



Cost Effective Counselling For Drug & Alcohol Addicts

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Abstract

In this paper we present the results of an investigation into the efficiency (recovery rate of clients) of the provision of different frequencies of counselling sessions by different counsellors.

This research demonstrates that, counselling sessions occurring more frequently than once every 10-11 days may hamper the recovery of clients. Reducing the frequency of sessions to once every 3 weeks does not appear to affect the recovery rate.

The results of these investigations have significant implications regarding the potential costing savings which can be made in the provision of therapeutic intervention and, hence, the opportunity for serving more clients for the same funding.

These findings may be timely given the recent extension in drinking hours in the United Kingdom and their expected impact upon increased alcohol addiction.

Introduction

The provision of appropriate, individual, timely, support for recovering addicts not only leads to alcohol addicts having the greatest chance of recovery but also offers the potential for stabilization of their addiction. In addition to patient benefits an individually tailored support program could also lead to cost savings and the ensuing ability of a Health Authority to support more patients.

This paper describes the results of investigations into the timing, and degree¹, of counselling support offered to recovering addicts and the speed and effectiveness of their ensuing recovery. The investigations included determination of whether saturation of counselling session frequency affected the recovery.

We begin by providing an introduction to the process of therapeutic intervention and the means by which the data used were captured

and cleaned. This is followed by a description of the methodology employed during these investigations and the results which were obtained using the methodology. A discussion of the results is followed by conclusions which may be drawn and an outline of possible avenues for further investigation.

Process

Recovery from alcohol addiction is thought to involve movement through recovery stages (Thornton et al., 2001). The recovery process is supported by attendance at counselling sessions. During these sessions, counsellors endeavor to determine which recovery stage the patient is currently occupying, and hence gain an indication of the recovery pattern which the patient is following. **Figure 1** provides an indication of the decisions which may be made in determining the current recovery stage of the patient.

¹ Session/week ratio

ENTRY CRITERIA	STAGE	INTERVENTIONS
Any clue: consumption, occupation, history, illness, bloods, information from others.	1. POSSIBLE	Gather more clues. Exit if isproved.
Any two alcohol related problems	2. PROBABLE	Share and explore. Tailored nformation
Rejects connection between problems and alcohol. Help declined. Chooses to take no action. Multiple therapists. Recurrent offending.	3. STUCK	Therapist accepts decision, discontinues appointments. Avoid collusion. Work with third party. Team checks at next opportunity.
Worker and patient/client consider what might be done	4. THINKING	Dilemmas, incongruities, facing self, positive and negative actors. Crisis intervention. Motivational interviewing. Belief in success.
Cutting down, stopping, lapsing but keeping appointments, other changes	5. CHANGE	Goals, skills, contracts. Discuss lapsing.
Drinking and failing appointments. Resisting therapeutic interventions.	6. RELAPSE	Client/patient goes back to previous stage.
Dry or controlled, still working. Appointments + or < monthly	7. KEEPING GOING	Repair of damage. Support. Monitoring. Growth work. Life skills.
Dry or safe drinking. Work completed.	8. RECOVERED	Celebrate. Follow-up passes back to GP.
No information	9. DISENGAGED	Team checks at next opportunity.

Figure 1 – Typical Criteria used to determine current recovery stage of a patient

The counselling sessions usually involve one patient and one counsellor. Sessions with more than one counsellor and more than one patient are often held to ensure a uniformity of ‘staging’ amongst the counsellors (uniformity of application of the chosen intervention process).

The frequency of counselling sessions is often reduced as the patient progresses on the path to recovery – this reduction in frequency of counselling sessions is determined by the counsellor. It is the effectiveness of the

frequency of counselling sessions with time which forms the focus of this investigation. Effectiveness is measured by determining the time to reach recovery with shortest time as most effective.

The following section describes how the data recorded during the counselling sessions were used in the investigations.

Data Capture and Cleaning

The stage data recorded by the counsellors during each session is ‘warehoused’ in a cen-

tral data repository using human data input from the counsellors recording/notes.

For each session, seven variables are recorded for each patient. Namely stage, the unique client identification number (UCIN), attending addiction type (AAT), presenting addiction type (PAT), district (LOC), time in program in terms of year (YR) and week number (WN). Other information is also available for each patient regarding 30 variables. This information includes sex (SEX), marital status (MS), location (CLOC), ethnicity (ETH), employment (EMPLOY) and counsellor (COUNS). This information is also recorded and manually entered into another system.

The information from the counselling sessions and the other patient information was merged into one database to facilitate this investigation. The merged data contained records from 61,000 counselling sessions. **Figure 2** shows the nature of the 13 variables which were available for each patient.

Due to the fact that only 695 records contained missing data a decision was made to remove this small number of records from the data set because of the limited impact on the stage movement model. In addition, all categorical fields were replaced by numerical substitutions to aid in the analysis which required the use of numerical data. No further modification of the data was carried out.

The substitutions for the LOC, AAT, PAT, MS, SEX, EMPL, CLOC, ETH, EMPL, COUNS fields was achieved by sorting the possible categorical values in alphabetical order and then replacing the categorical value by a number representing the alphabetical order of the value i.e. the categorical value first in the alphabetical order was replaced by 1 (Burn-Thornton et al, 2002).

In addition to these variables, two additional variables were created, namely number of weeks in program (NWP) and number of hours undergoing counselling (NHUS). These additional variables were created using two different methods. NWP was created directly from the difference between start date in the program and current date, whilst NHUS was created by summing the total number of sessions a patient had undergone counselling.²

² NHUS includes sessions which the patient has undergone on a one to one basis with a counsellor and those attended with other 'recovers'. It is unclear whether these sessions should be regarded as the same but the group sessions constitute less

These two additional variables were crucial because their values would help in determining the effectiveness of the frequency of counselling sessions.

The data were analyzed using the methodology described in the following section.

Methodology

Using the merged data set as a starting point, for each client session the time in and time to each stage (in session number and weeks) was calculated from the entry point to the program. Once the calculations were completed recovery plots (Burn-Thornton et al., 2001) were made of time in, and time to stage, as a function of counsellor, ethnicity, employment, client location, marital status and sex. A typical plot is shown in **Figure 3** for the Time to Stage 4. More information regarding the process of obtaining the recovery plots may be found in Burn-Thornton et al. 2005.

Using the process described in Burn-Thornton et al 2005 the recovery plots were used to calculate the mean time to recovery stage for each counsellor – the frequency of counselling sessions was also recorded. **Figures 4-8** show a plot of the time to reach the recovery stage versus the ratio of frequency of counselling sessions / the time to reach the recovery stage.³

Results and Discussion

Figures 4-8 all show that the larger the recovery ratio, up to 3, the quicker the time taken to reach a given recovery stage i.e. a reduction in frequency of counselling sessions does not appear to affect the recovery rate of clients. The graphs show that counsellors offering counselling sessions at a frequency of 3 weeks have the same speed of recovery as those offering sessions at a frequency of 1.5 weeks.

Those counsellors who have the lowest mean frequency of counselling sessions (with their clients) appear to observe that their clients have a fast time taken to recovery. In addition, those counsellors who have a ratio of 1 have the longest time to reach stage.

than 1% of the sample so should have negligible impact on the recovery model.

³ From now on this will be referred to as the recovery ratio.

Variable	Type	Nature	Set of allowed values
Unique Client Identification Number	Numerical	Quantitative	{0... infinity }
Current Stage of Recovery	Numerical	Qualitative	{1,2,3,4,5,6,7,8,9}
Addiction Type - Presenting	Categorical	Qualitative	{Alcohol, Drugs, Drugs/Alcohol}
Addiction Type - Apparent	Categorical	Qualitative	{Alcohol, Drugs, Drugs/Alcohol}
Location	Categorical	Quantitative	{Location 1... Location?}
Year	Numerical	Quantitative	{1996.....?}
Client Location	Categorical	Quantitative	{Location 1... Location?}
Sex	Categorical	Quantitative	{M,F}
Marital status	Categorical	Quantitative	{S,M,D,B}
Ethnicity	Categorical	Quantitative	{COC, NONCOC}
Employment	Categorical	Quantitative	{company1, company?}
Counsellor	Categorical	Quantitative	{name1... name?}
Week No.	Numerical	Quantitative	{1... 52}

Figure 2 – Natures of the Variables used.

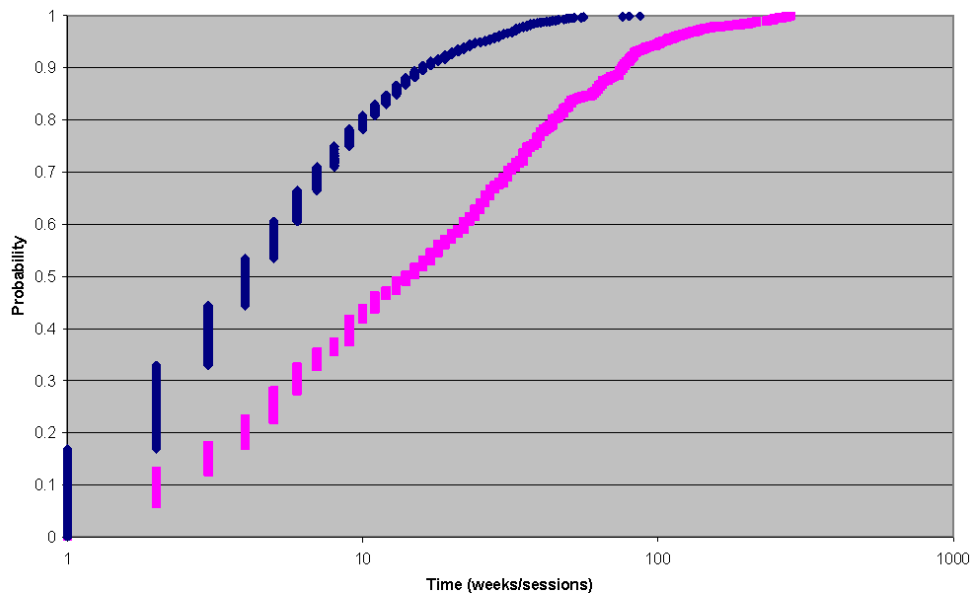


Figure 3 – Typical Recovery Plot (this example is for stage 4)

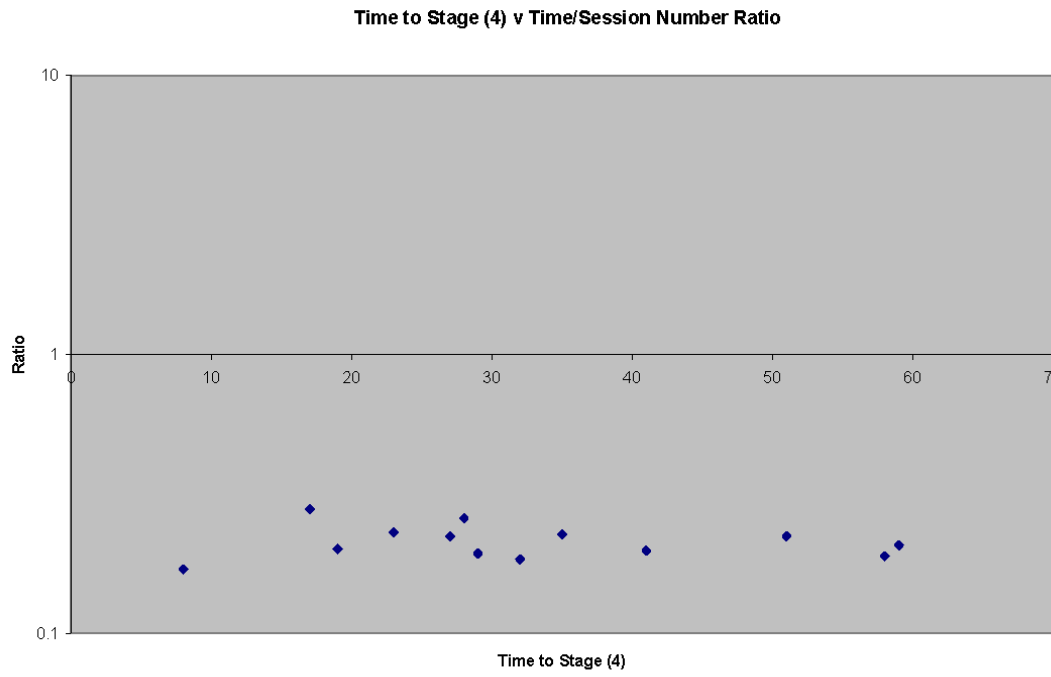


Figure 4 – Time to Stage(4) v Counselling Ratio

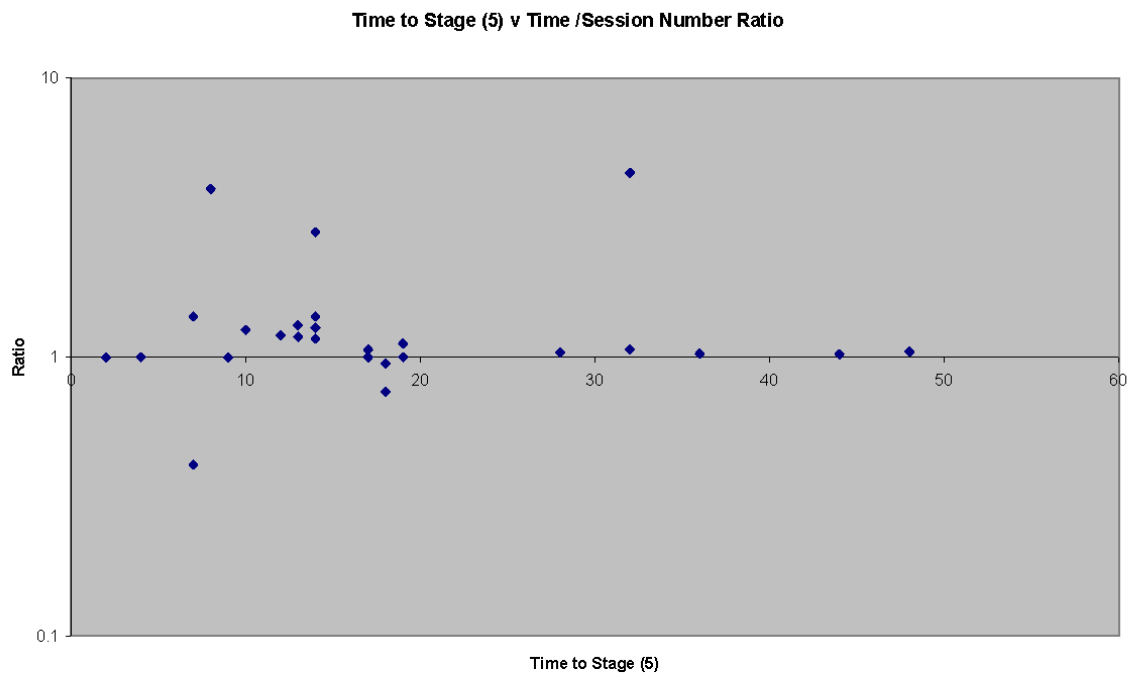


Figure 5 – Time to Stage(5) v Counselling Ratio

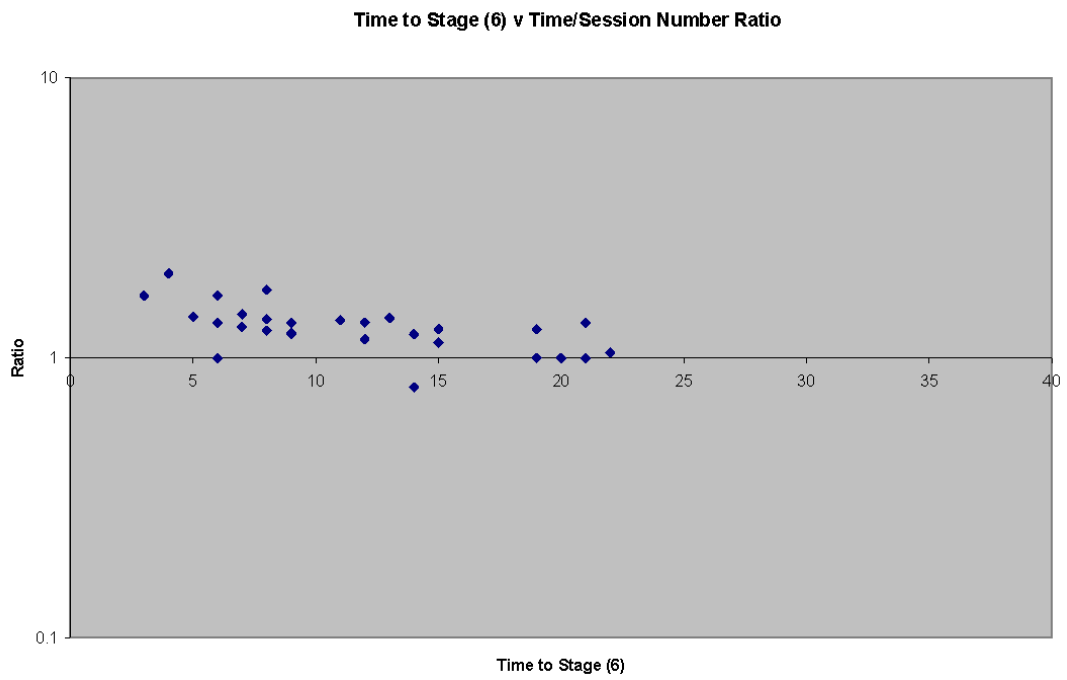


Figure 6– Time to Stage (6) v Counselling Ratio

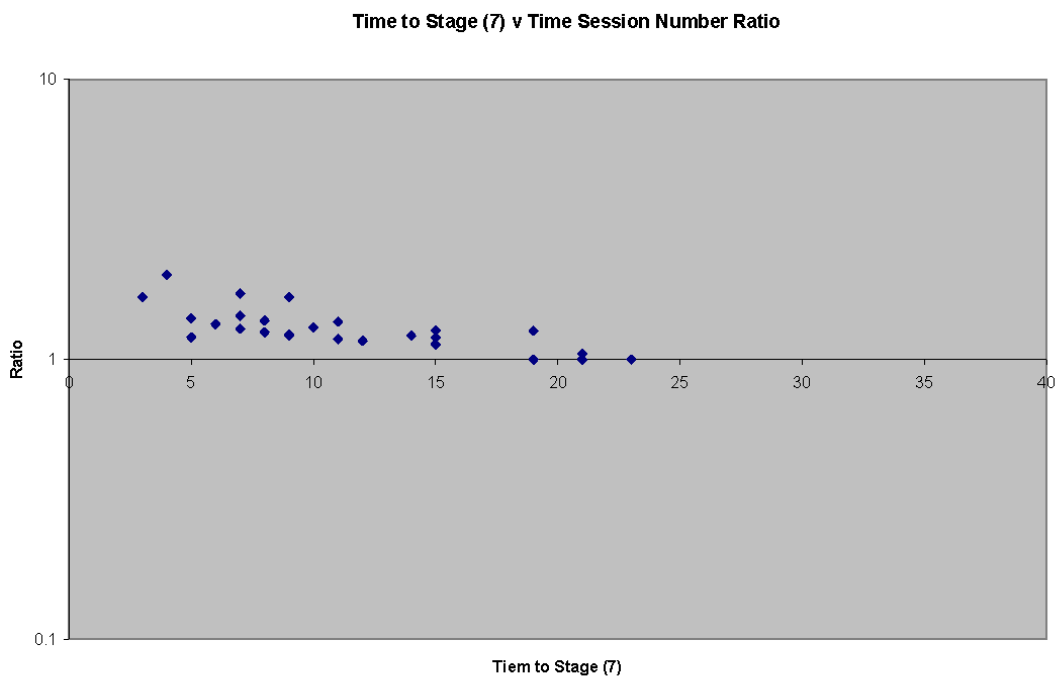


Figure 7 – Time to Stage(7) v Counselling Ratio

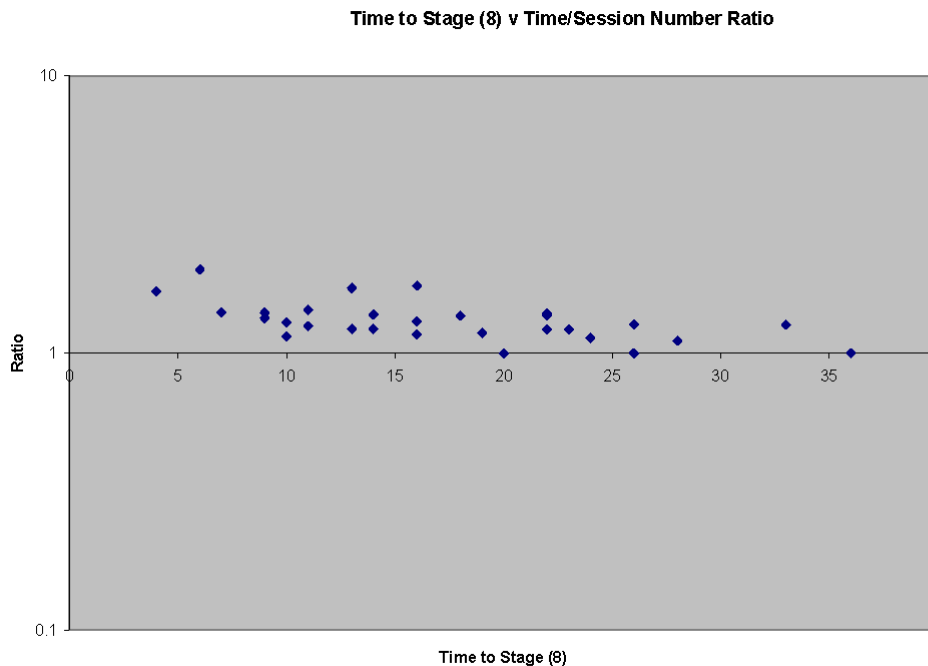


Figure 8 – Time to Stage(8) v Counselling Ratio

This suggests that saturation counselling may occur in that an increased frequency of counselling sessions, above one session every 10-11 days, may result in less benefit to the client and may have a detrimental effect.

Conclusion and Future Work

We have shown that the frequency of counselling sessions offered to those undergoing therapeutic intervention for alcohol addiction may hinder the recovery process if the clients are offered sessions more frequently than every 10-11 days. In addition, we have also show that a reduction of frequency of counselling sessions to every 3weeks does not appear to hinder the recovery process.

The results of these investigations have great cost implications to those providing therapeutic intervention for this addiction especially when using information technology to facilitate these sessions. These findings are particularly timely given the recent extension in drinking hours in the United Kingdom and their predicted impact upon increased alcohol addiction. The use of information technology can facilitate and possibly improve the efficiency of this therapeutic intervention.

Future work, already in progress, is investigating the impact of other factors upon the recovery rate of the addicts.

References

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