Evidence In-Sight:
Length of stay benchmarks for outpatient mental health services

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Suggested citation


Overview of inquiry

This report was written for a community agency that provides outpatient mental health services for children and youth ages 10 to 18. Clients typically present with diagnoses of depression, anxiety, Asperger’s syndrome, bipolar affective disorder and psychosis but the predominant concerns are depression, anxiety, and co-occurring depression and anxiety.

The agency serves approximately 1,000 clients per year, usually referred by general practitioners. On staff are four psychiatrists and eight clinicians. Clients come from diverse ethnic backgrounds and vary by socio-economic status. The organization is familiar with benchmarks for length of stay for adult populations, but they would like to learn about benchmarks for children and youth. The agency recognizes that time-limited service is one way of handling volume demands and wait lists, but they hope to establish benchmarks based on evidence.

Summary of findings

Concepts discussed in this report include outpatient services, dose-effect and booster sessions. Outpatient services refer to treatment or intervention sessions provided to children, youth and families, although many of the programs in the literature are provided by hospitals rather than community based agencies. The number of treatment sessions is frequently part of what research considers dosage. Dose-effect is the ratio of the number of sessions to the percentage of patients who show an improvement. Booster sessions refer to follow-up sessions after a prescribed length of treatment.

- Several studies in the adult mental health literature suggest that eight sessions may be an ideal treatment length in psychotherapy. However, no recent randomized controlled trials examining data related to children and youth were found to confirm this and there are no recommendations based on diagnostic differentials.
- For adults, clients with depression respond to therapy more quickly than clients with anxiety, who in turn respond more quickly than clients with borderline personality disorder.
- Research seeking to find the most effective number of sessions for children and youth has found inconsistent dose-effect results.
- In treating youth with mental illnesses, treatments of differing lengths have achieved comparable results, so there may be no single model of treatment with an optimal treatment length.
- Research in residential settings for children and youth finds that clients tend to make rapid improvements in functioning but the trajectory of improvement slows over time.
Findings

While there is some research on optimal mental health treatment duration for inpatient and residential services for children and youth, there is little information on the optimal treatment duration for outpatient services. Many articles reference a study involving adult clients conducted by Howard, Kopta, Krause and Orlinsky (1986) which recommended a treatment length of eight sessions. While this was a large study, more recent studies are not all in agreement with this finding.

Outpatient services – adults

Outpatient therapy for adults is typically offered in individual, group or family contexts, and planned dosages are typically 6-12 sessions or longer-term (a year or more) and provided on a weekly basis or more frequently (Burns, Hoagwood, & Mrazek, 1999). Howard et al. (1986) introduced a dose-effect model to study the trajectory of improvement over time for adults in psychotherapy. Analysis was conducted on data from 2,400 adult patients over a period of 30 years and found:

- 15% of patients improved before the first session, independent of clinical intervention
- 50% of clients improved after eight sessions
- 75% of clients had improved after 26 sessions
- 85% of clients had improved after 52 sessions

The study demonstrated that the effect of psychotherapy was most pronounced in the initial sessions and the trajectory of improvement slowed with more sessions. While half of clients showed improvement in the first eight sessions, only 25% more improved over 18 subsequent sessions.

This study also found that different diagnostic groups had different dose requirements. Depressed adult clients were found to respond most quickly to psychotherapy, followed by clients with anxiety and then by clients with borderline personality disorder. The study concluded that 6-8 sessions is a reasonable amount of exposure to treatment for patient improvement and that 26 sessions is a reasonable limit, or a point in time where patients who are not improving should be reviewed (Howard et al., 1986). While this study used data from adult clients, other research looking at treatment length for children and youth often cites this study.

More recent research regarding treatment duration in the adult population has found conflicting results. For example, an evaluation of psychological therapies by the Guidelines Advisory Committee (GAC) in Ontario found that therapies that lasted 8 sessions or fewer were unlikely to be effective against moderate to severe mental health problems (Pare & Gilbert, 2002). By contrast, an American study on the dose-effect relationship in routine outpatient psychotherapy found that as length of treatment increased, treatment returns (or treatment improvement) began to decrease, plateauing after 8 sessions in a logarithmic trend (Staus, Lutz, Kopta, Minami, & Saunders, 2013). Adding to complexity, some treatments seem to work well with both short and long duration, such as treating adjustment disorder with psychodynamic psychotherapy (Ben-Itzhak, et al., 2012). Due to the current nature of treatment duration literature,
research regarding length of stay for psychological therapies should be reviewed carefully due to confounding variables. In practice, treatment plans for psychological disorders typically encompass not just one strategy, but rather multiple approaches, including medication, psychological therapy, career counselling and support for the family (Hollon, Jarrett, Nierenberg, Thase, Trivedi, & Rush, 2005; Mintz, 2006).

Outpatient services – children and youth

A study on the effectiveness of outpatient treatment in a sample of 9 to 16-year olds (Angold et al., 2000) found a significant relationship between the number of treatment sessions attended and improvement in symptoms at follow-up. Results suggested that more than eight sessions were required to produce such effects, and the study authors suggest that attempts to limit child psychiatric treatment to very short-term interventions may be counterproductive (Angold, Costello, Burns, Erkanli, & Farmer, 2000). Other studies have found no difference in outcome for individuals who received less than the recommended treatment dose (i.e. eight sessions; Andrade, Lambert, & Bickman, 2000; Deblinger, Mannarino, Cohen, Runyon, & Steer, 2011).

It is possible to provide effective treatment to adolescents with depression in a short period of time (one to two months), and with a limited number of sessions (Lewinsohn & Clarke, 1999). In treating youth with depression, treatments of differing lengths have achieved comparable results, and therefore there is likely no single model of treatment with an optimal treatment length for this population (Lewinsohn et al., 1999). It may be necessary to vary length of treatment based on recovery rate. In some cases, monthly booster sessions may be helpful for a program with a pre-determined end date (Lewinsohn & Clarke, 1999).

Cognitive-behavioral therapy (CBT) is currently the treatment of choice for adolescents with depression and anxiety (Compton, March, Brent, Albano, Weersing, & Curry, 2004; Nathan & Gorman, 2015). CBT programs range in length from five to eight sessions (Wood, Harrington, & Moore, 1996; Nathan & Gorman, 2015), to 20 sessions (Stark & Kendall, 1996; Nathan & Gorman, 2015). Community settings have great variability in the number of therapy sessions provided to children and youth as treatment is often driven by the therapist’s schedule, other resource-related issues, and family willingness and ability to participate than adherence to a treatment model (Seligman, 1995).

A study was conducted to compare treatment received in community mental health centres compared to youth treated with CBT in clinical trials for depressed youth compared with a control group (i.e. wait list; Weersing & Weisz, 2002). At intake, youth had comparable levels of depression. In the community mental health group, the number of treatment sessions ranged from one to over 90, with a median number of treatment sessions of 11. In this group, 35% received fewer than eight sessions. In the CBT group, the total number of sessions ranged from 6 to 25, with a median number of sessions of 12. There were substantial differences in depression recovery between the two groups:

- Youth treated with CBT showed steep declines in depression symptoms within three months, which were maintained at follow-up.
- The community mental health youth followed a similar trajectory to the youth in the control group at 6-month assessment.
• In the community mental health group, ethnic minority status and low therapy dose (fewer than eight sessions) were related to poorer outcomes.

• Observed differences are likely not all attributable to treatment length. Even when comparing with longer services, the community mental health group still performed more poorly than the CBT group.

Similar results were found in child sexual abuse literature. In a study comparing the efficacy of CBT therapy duration in children aged 4-11 who have suffered sexual abuse, researchers found that both moderate duration (8 sessions) and long duration (16 sessions) showed significant improvement in child symptomology and externalizing behaviours (Deblinger, Mannarino, Cohen, Runyon, & Steer, 2011).

Adult data suggests that following 8-12 weeks of acute treatment it is necessary to deliver a six month to one-year treatment continuation. For those with recurrent depression, years of psychotherapy and/or pharmacotherapy may be necessary (Ryan, 2003). For children and adolescents for whom treatment must continue for months or years, it may be beneficial to teach parents to provide ongoing CBT-like maintenance to their child with occasional check-ins with a therapist for booster sessions (Ryan, 2003).

**Inpatient services**

Diagnosis is one predictor of length of stay in inpatient treatment. Youths with conduct disorder (42 days) stayed significantly longer than those with depression (22 days), who stayed longer than those with adjustment disorders (12 days; Pottick, Hansell, Miller, & Davis, 1999). Ontario research on youth who were admitted into adult psychiatric beds found that a diagnosis of schizophrenia, mood disorders, eating disorders, personality disorders, and intellectual disability correlated to a longer length of stay while education, being discharged against medical advice, and a diagnosis of adjustment disorders were associated with shorter length of stay (Stewart, kam, & Baiden, 2014).

Inpatient length of stay has been found to be influenced by the type of clinical disorder and the presence of personality disorders and intellectual disability (Tucker & Brems, 1993). For example, individuals with adjustment disorder spend significantly less time in inpatient treatment than any other client group. This is likely because adjustment disorder arises in response to a psychological stressor, is not caused by another mental disorder, and is time-limited in nature (Tucker et al., 1993). Chronic, re-current conditions including schizophrenia and major affective disorders require lengthier support (Tucker et al., 1993). The presence of both personality disorders and developmental or intellectual disabilities significantly lengthens hospital stays. Medical illness, dual diagnosis, and previous psychiatric outpatient treatment do not correlate with length of stay, but patients with suicidal behaviour or ideation have a longer length of stay (Lesaca, 1992).

**Optimal treatment length in residential services**

Evidence In-Sight generated a report on optimal length of residential treatment for adolescents. The following is an excerpt from this report (Carey, April 2012). The report found support for both short- and long-term treatment and the research does not come to a consensus on an optimal time frame for this type of service.
“Research examining length of stay in residential treatment shows mixed findings. Some research indicates that less time spent in treatment is related to more positive outcomes, and other research has shown longer stays are more beneficial. Despite these mixed findings, the clear message in the literature indicates that the length of stay is not a good indication of treatment outcome when considered on its own. Regardless of the time spent in treatment, the environment to which a youth is discharged after leaving the residential setting is a more important indicator of the treatment outcome than the amount of time in the residential program (Bates et al., 1997; Baker et al., 1995; Hair, 2005; Lyons et al., 2009).

A number of studies have looked at how symptoms change over time during the course of residential treatment to identify the optimal length of stay, or the point at which the maximum symptom reduction is reached. Rather than specifying an optimal length of stay, research indicates that length of stay depends on a number of individual and environmental factors. For example, the severity of the child’s condition, factors related to their family, community resources available, and intensity of residential treatment (Alberta Alcohol and Drug Abuse Commission)… Other evidence supporting longer stays in residential treatment is reflective of the severity of one’s condition at intake and also during treatment. For example, Hussey & Guo (2002) noted that children who presented with more severe psychopathology remained in treatment longer than those with less severe symptoms.”

Report context

This Evidence In-Sight report involved a non-systematic search and summary of the research and grey literature. These findings are intended to inform the requesting organization, in a timely fashion, rather than providing an exhaustive search or systematic review. This report reflects the literature and evidence available at the time of writing. As new evidence emerges, knowledge on evidence-informed practices can evolve. It may be useful to re-examine and update the evidence over time and/or as new findings emerge.

Evidence In-Sight primarily presents research findings, along with consultations with experts where feasible and constructive. Since scientific research represents only one type of evidence, we encourage you to combine these findings with the expertise of practitioners and the experiences of children, youth and families to develop the best evidence-informed practices for your setting.

While this report may describe best practices or models of evidence-informed programs, Evidence In-Sight does not include direct recommendations or endorsement of a particular practice or program.

Answer search strategy

Search tools: PsycInfo, PubMed, University of Ottawa electronic database, Google Scholar
Search terms

We used the following terms or combination of terms to find literature pertaining to length of stay, treatment length, optimal treatment length, benchmarks, dose-effect, anxiety, depression, children, and youth.

References


