The Queensland Homeless Health Outreach Teams: Do they use the Assertive Community Treatment (ACT) model?

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Abstract

As a response to homelessness and its relationship with mental health problems, Queensland established homeless health outreach teams. These teams were designed to provide assertive outreach to homeless people by specialist mental health practitioners. The aim of this research was to determine to what extent these teams operate within an established framework for effective assertive outreach. A secondary aim was to determine the validity of an existing fidelity measure in evaluation of homeless outreach services. The Dartmouth Assertive Community Treatment Scale (DACTS) was administered to the five Queensland Homeless Health Outreach Teams (HHOT). It was found that the teams operated in the middle range on the fidelity measure with higher fidelity in human services and services than in organizational boundaries. Overall, the larger, more metropolitan teams appeared to achieve higher fidelity than the smaller more rural teams. Low fidelity scores can, in part, be attributed to weak validity of some DACTS items in relation to homeless outreach services as provided by Queensland HHOT services and recommendations are made for revision of the instrument to make it more suitable for use with these teams.

Key Words: homeless people, assertive outreach

Word Count: 3895

Introduction

Homelessness and Mental Illness

Approximately, one third of people who are homeless have a psychosis and are likely to have higher levels of positive symptoms, concurrent drug abuse, antisocial personality disorder, family disorganization, childhood abuse, and less adequate current family connection than other people suffering from mental illness (Folsom & Jeste, 2002; Herrman et al., 2004). It has been found that this group of people are poorly adherent to treatment, use emergency services frequently, and are highly itinerant (Burns et al., 2009; Schanzer et al., 2007).

Homeless people are often comorbid for other health problems. The incidence of diseases such as diabetes and HIV in the chronically homeless population is substantially higher than in the housed population (Turnbull, Muckle, & Masters, 2007). The complex array of psychosocial problems associated with homelessness simultaneously increase risk for chronic health problems while decreasing access to both general medical care and speciality psychiatric treatment (Kim et al., 2007). There is evidence that heath problems and especially mental health problems can be both a cause and consequence of homelessness. Symptoms of some psychiatric disorders can cause a person to become homeless and it has also been found that a percentage of homeless people with a mental illness became mentally unwell only after becoming homeless (Chamberlain, Johnson, & Theobald, 2007).

Effective mental health services for homeless people must overcome barriers to access and also have capacity to respond to high levels of co-occurrence of other health problems.

Assertive outreach in Provision of Mental Health Services to Homeless People

Assertive community treatment (ACT) was developed by Stein and Test and their colleagues in the 1970's (Stein, Test, & Marx, 1975). An ACT program consists of a team of multidisciplinary health professionals who work together to provide intensive services to people with serious mental illness. Most of the contacts occur in a community setting. ACT teams have a holistic approach to providing services, helping with medications, housing, finances and other issues that are critical to the persons' success in living in the community (Bond, Drake, Mueser, & Latimer, 2001).

Lehman et al. (1997) conducted a randomized trial of assertive community treatment for homeless people with serious mental illness. It was found that participants in the ACT program used significantly fewer psychiatric inpatient days, fewer emergency department visits, and more psychiatric outpatient visits than the comparison participants. It was also found that ACT participants also spent significantly more days in stable community housing, and they experienced significantly greater improvements in symptoms, life satisfaction, and perceived health status.

People who are homeless and have a serious mental illness are often difficult to engage in services. A study conducted by Lam and Rosenheck (1999) found that street outreach to homeless people was justified as these clients are more severely impaired, have more basic service needs, are less motivated to seek treatment, and take longer to engage than those contacted in other settings. Coldwell and Bender (2007) conducted a

meta-analysis of the effectiveness of assertive community treatment for homeless people with serious mental illness. They found that relative to standard case management or comparison treatments, assertive community treatment was associated with significant improvements in rates of homelessness and level of psychiatric symptoms in people with serious mental illness who were homeless. The evidence supported their conclusion that assertive community treatment offers significant advantages over standard case management programs in the care of homeless people with serious mental illness.

The Queensland Health Homeless Initiative

The Queensland Health Homeless Initiative was a state-wide response involving District Health Services with a primary focus in mental health and alcohol and other drugs. As a result of this initiative, specialist mental health teams (Homeless Health Outreach Teams, HHOT) were developed. These teams were to provide comprehensive case management, assessment and interventions for homeless people who have a mental illness. In addition, alcohol and drug specialist positions were funded to provide assessment, treatment and prevention programs for homeless people with substance use concerns (Queensland Health, 2008). Physical health is also a focus with some general health care provided and linkage to other health providers occurring. The service delivery model has three key components, these being: assertive outreach, case management and collaborative response. It was felt by Queensland Health that assertive outreach was essential in reaching and engaging people who are homeless. Typically these outreach services may occur on the streets or it may be provided at places where homeless people are known to gather which may include shelters, food vans, parks, or other homeless agencies (Queensland Health, 2008). Since the health needs of homeless people are often

complex with multiple service providers necessary, a primary case manager who with appropriate consents, collaborates with other service providers to ensure continuity and comprehensive treatment (Queensland Health, 20080. There was encouragement to develop networks and referral pathways between Queensland Health, NGO's and other service providers to reduce barriers to care (Queensland Health, 2008).

The broad aim of this study was to evaluate the extent to which Queensland Health HHOT services were provided in a manner consistent with published standards for assertive outreach.

Specific Aims and Hypotheses

More specifically the study aimed to determine:

1. Which aspects of assertive outreach were commonly present in or commonly absent from Queensland HHOT services?
2. To what extent are the Queensland HHOT services differed in their level of assertive outreach?

It was expected that overall, there would be a high level of assertive outreach across the services as a whole but that there would be some variability between teams. A secondary aim of this study was to evaluate the validity of a tool designed to measure fidelity in a related but different service model, when used to measure fidelity of HHOT services.

Method

Overview

This was a cross sectional study in which an assertive outreach fidelity instrument was administered to all Queensland Homeless Health Outreach Teams and the results were analysed to evaluate overall fidelity of each service to the ACT model of assertive

outreach and to determine specific areas where fidelity was high and low for each service.

Participants

The participants were team leaders for five Homeless Health Outreach Teams (all HHOT services currently operating in Queensland). All team leaders were female and were from the disciplines of social work, nursing and occupational therapy.

Fidelity measure

The measure used was the 21-items Dartmouth Assertive Community Treatment Scale (DACTS) (Salyers et al., 2003; Teague, Drake, & Ackerson, 1995). This scale was developed to evaluate the extent to which assertive outreach teams are consistent with the ACT model. The DACTS has been widely used in research and program evaluation and has shown good psychometric properties, including predictive and discriminant validity (Bond & Salyers, 2004; Salyers et al., 2003). There is evidence that higher fidelity is associated with better team performance and client outcomes (Teague, Bond, & Drake, 1998).

There are three subscales to this measure. The first subscale is human resources: structure and composition with seven items (item example: small caseload: client/provider ratio of 10: 1). The second subscale is organisational boundaries with seven items (item example: explicit admission criteria: program has clearly identified admission to service a particular population and has and uses measurable and operationally defined criteria to screen out inappropriate referrals). The final subscale is nature of services with seven items (item example: in-vivo services: program works to monitor status, develop community living skills in vivo rather than in office). The scale is

rated from 1 (low fidelity) to 5 (high fidelity). A mean of 4.0 is a frequently used benchmark indicating that a program exhibits substantial fidelity to the ACT model (Rollins et al., 2009).

Procedure

The DACTS was administered at a HHOT team leader's forum as part of a routine review and quality assurance process. Team leaders for each of the HHOT teams then operating in Queensland (5 in total) were present at the forum and participated in the study. The DACTS was administered via a self report form designed in accordance with DACTS criteria. Team leaders completed the form independently and were then followed up by telephone to obtain information that was incomplete or unclear in the self report form.

Data Analysis

Mean item scores were calculated for the DACTS total and each of the 3 subscales. This enabled evaluation of each service, having reference to an item mean of 4 or higher as indicating fidelity to the assertive outreach model. It also provided a quantitative basis for comparing services. Item means across the 5 Queensland services were also calculated. This enabled benchmarking of Queensland HHOT services against published item scores for US assertive outreach teams.

Results

Human resources: structure and composition

Two of the 5 teams achieved mean scores of 4 or higher for this subscale, indicating adequate fidelity with respect to human resources. However, 3 of the teams had scores below this threshold. All of the homeless health outreach teams scored with

high fidelity for having a caseload of clients/provider ratio of 10:1 (H1). The majority of the teams scored high on having a team approach where the provider group functions as a team rather than as individual practitioners (H2). Three of the teams scored in the high fidelity range with the program meeting frequently to plan and review services for each client (H3). All of the teams scored in the mid-range for practising team leader, supervisor of front line clinician provides direct services (H4). All of the teams achieved low fidelity for having a psychiatrist on staff (H7). Each of the teams had nurses on staff, with at least two full-time nurses assigned to work with a 100-client program (H8). The teams scored in the mid range for having a substance use specialist on staff (H9).

Organisational boundaries

No team met criteria for adequate fidelity (a mean score of 4 or higher) with respect to organisational boundaries. All teams scored in the high fidelity range for actively seeking and screening referrals carefully but occasionally bowing to organisational pressure (O1). All of the teams scored in the low fidelity range for proving intake services (O2). For the majority of the teams, there was high fidelity for teams being able to provide counselling/psychotherapy, housing support, substance abuse treatment, employment and rehabilitative interventions (O3). All of the teams scored in the low fidelity range for being able to have responsibility for crisis services (O4). There was a mixed response to the question concerning hospital admissions. Half of the teams had minimal involvement in decisions relating to hospitalisation (O5). There was little fidelity for responsibility to hospital discharge, which is related to discharge processes within districts (O6). Again there was low fidelity concerning the provision of time-unlimited services, with the majority discharging clients within the year (O7).

Nature of services

Two teams met fidelity criteria for the nature of services subscale and the other three teams had scores that were only marginally below the minimum adequate fidelity score of 4. All teams scored with high fidelity for providing in-vivo services to develop community living skills (S1). The teams scored in the mid range for having a no drop out policy (S2). All teams scored in the high fidelity range for demonstrating consistently well thought out strategies and uses street outreach and legal mechanisms whenever appropriate (S3). The majority of teams scored in the mid-range for the provision of the total amount of service time as needed (S4). There was a wide variety of response for the frequency of service contacts (S5). There was mostly high fidelity for working with support systems, with or without clients being present (S6). There was high fidelity for providing individualised substance abuse treatment (S7).

The total fidelity score for each service is outlined in table1.

Table 1
Mean fidelity score by service for the 3 subscales and all items of the DACTS (maximum score = 5 and a score of 4 or higher indicates adequate fidelity.

	# 1	# 2	# 3	# 4	# 5
Human Resources	4.7	3.9	4.1	2.6	3.3
Organisational Boundaries	3.4	3.1	3.4	2	2
Services	3.9	3.9	4.6	3.9	4.6
Total	4.0	3.6	4.0	2.8	3.3

Table 2 contains the mean scores for the 21 items of the DACTS, which significantly discriminated ACT from brokered case management (Salyers et al., 2003)

Table 2
DACTS 21-item means for all Queensland sites

Item	Mean score
H1: Small caseload	4.8
H2: Team approach	3.8
H3: Program meeting	3.6
H4: Practising team leader	2.8
H7: Psychiatrist on staff	2.2
H8: Nurse on staff	5.0
H9: Substance abuse specialist on staff	3.4
O1: Explicit admission criteria	4.0
O2: Intake rate	1.4
O3: Full responsibility for treatment services	4.2
O4: Responsibility for crisis services	1.4
O5: Responsibility for hospital admissions	3.0
O6: Responsibility for hospital discharge planning	2.2
O7: Time unlimited services	2.4
S1: In vivo services	5.0
S2: No drop out policy	3.0
S3: Assertive engagement mechanisms	4.8
S4: Intensity of services	3.8
S5: Frequency of contact	3.2
S6: Work with support systems	4.8
S7: Individualized substance abuse treatment	4.2

Table 3 Comparison of DACTS 21 item means across treatment sites where HHOT scores closely approximate the USA scores

Item	New York	Illinois	East Coast	Queensland
H1: Small caseload	4.8	4.6	4.6	4.8
H2: Team approach	3.9	3.8	3.6	3.8
H3: Program meeting	4.4	3.9	4.9	3.6
H8: Nurse on staff	4.5	1.9	4.6	5.0
O1: Explicit admission criteria	4.4	5.0	4.4	4.0

O3: Full responsibility for treatment services	4.3	4.4	4.0	4.2
S1: In vivo services	4.4	4.2	3.5	5.0
S3: Assertive engagement	4.1	5.0	4.4	4.8
S5: Frequency of contact	3.3	3.3	4.0	3.2
S6: Work with support systems	4.2	4.4	3.3	4.8
S7: Individualised substance abuse treatment	3.7	4.1	3.7	4.2

Table 4 shows the items where the Queensland teams scored lower than the USA teams.

Table 4 Items where HHOT scores are lower than the USA teams

H4: Practising team leader	4.3	4.5	4.4	2.8
H7: Psychiatrist on staff	3.9	2.9	4.4	2.2
O2: Intake rate	4.9	5.0	5.0	1.4
O4: Responsibility for crisis services	4.1	4.2	3.7	1.4
O5: Responsibility for hospital admissions	4.2	4.2	3.9	3.0
O6: Responsibility for hospital discharge planning	3.8	4.8	4.5	2.2
O7: Time unlimited services	4.4	4.7	4.6	2.4
S2: No dropout policy	4.3	4.5	4.2	3.0
S4: Intensity of	4.3	4.6	4.6	3.8

services				

Discussion

This study set out to establish which aspects of assertive outreach were present or absent in the Queensland HHOT and how HHOT services differed in their level of assertive outreach. A second aim was to evaluate the validity of the DACTS for application to HHOT services.

Overall, it was found that the Queensland HHOTs achieved approximately one half of DACT items in the high fidelity range (4.0-5.0). Two teams had an overall item average of 4 or higher, suggesting they were generally operating with adequate fidelity to the model. The other 3 teams were operating with less than adequate fidelity. Differences between teams in part reflected different resource levels. Rural and regional teams had fewer resources (eg were less likely to have a substance use specialist) which impacted on scores.

The DACTS subscale for which there was lowest fidelity was organisational boundaries. No team met fidelity criteria for organisational boundaries and we think this reflects important differences between the assertive outreach service model for which the DACTS was developed and the HHOT service model.

The DACTS was developed to evaluate Assertive Community Treatment teams, which characteristically provide intensive and comprehensive services over a medium to long term for a group of people with high level of disability. In this context, it is important that the intake rate is low, that the team has capacity to respond to crisis and that the team plays a major role in inpatient admissions. By contrast, the primary roles of HHOT teams are assessment and engagement. While some homeless people may require

medium to longer-term intensive mental health services, many will respond to brief or low intensity interventions such as commencement of medication and linkage to a general practitioner. It may be more important to engage with a substantial number of people for the purposes of assessment and engagement than to provide intensive and comprehensive services for a much smaller group. For these reasons, we think that low fidelity on this subscale should not be seen as evidence of service deficiency but, rather, it raises questions about the suitability of some DACTS items for application with HHOT teams.

While the DACTS tool is potentially a useful instrument for benchmarking, we think that the findings of this study indicate the need for further development of the tool before it can be used to evaluate HHOT fidelity. In particular, items in the organisational boundaries subscale require revision so as to better reflect the role of the HHOT services. Items designed to evaluate the effectiveness of linkages between HHOT services and teams with primary responsibility for crisis response, inpatient services and continuing care services may be more appropriate than items designed to evaluate comprehensive service provision.

Limitations

We think that two limitations should be taken into account when considering the findings of this study. The first is that the DACTS, for reasons discussed above, is not ideally suited to evaluation of HHOT teams. This means that findings regarding fidelity should not be taken to indicate deficiencies in team functioning. There is need for further development of the DACTS to enable it to become a valid instrument for evaluation of HHOT services. The second limitation of this study was that the DACTS was self-administered by team leaders. While team leaders have the advantage of high

levels of knowledge concerning the operation of their service and there was some cross checking in this study, there is a risk that bias influenced response to items. Ideally a tool such as the DACTS should be administered by an independent observer who uses information obtained from key sources, including team leaders, as well as information obtained through observation of actual practices. Given the exploratory nature of this study we did not think this a critical limitation but we recommend that future evaluation of HHOT teams, using a revised form of the DACTS, be undertaken by independent raters.

Conclusion

This study set out to examine which aspects of assertive outreach were commonly present or absent from Queensland HHOT services and to determine the suitability of the DACTS as an instrument for evaluating HHOT fidelity. It was found fidelity was typically adequate with respect to form of services and that larger metropolitan teams had adequate fidelity with respect to resources. However, in the area of organisational boundaries, it was clear that the HHOT model of service delivery significantly departed from that of the assertive community treatment teams for which the DACTS was developed. Further development of the DACTS is likely to make it a more suitable instrument for evaluation of HHOT services.

References

Bond, G.R., Drake, R.E., Mueser, K.T., & Latimer, E. (2001). Assertive community treatment for people with severe mental illness – critical ingredients and impact on patients. *Dis Manage Health Outcomes, 9,* 141-159.

Bond, G.R., & Salyers, M.P. (2004). Predictors of outcome from the Dartmouth Assertive Community Treatment Fidelity Scale. *CNS Spectrum, 9,* 937-942.

Burns, A., Robins, A., Hodge, M., & Holmes, A. (2009). Long-term homelessness in men with a psychosis: Limitation of services. *International Journal of Mental Health Nursing, 18,* 126-132.

Chamberlain, C., Johnson, G., & Theobald, J. (2007). *Homelessness in Melbourne: Confronting the challenge.* Melbourne: RMIT Publishing.

Coldwell, C.M., & Bender, W.S. (2007). The effectiveness of assertive community treatment for homeless populations with severe mental illness: a meta-analysis. *American Journal of Psychiatry, 164,* 393-399.

Folsom, D., & Jeste, D.V. (2002). Schizophrenia in homeless persons: A systematic review of the literature. *Acta Psychiatrica Scandinavica, 105,* 404-413.

Herrman, H., Evert, H., Harvey, C., Gureje, O., Pinzone, T., & Gordon, I. (2004). Disability and service use among homeless people living with psychotic disorders. *Australian and New Zealand Journal of Psychiatry, 38,* 965-974.

Kim, M.M., Swanson, J.W., Swartz, M.S., Bradford, D.W., Mustillo, S.A., & Elbogen, E. B. (2007). Healthcare barriers among severely mentally ill homeless adults: Evidence from the five-site health and risk study. *Administration and Policy in Mental Health and Mental Health Service Research, 34,* 363-375.

Lam, J.A. & Rosenheck, R. (1999). Street outreach for homeless persons with serious mental illness: is it effective? *Medical Care, 37,* 894-907.

Lehman, A.F., Dixon, L.B., Kernan, E., DeForge, B.R., & Postrado, L.T. (1997). A randomized trial of assertive community treatment for homeless persons with severe mental illness. *Archives of General Psychiatry, 54,* 1038-1043.

Rollins, A.L., Salyers, M.P., Tsai, J., & Lydick, J.M. (2009). Staff turnover in statewide implementation of ACT: Relationship with Act fidelity and other team characteristics. Administration and Policy in Mental Health. DOI 10.1007/s10488-009-0257-4

Salyers, M.P., Bond, G.R., Teague, G.B., Cox, J.F., Smith, M.E., Hicks, M.L., Koop, J.I. (2003). Is it ACT yet? Real-world examples of evaluating the degree of implementation for Assertive Community Treatment. *Journal of Behavioral Health Services & Research, 30,* 304-320.

Schanzer, B., Dominguez, B., Shrout, P.E., & Caton, C.L.M. (2007). Homelessness, health status, and health care use. American Journal of Public Health, 97, 464-469.

Stein, L.I., Test, M.A., & Marx, A.J. (1975). Alternatives to the hospital: a controlled study. *American Journal of Psychiatry, 132,* 517-522.

Teague, G.B. Bond, G.R., & Drake, R.E. (1998). Program fidelity in assertive community treatment: Development and use of a measure. *American Journal of Orthopsychiatry, 38,* 216-232.

Teague, G.B., Drake, R.E., & Ackerson, T.H. (1995). Evaluating use of continuous treatment teams for persons with mental illness and substance abuse. *Psychiatric*

Services, 46, 689-695.

Turnbull, J., Muckle, W., & Masters, C. (2007). Homelessness and health. *Canadian Medical Association Journal, 177,* 1065-1066.

Queensland Health (2008). *Queensland Health homeless initiative- statewide guidelines, processes and protocols.* Brisbane: Queensland Health.