by HF, DM, GG, and AD. Data analysis was conducted by GG. Manuscript preparation and review was conducted by AD and DM. All authors read and approved the final manuscript.

**Ethics approval and consent to participate:** The study was approved by the Rhode Island Hospital Institutional Review Board (IRB). Consent was waived by the IRB due to study design (retrospective, de-identified chart review).

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