Improving the Quality and Implementation of Daily Activity Schedules by Residential Staff for Adults with Cognitive Impairments and Developmental Disabilities

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PURPOSE OF DAS PROJECT

The purpose of this project is to:

1. Assess the consistency of implementation of daily activity schedules (DAS) by residential group home staff for adults with cognitive impairments.
2. Design and evaluate the success of a staff management program to improve DAS implementation consistency.
3. Assess the impact of improved DAS implementation on reduction of negative behaviour and improved quality of life.

BACKGROUND

There is substantial consensus among a wide range of experts that individuals with severe cognitive impairments (e.g. intellectual and developmental disabilities, acquired brain injuries) require an environment that affords "structure" in daily living. This environmental structure is thought to be necessary because, among other things, most cognitive impairments cause substantial deficits to so-called "executive functioning", the capacity to plan and organize one's activities, set goals, monitor progress towards achieving goals, and problem-solve barriers to goal attainment, or, in other words, organize and occupy one's free time. And, executive functioning deficits are linked to mental health problems, such as depression and anxiety, behavioural problems, such as aggression and self-abuse, and low quality of life.

"Environmental structure" might be usefully operationally defined as the consistency of routines and activities in one's day, such as, when one gets up in the morning and goes to bed at night, dresses, eats meals, and participates in work and leisure recreational activities, etc.

Many professionals working with staff in residential group home settings in which several individuals with cognitive impairments may be living observe and complain that the clients often do not appear to be busy enough and that they need more "structure". An increase in structure is often recommended for improved quality of life.

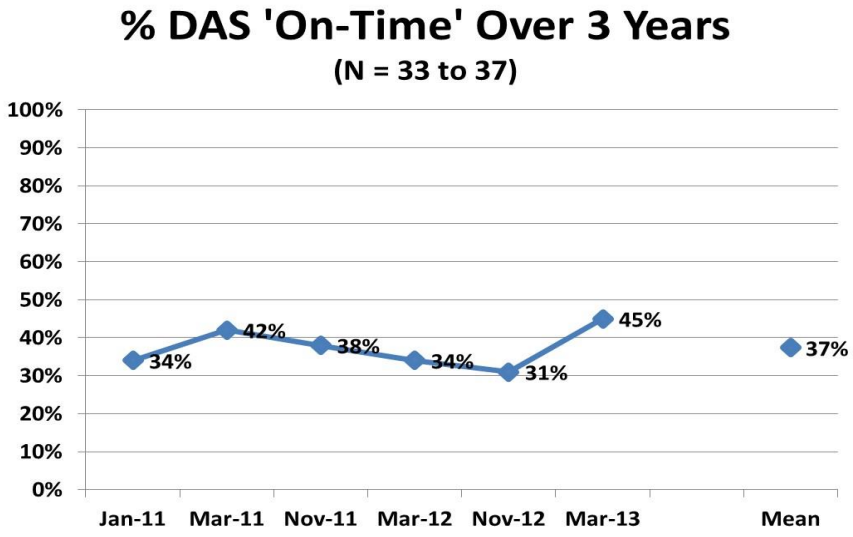
Despite the importance of environmental structure, there have been no published studies on the degree of structure in typical residential group-home settings. The purpose of the first study in

the DAS project was to assess this in several group homes servicing adults with acquired brain injuries.

STUDY 1 – Assessing the Consistency of DAS Implementation

Over a three-year period, six group homes servicing adults with acquired brain injuries from one community agency participated in the study. In total about 33 to 37 clients and their staff volunteered. Each year during two, two-week periods in Fall and Spring, trained McMaster University undergraduate students in psychology, at random times during the weeks went to the group homes and assessed whether the clients were engaged in the activities stipulated in their written daily activity schedules. If the client was not engaged in the scheduled activity, the alternative activity was noted and the assigned staff was interviewed about why the client was not doing the scheduled activity. This particular agency requires all clients to have a written DAS which made defining the schedule straight forward (see Study 4 for information on the prevalence of written DASs in other agencies).

The key measure of DAS consistency was the percentage of scheduled activities that the client was doing "on-time", defined as occurring within 15 minutes before or after when scheduled. As can be seen in the figure below, the observed percentage was consistent across the 6 two-week assessment intervals over the 3 years – only an average of **37% of DAS activities were implemented on-time**. And, about **38% of the alternative activities were more passive** in level of stimulation than the scheduled activity (e.g., watching TV instead of exercising or playing a game with staff). Finally, staff reported that client preferences, client refusal, and unrealistic activities were the three most common reasons for not doing the scheduled activity.



House managers were asked to keep track of their time spent on the floor supervising their staff in residential program activities. We hypothesized that the main possible cause of poor DAS implementation was the amount of supervision of staff on the floor. Self-monitored amount of time across the 3 years were consistent and indicated an average time on the floor of **only 28**

minutes per day, with some stretches of time with as many as 40% of days with no supervision time on the floor at all. These data were consistent with the possibility of under-supervision as a contributing factor to poor DAS implementation.

During the three years the agency attempted to improve DAS implementation by encouraging house managers to work with the staff teams on DAS implementation; however, this was not successful. Therefore, we implemented a specially designed program to be tested in one group home.

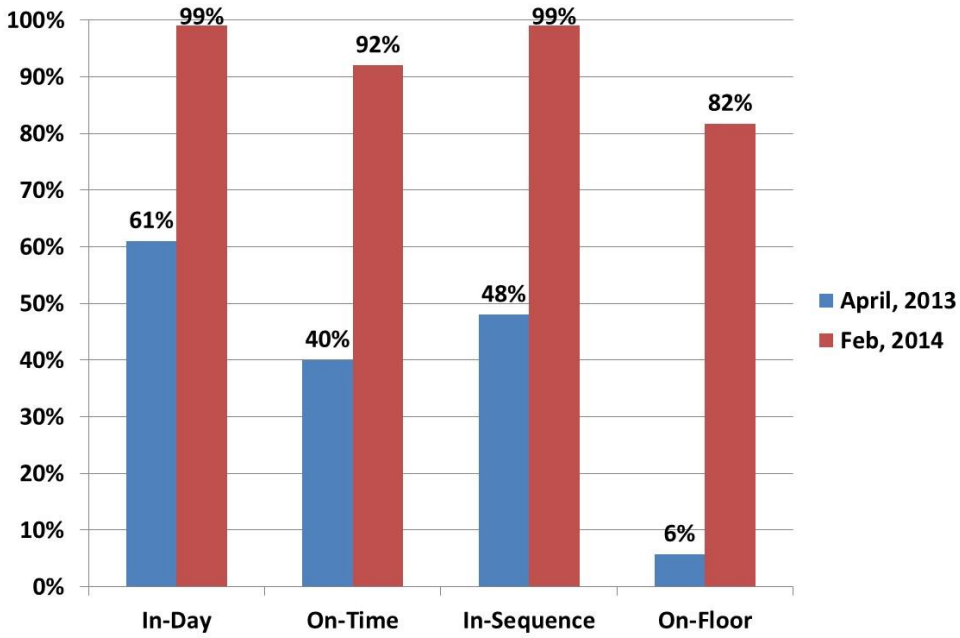
STUDY 2 – Improving DAS Implementation

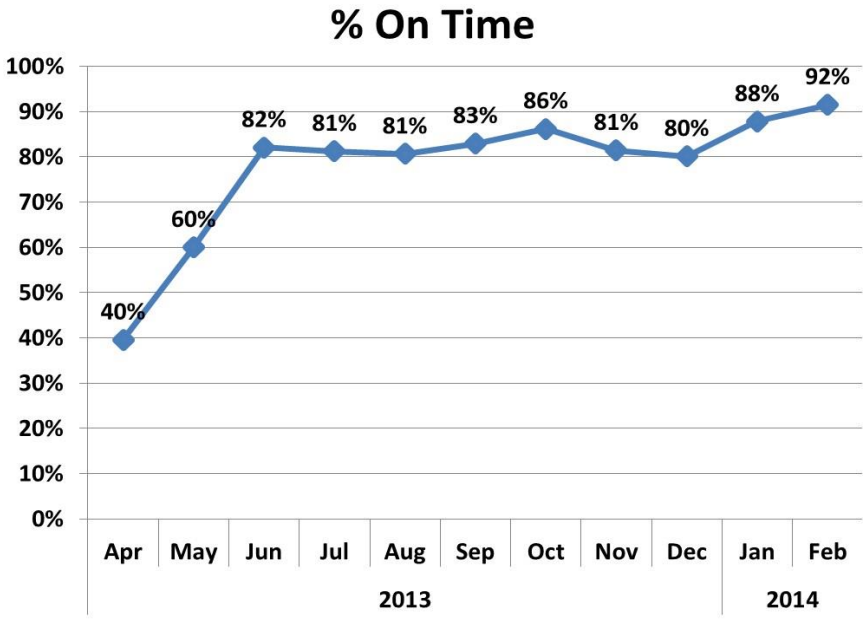
A 12-month intensive DAS program was implemented in one of the six group homes in an effort to improve DAS implementation. A Behaviour Therapist (BT) was assigned to the home four days per week, and the residential director arranged the House Manager's schedule so that they would be available at the house full-time. The Clinical and Residential Directors also spent one full day per week on designing and overseeing the intensive program during the first few months of the study.

Daily data was collected on DAS activities completed on-time; during the day; and in proper sequence. The later measure was thought to be especially important for establishing 'structure' as clients would be more likely to learn the sequence of activities if they were consistently implemented.

Several phases of intervention were implemented – a **Baseline** phase for establishing the level of implementation before intervention; a **Shadowing and Prompting** phase in which the House Manager was taught to be on the floor to watch staff implement the DASs and provide prompts to staff to remind them of activities coming up, to give them feedback if they were off-schedule; and to problem-solve barriers to implementing DASs. DASs were re-designed to improve ease of implementation and their written form was altered so that they could be worn by staff on their neck- or waist-lanyards.

The results were dramatic, with improvements in implementation on all three measures within 3 months. As can be seen on two figures below, on-time percentages increased from a baseline of about 40% to stable rates of 80 to 90% over the remaining year. In-sequence percentages improved from about 30% to 80%. Negative target behaviours monitored in the house reduced by 47% over the course of the year. And, House Manager on-floor time was reducible from 80% to 30% by year's end without any loss in implementation success. In addition, a measure of staff perceptions of the benefits dramatically increased from 35% of staff endorsing benefits to 67% endorsing benefits, indicating an improvement in staff attitudes towards this more active DAS programming.



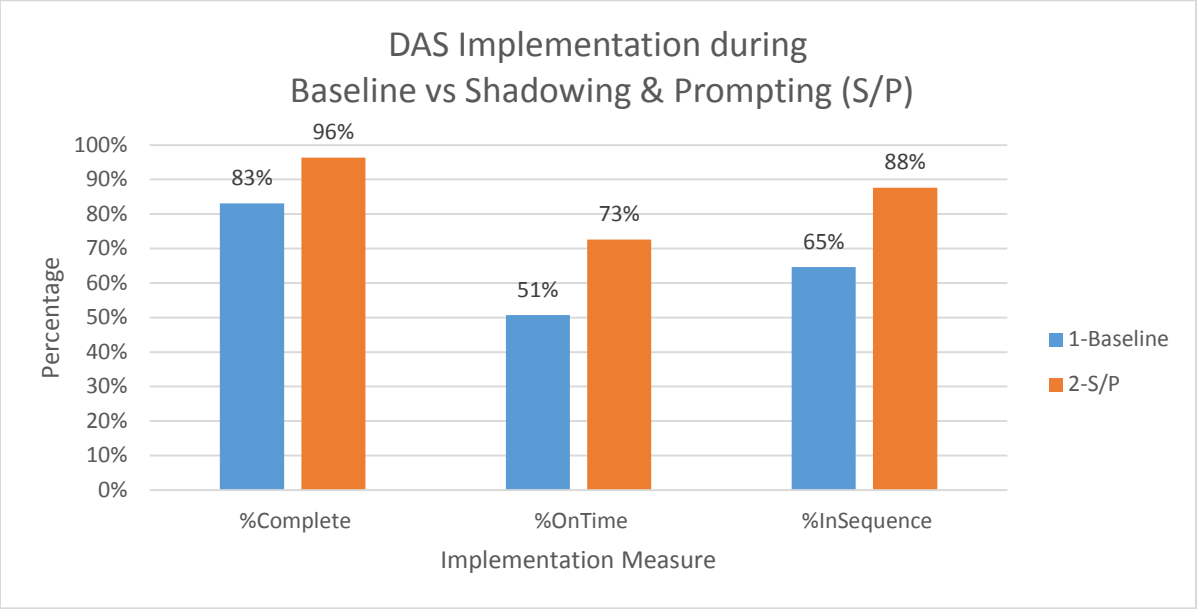


These results were very encouraging in light of the fact that the agency had tried to improve DAS implementation internally with no success. A second group home within this setting has been DAS programmed with virtually identical results.

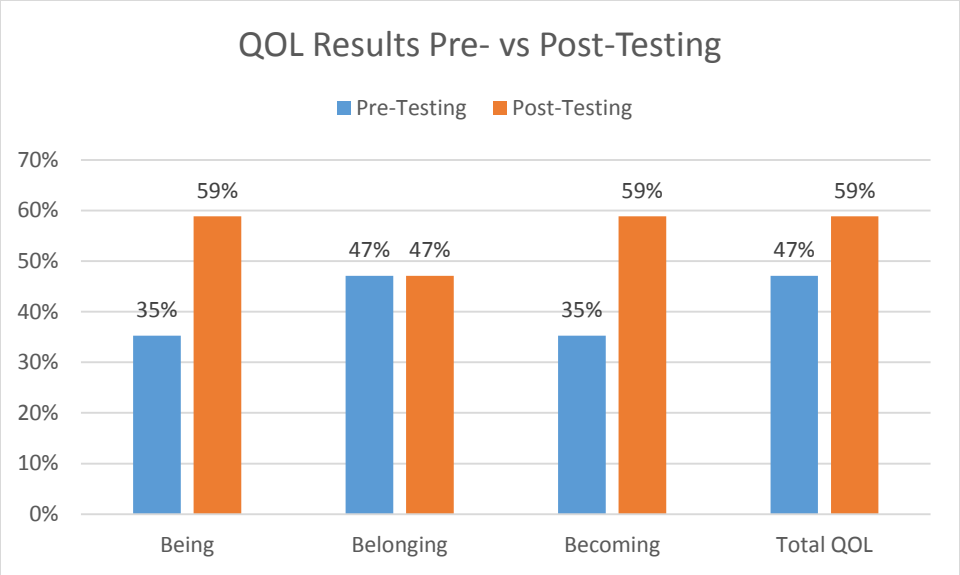
STUDY 3 – Halton Region DAS Training Project 2014

The Central West Region of the Ministry of Community and Social Services (MCSS-CW) requested a DAS training project for four of the Halton region agencies servicing adults with intellectual and developmental disabilities. A single group home was selected from each agency for the training that included a total of 17 adult clients. Four monthly group workshop sessions were scheduled and Pryor, Linder & Associates Behaviour Therapists were schedule to provide on-the-floor training and coaching once per week for four months. As agreed, the agencies strove to increase the House Manager's time available to the group home for on-the-floor supervision of staff to 50-80% of the day shifts.

The results were comparable to those obtained in the original project group homes, despite the dramatic reduction in training time. It is noteworthy, that prior to training, none of the clients had a written DAS in place. A DAS Quality Rating Scale (DAS-Q) was designed involving 10 areas of daily activity schedules, and pre-training to post-training quality was improved from 59% to 93%. Baseline (Pre-training) vs Shadowing & Prompting (Post-training) data can be seen in the figure below for the three standard measures of DAS implementation. Percent DAS completed in the day, on-time, and in-sequence were elevated to 80% or more.



In addition, Quality of Life scale ratings made by staff, showed a statistically significant increase as well, as can be seen in the figure below for the QOL Rating Scale (Raphael, Brown, Renwick, & Rootman, 1997; Renwick, Raphael, & Brown, 2012). The figure shows the percentage of clients (N = 17) that were given ratings of a "Good" QOL before DAS implementation training and after.



These results are especially gratifying as they extend the early study of improvements in DAS quality, implementation, negative behaviour reduction, and staff attitudes to quality of life. It is very likely DAS quality and implementation consistency is a major contributor to QOL for adult clients living in group home settings.

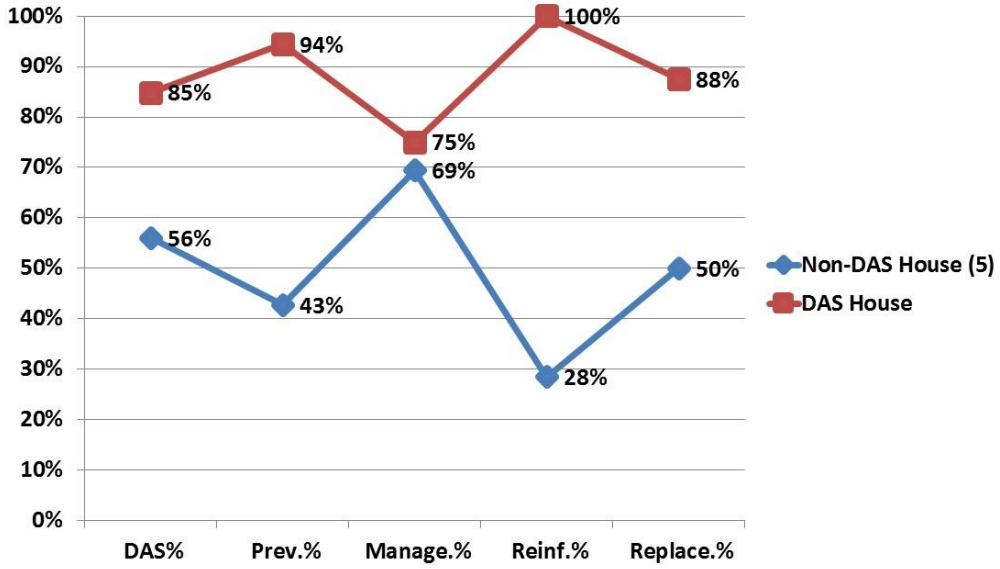
STUDY 4 – Impact of DAS Programming on Behaviour Support Plan Implementation.

A study of 30 Behaviour Support Plans (BSP) written for adult clients with cognitive impairments was undertaken to determine if DAS Programming alone for a group home, which was already known to substantially improve staff's implementation of daily routines, would extend to implementation of BSPs. Implementation failure and drift is a well-known problem for BSPs.

Accordingly, BSP implementation for one DAS-programmed group home ("DAS complaint") was compared to BSP implementation for 5 other group homes that had not received DAS programming. First, implementation checklists (ICs) for each of the 30 BSPs was created by 3 agency Behaviour Therapists involved in designing the BSPs. Then, the BTs went to the group homes to make systematic observations of BSP implementation by recording if staff implemented the program procedures in the checklists at different times within the normal routines. All BSP procedures were categorized in terms of so-called "positive" procedures (prevention, reinforcement, replacement-skill training) and management procedures (those procedures dictating what should be done when a negative target behaviour occurs). The figure below shows the percentage of procedures implemented by category and by group home (DAS compliant vs non-compliant). DAS implementation as measure by "on-time" DAS activities was also included to verify the differences in DAS implementation consistency.

As can be seen, the only area in which the two types of group homes were comparable was in the implementation of 'management' strategies – so-called 'reactive' behaviour management

strategies at about 70% of procedures implemented as written. Implementation of all other positive strategies were substantially higher for DAS programmed settings (average of 92%) than for non-DAS programming settings (average of 44%).



We believe this finding is especially important. It suggests that DAS programming and training should be implemented before individual BSPs are designed if it is hoped that more positive, preventative strategies are to be implemented.

SUMMARY & CONCLUSIONS

Environmental structure for adults with cognitive impairments, intellectual and developmental disabilities living in group home settings was shown to be lacking when examining Daily Activity Schedule (DAS) quality and implementation consistency. A DAS staff training program involving group didactic sessions and on-the-floor coaching was highly successful in improving DAS quality and implementation consistency. Several other benefits were documented: positive staff attitudes towards the benefits of increased DAS structure, client quality of life, improved implementation of positive strategies in BSPs, and reduced negative client behaviours.

We believe that DAS programming is a cost-effective means of achieving multiple positive residential programming outcomes, and are imparking on training programs in many of our agencies' group-home settings.

References

Renwick, R., Myerscough, T. (2012) *Quality of Life for People with Intellectual/Developmental Disabilities:* Full version instrument package. Quality of Life Research Unit. Toronto, ON: University of Toronto.