

Impact assessment for Mental health treatment

BACKGROUND: The New Life Residential Treatment Facility is an NGO that specializes in providing care for teenagers exhibiting signs of mental illness. It offers housing and supervision for teenagers transitioning from psychiatric hospitals back into the community. Given that many of these teenagers have experienced severe childhood abuse and have been involved with the juvenile justice system, behavioural issues are prevalent at New Life. Employee compensation is modest, and staff turnover (attrition) rates are high.

New Life initiated a reengineering program with the objectives of reducing behavioural problems among the teenagers and decreasing employee turnover rates. As part of this effort, the following changes were implemented:

Employee shifts were shortened from 10 hours to 8 hours each day.

Employees were encouraged to become more actively engaged in patient treatments, which included staff-led therapeutic treatment sessions and increased staff input into program changes.

The activities budget was increased.

A facility-wide performance evaluation system was introduced, which rewarded staff participation and innovation.

Management and staff collaborated on a program aimed at raising expectations for appropriate behaviour from the teenagers. This program involved strict compliance with reporting behavioural violations, insistence on participation in therapeutic sessions, and a lower tolerance for even minor behavioural infractions.

To assess the effectiveness of the reengineering effort, a dataset was compiled, encompassing both pre- and post-reengineering periods. The dataset contains two measures of behavioural problems. A critical incident is recorded when a resident leaves the premises without permission (AWOL), damages property (e.g., punching a hole in a wall or breaking windows), is found in possession of street drugs, or engages in assault against other residents or staff members. Temporary removal from the facility occurs when a teenager is sent to jail or back to a psychiatric hospital.

BUSINESS PROBLEM: The objective is to determine whether the reengineering effort had any impact on the incidence of behavioural problems and staff turnover. Specifically, we aim to ascertain whether the reengineering effort led to a change in the critical incident rate. The question at hand is whether there is evidence of an improvement in the critical incidence rate.

DATA AVAILABLE: Price_Quotes.csv

The dataset covers 20 months of data, with the first 13 months being prior to the reengineering initiative. The variables in the dataset include:

Reengineer: Indicates whether the month falls within the "Prior" or "Post" reengineering period.

Employee Turnover: Represents the percentage of employees who resigned in a given month, relative to the total number of employees.

TRFF (%): Reflects the percentage of residents temporarily removed from the facility in a given month, relative to the total number of residents.

CI (%): Signifies the percentage of critical incident reports filed in a specific month, relative to the total number of residents.