An evaluation of a transitional case management program integrated with a community crisis service

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Final report submitted October 2010

Table of Contents:

Key Messages 3

Project Report 5

Background...5

Approach and Findings: Objective 1...7

Key message: Objective 1 11

Approach and Findings: Objective 2...11

Key messages: Objective 2...22

Approach and Results: Objective 3...23

Key messages: Objective 3...25

References...26

Appendix A: Service Changes...28

Appendix B: Transitional Case Management Competency Profiles..................... 29

Appendix C: Tables for selected findings... 47

Key Messages

1. The Transitional Case Management program (TCM appears to be a unique community-based service model that targets a broad range of "transition needs" of individuals who experience problems related to stability and well-being in community life. Of similar programs in the literature, it appears to offer a hybrid of services similar to those offered by Critical Time Intervention services and the Crisis Resolution and Intensive Home Treatment Teams (CRT) developed in the UK. However there are notable differences in their organization, structure and the level of responsibility they hold in the local mental health system.
2. By identifying and describing the nature of the transition needs of the population served the TCM may advance, within the broader mental health system, a shared understanding of the clinical and social complexities of mental health related crisis in the community and of appropriate in-patient hospitalization.
3. Actual service capacity appears to be consistent with the original vision of the TCM. Ideal case-loads suggested by the evaluation range from 15-18 people per full-time TCM staff member.
4. Overall, average length of time in service is higher than the original vision of 10 weeks. Using the ideal of no more than 10-15% of the population receiving services extending beyond the ideal time period, suggests that the upper range of service delivery would be set at approximately 15 weeks. However, decisions related to length of time in service would best be informed by attention to understanding the specific forces that contribute to longer time in service. Service times impact on caseloads with the longer time in service increasing caseloads and impacting the intensity of the service that can be offered.
5. The social, demographic and clinical characteristics of the population served appear to be consistent with the original vision of the TCM program. .

6. There do appear to be differences in clinical, social and demographic characteristics based on source of referral, and these are worthy of further attention in order to more fully understand and describe service utilization patterns and service needs including the appropriate use of hospital services.
7. The TCM program could benefit from reviewing and revising current data collection protocols to ensure that data gathered is meeting program needs. Specifically, attention should be directed to include: data about outreach to individuals that did not lead to engagement with the service, in order to develop a full understanding of service capacity and the needs of a sub-group not be served by TCM; refinement of "presenting issues" to more fully reflect the nature of the services required and provided; collection of data related to substance use among the population served.
8. The TCM program could benefit from ongoing discussion to advance a shared understanding of the meaning of repeat service use. For example, while repeat use of the service might be interpreted as a negative outcome, it can also be interpreted as positive if viewed as ensuring access to appropriate follow-up services that prevent crises and more intense forms of service delivery.
9. This evaluation suggested clinical and social similarities (i.e. diagnosis, income and employment and hospital service use) between repeat service users and those with serious mental illness who are referred to continuous treatment services such as Assertive Community Treatment.
10. Referral for follow-up services appears to be related to the length of time in service. Those clients referred on to other services appear more likely to receive TCM services for longer periods of time. A closer examination of referral patterns and wait times for services would contribute to a shared understanding of length of service and broader community service system needs.

Report

This project is the second phase of a research study examining processes and outcomes of a new integrated crisis-transitional case management program (Krupa, Mathany & Stewart, 2009). While Phase I of the study ("Evaluation of an integrated crisis-case management program") focused primarily on service delivery patterns associated with the crisis service, this phase of the study will focus on service delivery patterns within the Transitional Case Management Program.

The implementation of this new model of crisis service was made possible by systems enhancement funding provided by the Ontario Ministry of Health and Long-Term Care. Phase I of the project was funded by the Ontario Mental Health Foundation through their Systems Enhancement Evaluation Initiative. Phase II of the project was funded directly by Frontenac Community Mental Health Services.

Background:

The integrated crisis-case management program is provided by Frontenac Community Mental Health Services (FCMHS) in Kingston, Ontario. FCMHS offers a wide range of health and social services and supports, with a view to promoting the capacity of individuals with poor mental health/illness and/or addictions to be active and participating members of the Frontenac Community. The mission of the agency expresses a commitment to promoting both community participation and recovery.

The Transitional Case Management program was designed with a view to: 1) Improving the service patterns of the crisis service. The lack of available follow-up services was creating a "bottleneck" that was limiting access to crisis services; 2) Ensuring that the follow-up needs of people with mental illness/addictions in the community were being met. The TCM was meant to address the follow up needs of both those who received crisis services but required longer-term follow-up then that expected

of a crisis service, and the needs of those being discharged from the local community hospital psychiatric in-patient unit and requiring community follow-up. Appendix A provides a pictorial representation of the nature of the changes made to the crisis services in order to address these issues. Appendix B provides the competency profile for Transitional Case Management workers that was developed during Phase I of this research.

The evaluation was designed to address three core objectives. In this report, each study objective is presented separately, with a brief review of the study design and the accompanying results and discussion.

Ethics approval for this study was obtained from the Queen's University Health Research Ethics Board .

Approach and results:

Objective 1: To develop a description of the TCM model of service delivery offered by Frontenac Community Mental Health Services and compare it to existing models of case management.

This objective was addressed by integrating information collected by the following means: 1) A literature review focusing on models of case management for persons with mental illness/addictions. Of particular interest for this evaluation was the identification of case management services, a) whose mandates extend beyond those with serious mental illness and b) are explicitly tied to crisis services or the prevention of crises in the community ; 2) Interviews were conducted with key personnel of the TCM. These included interviews that focused on understanding the historical evolution of the service, and a group interview that engaged staff in interpreting emerging findings in relation to critical elements of the service; 3) Review of relevant service documents such as policies, procedures and job descriptions; 4) Integrating relevant findings from Phase I of this evaluation, and in particular the competency profile for transitional case managers (Appendix B).

Findings- Objective 1

Issues related to the provision of community case management services for those who experience a mental health crisis in the community, or are at high risk for experiencing a crisis in community living has not been the subject of much discussion in the literature. By definition, crisis services are designed to address crisis situations that can be stabilized in the short-term, or stabilized and then referred on for other community services when issues are likely to be ongoing and leave individuals vulnerable to further crisis.

For the purposes of this evaluation, the maximum of 3 weeks was used as the "ideal" maximum for crisis service delivery. This was based on the assumption that crisis is a potentially serious situation, but by definition self-limiting and requiring immediate resolution. It was consistent with Everly and Mitchell's (2000) conceptualization of a crisis as brief, typically requiring no more than 3 contacts. Length of service time is not routinely reported in crisis service studies but a systematic review of crisis intervention by Joy and colleagues (2006) demonstrated that programs often provide services that extend beyond the acute crisis service. For example, England's Crisis Resolution Teams specify care as typically lasting no more than 6 weeks (Johnson, 2004). The lack of attention to length of service further complicates evaluation in the field, confounding the evaluation of crisis interventions and blurring the distinction between other forms of community care.

Individuals who are returning to the community after receiving in-patient mental health treatment have been recognized as a high risk group for experiencing a broad range of crisis situations associated with recidivism. Services that appear consistent with TCM include the following:

1) Like the TCM, the "Critical Time Intervention" Case Management model is focused on assisting individuals to successfully negotiate the transition from institutional service to community living. Reports of Critical Time Interventions in the literature include case management services that focus on

reducing homelessness among people with mental illness leaving shelter settings (Jones et al, 2003) and others that support the transition to community life from in-patient hospitalization (Dixon, et al, 2009). Evaluations of these Critical Time services have demonstrated effectiveness in supporting stability and well-being in community life (Dixon et al, 2009; Kasprow & Rosenheck, 2007).

2)Crisis resolution and intensive home treatment teams" (CRT), popular in the United Kingdom (although originating in Australia (Hoult, Reynolds, Charbonneau-Powis, Weekes and Briggs, 1983), are community-based multi-disciplinary services that offer a range of intensive services to address both clinical and social needs that underlie the crisis (Johnson, 2004; Johnson et al, 2005). In comparison to the TCM, these Crisis Resolution Teams include staff from regulated health disciplines (including psychiatrists) , are able to provide 24 hour service delivery, and serve a gatekeeping role, in that no admission to an acute hospital bed is allowed with the prior assessment of the CRT team. The CRT is not described as a service distinct from a crisis service, but rather integrated both crisis and a range of clinical and psychosocial interventions in the context of an intensive but time-limited service.

While the review of the literature suggested the need for transitional services to support sustained stability in community life, the review did not reveal any services, like the TCM, that are distinct from, but integrated with a crisis service. The TCM appears to provide a service that is a hybrid of elements of both the Critical Time Intervention and Crisis Resolution model. Like the Crisis Resolution models it focuses on addressing a broad range of issues related to enabling community stability and well-being, within a framework that addresses immediate and pressing clinical and social needs while promoting the development of autonomy and personal problem solving. The CRT appears to be more fully integrated within the mental health system, given their formalized responsibility with respect to determining the need for in-patient admission. (Johnson, 2004; Johnson, et al, 2005). It is unclear from the published reports of the CRT, the extent to which they have an outreach infrastructure, like the TCM, that connects them to shelters, police and other services where individuals who are living on

society's margins, or at risk for social marginalization, can be identified for service. Like the Critical Time Intervention, the TCM serves people in community-based social services, such as shelters. In addition, reports of Critical Time Interventions describe the intervention as focusing primarily on developing systems level coordination and linkages, although they also do provide strengths based interventions to enable stabilization and adaptation in the community.

The concept of "transition" is a defining element in the services provided through TCM. These services are meant to be time limited and directed to promoting stability, empowerment and healthy living in the community. Transition services encompass both practices directed to developing personal coping and adaptive capacities and to developing or connecting people to the human and material resources that will enable adaptation, stability and well-being in the community. In practice the people served by TCM present with a wide range of "transition needs". For example, they include individuals who have :

- serious and persistent mental illness which compromises their stability and well-being in the community, and require services to facilitate their transition to more intensive and continuous community-based services
- come into contact with the law through socially problematic behaviours, and are diverted from the legal system to more appropriate mental health crisis services and then TCM services to enable community stability
- experienced a mental health crisis in the community, but require a longer period of service delivery to enable the resolution of issues then is typically provided by crisis services.

- been hospitalized in an in-patient mental health facility and could benefit from transition services to enable their transition to stability and well-being in the community
- been living in marginal circumstances (ie shelters, homeless) and require transitional support to more stable community living situations, or to intensive treatment services, including hospitalization.

The ability to describe this range of "transition needs" in the population served, may be a particular strength of the TCM model. First, it can help to define more clearly the nature of the community stability and well-being needs that are present in our communities, and to develop a shared understanding of service providers of the range and complexity of needs. Second, within a health care system that has become focused on decreasing hospitalization it may help to advance a shared understanding of "appropriate in-patient hospitalization".

It may be that the TCM as developed by Frontenac Community Mental Health Services is a particularly appropriate model for small city centres. It may be, for example, that the services ability to attend to the complex transition needs of a population located in a broad range of community and institutional settings is facilitated in a small city centre where the geographical area is limited and there are a fewer overall number of treatment and community support services compared to large metropolitan areas.

Key messages:

1. The TCM appears to be a unique community-based service model that targets a broad range of "transition needs" of individuals who experience problems related to stability and well-being in community life. Of similar programs in the literature, it appears to offer a hybrid of services similar to those offered by Critical Time Intervention services and the Crisis Resolution and Intensive Home

Treatment Teams (CRT) developed in the UK. There are, however, notable differences in their organization, structure and the level of responsibility they hold in the local mental health system.

2. By Identifying and describing the nature of the transition needs in the population served the TCM may advance, within the broader mental health system, a shared understanding of the clinical and social complexities of mental health related crisis in the community and of appropriate in-patient hospitalization

Objective 2: To describe service utilization patterns of the TCM and to compare these patterns to the original vision of the service.

This research question focuses on developing a comprehensive description of the socio-demographic and clinical features of the population served by TCM, as well as a description of specific service utilization variables. This evaluation presents the first opportunity to evaluate the actual delivery of the service with the original founding intentions.

To address Objective 2 relevant data associated with all those individuals served by the TCM from November 1, 2006 until October 31, 2008 was collected and organized into a database. Although the TCM began delivering services as early as March 2006, the model was not in full operation until November of that year. Since there is a particular interest in understanding the capacity of the service, this study focuses on the time period when the service was fully operational.

Information for this portion of the study relied primarily on data routinely collected by FCMHS using the CRMS psychosocial data management system and other systematic reporting procedures. The data available included personal information about clients served including basic demographic information (age, gender, marital status, language, legal status, living arrangements, residential status, employment status, educational status and highest level of education, primary income source and annual income) and clinical information (diagnosis and other illness information, length of time in

service, exit disposition). Client files were only accessed directly when data in the established databases were incomplete. The quality of the available data for this project was very good, specifically compared to the data obtained in Phase I of the study. This is likely due to agency-wide advancements in data collections processes, but also the likelihood that data collection within crisis services (the focus of phase I), is hampered by the frequent lack of established relationships with service recipients.

While the plan in the original study proposal was to access the local hospital record linkage system (PAIDS) to secure information about hospital and emergency room use, this linkage system was unexpectedly and rapidly discontinued during the data collection phase. Relevant hospital data were accessed directly through the local hospital record systems (i.e. Kingston General Hospital/Hotel Dieu and Providence-Care Mental Health Services). However this necessitated new processes for securing administrative permission to access the data across multiple sites, and the development of new guidelines for accessing the data from these databases. Subsequently, completion of this research was considerably delayed.

Findings are reported below with direct reference to the data. Differences reaching statistical significance are noted, and trends are reported when there was a difference of 10% or more on any variable.

Findings-Objective 2

This section provides a summary and, where relevant, a discussion of the results. ***Tables for selected findings are presented in Appendix C.***

Service Capacity

During the time period of interest of this study (November 1, 2006 –October 31, 2008), the Transitional Case Management provided services to 309 individuals. The number served in the first year

(November 1, 2006-October 31, 2007) was slightly higher than in the second year (November 1, 2007 to October 31, 2008). This number reflects an under representation of the actual number of people seen by TCM, since it does not include those who were referred to the service and received some form of outreach, but ultimately did not connect with the service. In addition, the number served includes only those individuals who were referred to and completed TCM services in the specified time period.

The number of people served appears to be consistent with the original vision of TCM carrying a case-load of 50- 60 individuals at a given time. Interviews with TCM staff suggested that the case load of individual workers should fall at approximately 15 people to provide optimal service. Maintaining any waiting list for services is inconsistent with the TCM goal of meeting the "transition' needs of individual at high risk for destabilization in the community. TCM staff indicated that this has lead to case- loads that are too high - approaching the maximum or exceeding the range of 15-18 individuals.

a. Socio-demographic features of the population served

Age and gender

Of these 309 individuals served by TCM the vast majority were working aged adults, with 83% (n=256) falling between the ages of 25 -64, although services were provided to individuals ranging in age from 16 to 71 (Appendix C- Table 1). The mean age was 40 (SD – 13.21), A small majority of those serviced were female (56% (n=173); 44% (n=136) were male (Appendix C – Table 2). The gender distribution was fairly consistent across all age categories. Interviews with TCM staff suggested that males (specifically those in shelters or young people with first episodes of mental illness) may be more represented in those individuals who are referred to, but do not connect with the service and are therefore not accounted for in service capacity figures.

Living status

The largest number of people served were living alone, (35.6%(n=110), followed by those living with a non- relative (27.5%(n=85) and those living with a spouse or partner (20%(n=62) (Appendix C-Table 3) There were significant differences in living arrangements by gender: females were more likely to be living on their own, with children or in a spousal/partner relationship. Males were significant more likely to be living with parents or another relative. There was little difference between the genders with regards to living with a non-relative. The vast majority were living independently, without formal supports (88 % (n=271), while approximately 11% received either assistance from external supports or supervision internal to their residence. Eleven percent were living at an address other than their own private address (for example, shelter, hostel or no fixed address).

Work, Education and Income

At time of entry to TCM, the majority were unemployed (84% (n=259) (Appendix C-Table 4). Overall, the population served were an educated group, with 40% (n=122) having completed high school, and a further 23% (n=72) having completed some form of post secondary education (Appendix C-Table 5). There was a significant relationship between employment and education, with those completing high school or higher more likely to be employed. With regards to their principal source of income, the majority (72% (n=223) received some form of income from government sources (although the exact nature of this income was not defined in the data available), while 11% (n=35) had an independent source of income (Appendix C-Table 6). Twenty-four, or 8% of those served were reported as having no source of income. Not surprisingly, there was a strong relationship between being employed and having an independent income.

Legal status

Thirty-seven individuals (12%) were reported as having legal problems (Appendix C-Table 7). These individuals were significantly more likely to be male, but no relationship was found between legal

concerns and any other social demographic variable. The low rate of legal problems among the population served may be, at least in part, explained by the fact that individuals referred to TCM are initially connected to crisis services as a form of "diversion" from the legal system by the police. In addition, legal status is often dependent on self-report, and individuals served may not account for all legal involvement.

b. Clinical features

Diagnosis

The most frequent psychiatric diagnosis among people served was mood disorder (61% (n=187)) followed by schizophrenia/psychosis (19.5% (n=60)) and anxiety (10.4% (n=32)) (Appendix C-Table 8).

The majority of those served also had a second health diagnosis, with 26% (n= 79) reported as having some form of chronic illness. A total of 16% (n= 49) were reported as having a concurrent disorder, and a further 15% (n=46) having both a concurrent mental disorder and another chronic illness in addition to their primary psychiatric disorder (Appendix C-Table 9). Consistent with this rate of substance use among the population served, data related to presenting issues identified by TCM workers indicated 28% presenting with substance use issues.

Discussions with TCM staff indicated that prevalent forms of chronic illness encountered included diabetes and fibromyalgia, with both health conditions requiring considerable direct attention in service delivery. Reviewing the findings, staff of TCM perceived the rate of substance use, as reported by rates of concurrent disorder and presenting issues, to be lower than their perceived experience of substance use problems among people served. Suggestions offered for this discrepancy included: clinical diagnosis is not made by the TCM team, but rather reported from referrals or other documents where

underreporting may be occurring; and presenting issues may only reflect those issues that will be the focus of direct attention by TCM workers.

Presenting issues

The presence of symptoms of serious mental illness was the most frequently reported presenting issue for the people served (82% (n=254)). A range of social issues were reported as presenting issues. Presenting issues identified for more than 30% of the people served including: financial issues (38%(n=118)), problems with relationships (37% (n=116)), employment or occupational issues (35% (n=108)), and housing issues (31% (n=97). Two presenting issues, problems with substance use and problems with activities of daily living were reported for over 25% of the population served (28% (n=87) and 26%(n=80) respectively).

Other non-specified presenting issues were reported for 36% (n=112) of the population served. This finding is significant in that it indicates that, for a significant number of people, TCM case managers are addressing presenting issues that are not explicitly identified. This is problematic to the extent that current data collection limits the full understanding of the nature of the work conducted within TCM. Discussions with TCM staff suggested the following issues that they frequently address, but are not included in presenting issues: physical health issues that require connecting to family doctors and providing health education and management; and issues related to coping and resilience. The staff noted that the strong showing of issues related to serious mental illness in the presenting issues suggests that TCM is largely a clinical service that also provides services to address the broader determinants of health and well-being in the community.

Use of hospital services

With regards to hospital –based services 79, or 25.56 % of the people served by TCM had no contact with any form of hospital-based services in the year prior to or after receiving TCM services. Seventy-nine (25.56%) had not received any emergency room services, and 93 (30.09%) had not received any form of in-patient hospital service during the year prior to and year after receiving TCM services.

Comparisons of the year before receiving and after receiving TCM, demonstrate a significant decrease in the number of emergency room visits (Appendix C-Table 10). The frequency of no visits to emergency rooms increased from 93 to 131 people, while the number of people with one time visits decreased from 40 to 16. The number of people who were frequent users of emergency room services (i.e. those with 5 or more visits to emergency) decreased from 7 to 3.

Compared to the year before receiving TCM there was a significant decrease in the number of admissions to hospital in the year after service. The number of people without any admission to hospital increased from 200 (or 64% of the population served) to 242 (or 78% of the population). The number of individuals who experienced frequent admissions to hospital (i.e. 3 or more admissions), actually increased, with 9 individuals experiencing frequent admission in the year before TCM compared to 19 in the year following TCM services.

The total number of days in hospital was significantly higher in the year following TCM services compared to the year prior to receiving services. Examination of the data suggested two individuals who experienced exceptionally lengthy hospitalizations (ie. Over 200 days). When comparisons were made without these two individuals, there was a significant decrease in the mean number of days in hospital in the year following receipt of TCM services (Appendix C-Table 11). However, a notable number of individuals (n=58 or 18.77%) of those served did experience an increase in the number of days in hospital. The findings described below, focusing on use of hospital by referral source, provide more information to assist with interpreting hospital use patterns.

c. Service utilization patterns

Referral source

The TCM was designed to meet the need for case management services of individuals in receipt of community-based crisis services and those being discharged into the community from an in-patient hospitalization or from other hospital services. The referral patterns suggest that these are indeed the individuals being served by TCM. The majority 72% (n=222) were referred to TCM directly from the crisis service operated by Frontenac Community Mental Health Services, while 27% (n=83), were referred from the hospital. Seven of the individuals referred from hospital came to TCM from a tertiary care hospital, while the remaining came from the general hospital (Appendix C-Table 12 and Table 13).

There were some notable differences between those individuals referred from hospital and those from the crisis services. Individuals referred from the hospital were an older group, significantly more likely to be over the age of 55, while those from the crisis service were more likely to be under 34 years of age (Appendix C-Table 14). With regards to presenting issues, those coming from the crisis service were significantly more likely to present with issues related to physical and sexual abuse, substance abuse and addictions, and "other" non-specified problems.

While not statistically significant, there was a trend towards a difference in gender, with those from the crisis service more likely to be female. There was also a trend towards those coming from the crisis service more likely to present with secondary diagnoses of concurrent disorder and concurrent disorder in addition to other chronic illnesses. There was a trend towards those referred from hospital being rated as more likely to present with issues related to being a threat to self or others.

Hospital use by referral source

There were notable differences in hospital service utilization patterns between those referred from the crisis service and those referred from the hospital. While there was no significant difference

noted in the number of emergency room visits prior to TCM service entry for these two groups, those referred from the hospital had significantly more numbers of admissions to hospital and days in hospital in the year prior to program entry.

Hospital use patterns of those referred from crisis services

When those referred from the crisis service are examined as a separate group, the data shows that they experienced a significant decrease in their use of hospital emergency services in the year following receiving TCM compared to the year before (Appendix C-Table 15). The number of these individuals who did not use any emergency room services increased from 114 (or 51%) to 162 (73%). The number who used emergency room services on one occasion decreased from 55 (24.8%) to 29 (13.1%). There were a group of frequent users of emergency services (i.e. more than 5 visits) during both periods: 14 (6.3%) in the year before and 13 (5.8%) in the year after receiving TCM.

Comparing number of admissions to hospital there was a significant increase in the number of hospital admissions for this group in the year following TCM (Appendix C-Table 16) which appears to be related particularly to the increased number of individuals (14 (6.3%) vs. 21 (9.45%)) who were admitted on two or more occasions. There was a corresponding significant increase in the number of days in hospital in the year following TCM services, even with the removal of two individuals with exceptionally high numbers of in-patient days (i.e. over 200 days) (Appendix C – Table 17)

Discussions with TCM staff suggested reasons for this increase in hospital use among this distinct group of individual served. Those referred directly from crisis are often living with considerable instability of mental health and complex health and social issues in the community and lacking connections to any health-related services. If TCM efforts to provide appropriate care in the community are not successful, these individuals may benefit from a period of in-patient hospitalization, decreasing

their use of emergency services and connecting them to appropriate treatment services to stabilize their mental health, before transitioning back to the community.

Hospital use patterns of those referred from hospital

For those referred from hospital, there was a significant decrease in emergency room use when comparing the year before receiving TCM to the year after (Appendix C-Table 18). There was an increase in the number of individuals who did not have any emergency room visits (45 (54.2%) vs. 56 (67.5%)) and a decrease in one time users of emergency room services (21 (25.3%) vs. 15 (18.1%)). The number of multiple users (i.e. those with 2 or more visits to emergency) also decreased from 17 to 12 individuals. There was a significant decrease in the number of hospital admissions between the two time periods (Appendix C-Table 19). The number of individuals who had no hospital admission increased from 20 (24.1%) to 59 (71.1%). The number of individuals who experienced more than 2 admissions remained fairly consistent (15 (18.07%) vs. 13 (15.66%). There was a significant decrease in the number of days in hospital in the one year period following receipt of TCM services (Appendix C-Table 20)

Length of TCM Services

The mean number of days served by TCM was 76.5(SD=40.531; Median 74.67; Range 4-235). In total 69% received services that lasted for 10 weeks or less (or 70 days); the time period originally conceptualized as the upper limit for service provision. While 6 % (n=19) were served within 21 days, 30% (n=92) were served within 8 weeks, and a further 33% (n=101) received services within a 10 week period. Thirty-one percent (n=96), or just under one third, received TCM services for longer than 10 weeks (Appendix C-Table 21).

There were no differences in days served based on referral source. There was a trend towards females being served for longer than 70 days, and a trend towards those presenting with issues of being

a threat to self or others being served within a 3 week period. Those with issues of housing were significantly more likely to be served for a period less than 8 weeks.

Discussions with TCM staff indicated that the length of time in service is an important issue for the overall functioning of the team. The combination of lengthy service use and the need to provide rapid access to TCM services is a key factor in the size of caseloads, and subsequently the nature and intensity of services that can be provided. Lengthy service provision appears to transfer the issue of the “bottleneck” in services originally experienced by the Crisis Service to Transitional Case Management.

The original ideal of a maximum 10 week service period was developed as a “best guess”. The findings of this evaluation could help to inform the development of a reasonable ideal for time in service. Using the logic that no more then 10-15% of the population served should exceed the “ideal” upper range for time in service, the findings suggest that the “ideal” maximum for service delivery would be approximately 15 weeks. However, data related to exit disposition of this population (see sections below) indicate the need for closer examination of the nature of the follow-up needs of this group to develop a better understanding of the factors that are influencing length of stay.

Exit Disposition Two hundred and ten individuals (67%) had an exit disposition of complete with or without a referral. Eighty of these individuals (26%) completed the TCM service without referral, while 126 (41%) completed with a referral. (Appendix C- Table 22). Completion with referral was the most common exit disposition overall, indicating that a large minority of those served require services beyond those provided by TCM.

Fifty-eight (19%) were reported as having withdrawn from TCM services, and 43 (14%) had another unspecified exit disposition (i.e. could include relocation, death, unknown).

Key messages:

3. Actual service capacity appears to be consistent with the original vision of the TCM. Ideal case-loads suggested by the evaluation range from 15-18 people per full-time TCM staff member.
4. Overall, length of time in service is higher than the original vision of 10 weeks. Using the ideal of no more than 10-15% of the population receiving services over the ideal time period, suggests that the upper range of service delivery should be set at approximately 15 weeks. The TCM program could benefit from more attention to understanding the specific forces that contribute to longer time in service. Service times impact on caseloads with the longer time in service raising caseloads and impacting the intensity of the service that can be offered.
5. The social, demographic and clinical characteristics of the population served appear to be consistent with the original vision of the TCM program. .
6. There do appear to be differences in clinical, social and demographic characteristics based on source of referral, and these are worthy of further attention in order to more fully understand and describe service utilization patterns and to more fully understand service needs including the appropriate use of hospital services.
7. The TCM program could benefit from reviewing and revising current data collection protocols to ensure that data gathered is meeting program needs. Specifically, attention should be directed to include: data about outreach to individuals that did not lead to engagement with the service, in order to develop a full understanding of service capacity and the needs of a sub-group not be served by TCM; refinement of “presenting issues” to more fully reflect the nature of the services required; collection of data related to substance use among the population served.

Objective 3: To develop an understanding of particular groups of interest being serviced, specifically repeat users, and those who are being served for longer than expected time periods.

Using data collected for objective 2, a description of these sub-groups of the population served by TCM was developed. Two-group comparisons of means and proportions related to the key domains of study were conducted where numbers allowed. Differences reaching statistical significance are noted, and trends are reported where when there was a difference of 10% or more on any variable.

Findings – Objective 3

Repeat users

The number of repeat users of the TCM service was relatively small (n=29, 9.39%). A very small number (n= 6) had more than two admission to TCM. This number of repeat users was far too small to allow for statistical analysis of factors that might predict repeat use, but analysis of the data did reveal some features of repeat users that might be useful in the ongoing development of a profile of this population. .

Comparisons of repeat and single users included:

1. Three of the 10 aboriginal clients served in this time period were repeat users.

2. A higher percentage of females compared to males were repeat users.

3. Repeat users were significantly more likely to be referred to TCM from the hospital rather than the crisis service and more likely to have had in-patient hospitalizations in the year prior to entry to the service.

4. Repeat users were more likely to have a diagnosis of schizophrenia as the baseline diagnosis compared to one time users who were more likely to be diagnosed with a mood disorder. Repeat users were also more likely to have a secondary chronic illness.

5. Repeat users were less likely to have presenting issues related to occupational functioning, finances and physical or sexual abuse. They were more likely to present with issues relate to being a threat to self or others, and legal issues.

6. Repeat users were more likely to be living by themselves and receive some form of government income. They had a significantly higher level of education compared to single users, with higher rates of achieving some level of post-secondary education.

Discussions with TCM staff suggested the need to consider how the service will interpret repeat use. There may be a tendency to view repeat use in negative terms when it could, for some individuals, reflect a good use of TCM services. For example, it could be a useful form of service delivery if it facilitates an evolving independence in and resilience in community living, rather than dependence on continuous case management services or other more intensive forms of service delivery. Indeed TCM staff indicated that they might encourage repeat service use by an individual if they evaluated the likelihood the need for ongoing responsiveness to the individual's well-being in the community. Staff also suggested that changes in repeat users may be noted over time with changes in the broader community service system. For example, the implementation of new services in the community may meet the specific needs of repeat users, and waiting lists for specific services may encourage individuals to seek out the assistance of TCM while they await access for these services.

Lengthy use of service (over 10 weeks)

In total there were 96 lengthy service users (over 70 days; 31%) compared to 213 who completed within the 70 days. Overall, lengthy service users were remarkably similar to those who used services within 10 weeks. There were significant differences in: gender, with females more likely to be receive services for more than 10 weeks and; race, with 3 of the 10 aboriginal served receiving services past the 10 weeks; exit dispositions, with those being longer service users significantly more likely to

have completed the service with a referral. This finding suggests that the need to provide services while waiting for other services likely accounts for some of the lengthier service times.

Key messages:

8. The TCM program could benefit from ongoing discussion to advance a shared understanding of the meaning of repeat service use. For example, while repeat use of the service might be interpreted as a negative outcome, it can also be interpreted as positive if viewed as ensuring access to appropriate follow-up services that prevent crises and more intense forms of service delivery.
9. This evaluation suggested clinical and social similarities (i.e. diagnosis, income and employment and hospital service use) between repeat service users and those with serious mental illness that are referred to continuous treatment services such as Assertive Community Treatment.
10. Referral for follow-up services appears to be related to the length of time in service. A closer examination of referrals and wait times for services would contribute to a shared understanding of length of service and broader community service system needs.

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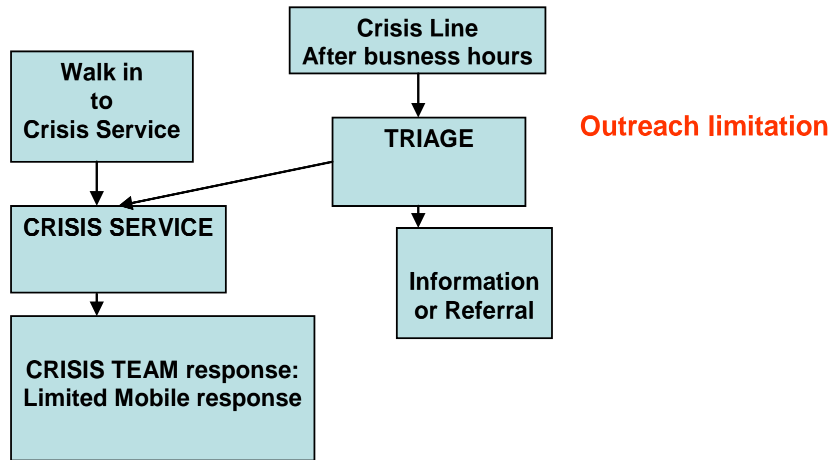
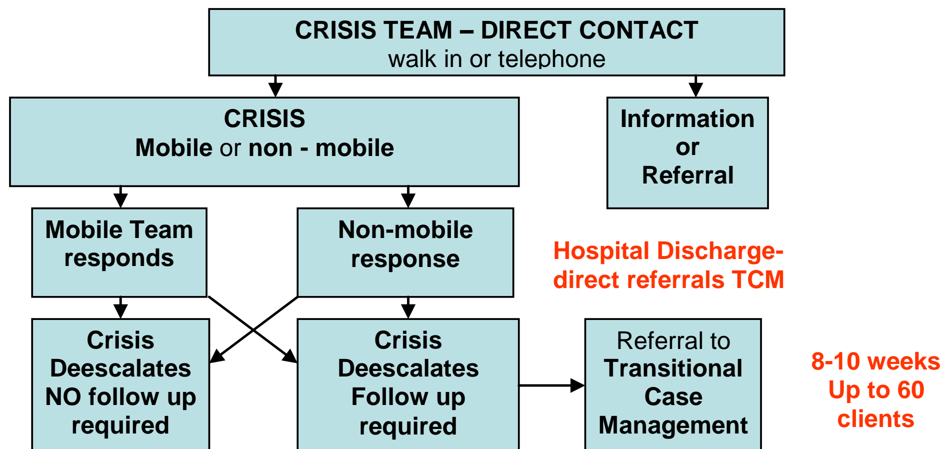
Appendix A: Service changes

"OLD MODEL"



No built in follow-up

"NEW MODEL"



Appendix B: Transitional Case Manager Competency Profile

(Krupa, Stewart, Mathany, Lava, 2009)

Objective:

Develop a competency profile for the newly created Transitional Case Manager position at Frontenac Community Mental Health Services, crisis service, as part of an evaluation of the integrated crisis-case management service model.

Definition:

The Transitional Case Manager Competency Profile includes knowledge, skills and abilities, and personal characteristics required to deliver quality client-centred time-limited transitional case management services in the community, for people with moderate to severe mental health issues in order to: prevent or decrease inappropriate ER visits, hospitalization and involvement in the criminal justice system. With this in mind, TCMs facilitate the transition of clients from crisis to an increased level of autonomy by promoting stability and empowerment; transition clients from hospital to community and; support healthy community living.

1.0 Demonstrate a holistic understanding of the person experiencing mental health issues while in transition	1.1 Demonstrate a holistic understanding of the client including basic needs, challenges, individual strengths, capabilities, and interests. 1.2 Know the characteristics of moderate to severe mental health issues including substance use, signs and symptoms of serious persistent mental illness, and the behavioural and experiential dimensions of these issues. 1.3 Know up-to-date reliable sources of information on types of medications, medication effects and potential side effects, and consider these in the context of the client's own experiences. 1.4 Utilize knowledge of mental illness and substance use issues appropriately by differentiating between illness and personal characteristics, in order to effectively engage with the individual. 1.5 Understand the impacts of serious mental illness/ mental health issues and substance use issues on the client transition and crisis stabilization process. 1.6 Understand stigma and its impacts on people with mental illness. 1.7 Understand how basic needs for food, shelter, security, clothing, finances, affiliation and dignity impact mental health.

2.0 Engage the client relationship for short term intensive support during transition	2.1 Prioritize time and goals to identify critical areas of focus and need that can be realistically addressed in 8 weeks. 2.2 Understand the importance of consciously building a relationship of trust with the client before moving forward to address issues of change. 2.3 Use creative and non-judgemental approaches to identify personally meaningful ways of motivating and engaging a range of types of clients. 2.4 Demonstrate the ability to engage in a meaningful relationship in a short time with a broad range of clients, including those who are resistant. 2.5 Utilize interpersonal skills to adapt communication styles with different types of clients, based on an accurate assessment of the person and in the context of the working relationship. 2.6 Demonstrate personal qualities of empathy, respect, active listening and supporting the client. 2.7 Develop trust by maintaining regular contact with the client, responding to requests, keeping them informed and

	demonstrating consistent reliable follow-up on agreements and decisions. 2.8 Utilize the information, resources and direct support of MCWs as joint members of the transitional client's team, to assist client in reaching their goals and supporting the TCM-client relationship. 2.9 Foster a smooth transition from crisis to TCM program by collaborating, coordinating and communicating with MCW staff and client. 2.10 Conduct active outreach and follow-up using a flexible approach to support/assist clients in remaining engaged and attending their scheduled meetings on time and as needed. 2.11 Take measures to provide reasonable access for clients if they require support outside of scheduled appointments and ensure TCM clients understand how to access staff support (TCM or MCW) by phone or walk-in, whether it's by appointment or in an unscheduled crisis situation.

3.0 Use client centred approaches to foster dignity in the change process	3.1 Empathize with clients to understand their journey, how they arrived where they are, and to see it from their perspective. 3.2 Demonstrate sensitivity to the impact of negative life circumstances on dignity, identity, comfort level and ability to manage new or changing situations.

	3.3 Remain non-judgemental and respectful of client behaviours, beliefs, life choices, views, values, hopes and chosen processes of change. 3.4 Demonstrate patience in verbal and nonverbal communication, to allow change to occur in a way that fits for the client. 3.5 Alter own behaviour to minimize negative impacts of stigma and maintain client dignity and confidentiality, for example when meeting in public places. 3.6 Be flexible in offering a choice of locations for service which ensures maximum confidentiality and privacy as requested or appropriate for the client. 3.7 Adjust plans and approaches to accommodate new learning and new preferences, respecting the competence of clients as collaborators in service planning, delivery and evaluation. 3.8 Use neutral descriptive language as opposed to diagnostic labels and symptoms, to explain behaviours or describe the person. 3.9 Engage with client as an equal partner to jointly assess the level of risk in decisions and choices.
4.0 Provide comprehensive	4.1 Participate cooperatively in the intake process with internal FCMHS staff and hospital outreach to determine if transitional case management is appropriate based on Ministry of Health criteria and the best outcomes for clients.

individualized assessment for transitional needs	4.2 Conduct broad contextual assessment to expand areas of focus and options. 4.3 Accurately assess strengths, resources, needs and risks. 4.4 Demonstrate an awareness of individual client sensitivities regarding boundaries and what helps them cope, and use this awareness to select the right approach for each person. 4.5 Recognize subtle clinical changes that indicate that the client may be de-compensating or that the client's stability and wellbeing may be compromised and communicate them to other members of the team (including MCWs) to ensure appropriate informed support can be provided if needed. 4.6 Apply knowledge of the judicial system to assess how it impacts client stabilization and transition. 4.7 Expand the assessment focus beyond immediate needs and crisis, to include the context of client's life situation and goals/needs. 4.8 Conduct ongoing assessment to monitor where client is at and where they're going, and modify approach as needed.
5.0 Support client to work towards	5.1 Match client and program resources with prioritized client needs, to develop realistic time-limited and meaningful

meaningful attainable goals within the transitional program	goals. 5.2 Offer support, options and choices to expand the client view of possibilities beyond the situation(s) of crisis. 5.3 Develop and provide flexible individualized services and supports that meet client needs as they transition from crisis to increased stability. 5.4 Utilize psychosocial rehabilitation approaches that are client centred and genuine. 5.5 Conduct ongoing monitoring throughout the intervention and adjust focus and approach as needed. 5.6 Address structural issues for longer term stabilization and resolution of stressors, for example, financial, housing and social supports. 5.7 Foster hope and create a positive vision by demonstrating personal qualities of optimism and creative approaches to possibilities of the future. 5.8 Address change explicitly by providing education about the change process and reassuring the client about the temporary or time limited nature of crisis.

	5.9 Focus on what's worked for the client in the past and identify new areas of strength and success. 5.10 Support client to understand how their behaviour impacts their ability to achieve their goals. 5.11 Be flexible in providing the amount of time (frequency of meetings and length of time) needed to develop a relationship, provide support and, initiate and/or meet client goals within the approximate 8-week period. 5.12 Focus on concrete issues related to housing, finances etc to establish stability in basic needs, while providing supportive counselling to support these goals.
6.0 Manage the transitional program completion process	6.1 Recognize when client needs or is ready to be exited from the TCM program. 6.2 Prepare client well in advance for program completion or referral by providing information in advance regarding the time-limited nature of the service and jointly planning for or putting in place, the needed alternate client supports. 6.3 Ensure the client has the necessary contact information for alternate resources and referrals, including both community support and FCMHS crisis support. 6.4 Ensure sufficient resources are in place prior to the client exiting the program.

	6.5 Make any necessary information available to those who need it (including referral sources and MCWs) to ensure a smooth transition out of the TCM service. 6.6 Reinforce client accomplishments, strengths, and successes achieved in the TCM program to foster confidence in new growth and learning. 6.7 Notify clients of contacts made and the expected time frame and method of contact that the client can expect from those contacts or referrals.
7.0 Mobilize community resources for increased stabilization and support	7.1 Engage a broad range of external agencies and resources such as housing, legal, social assistance, mental health, vocational and educational services. 7.2 Maintain a thorough understanding of community resources including eligibility criteria and referral requirements. 7.3 Know where to find information about contacts and resources. 7.4 Utilize an understanding of the collective impacts that community resources have on client support and plan in advance for changes in support needs due to service changes, for example, the end of a time limited program or changes in parole status. 7.5 Assess programs and their eligibility criteria to determine appropriateness in relation to client goals and needs.

	7.6 Creatively problem-solve to locate or identify appropriate supports. 7.7 Investigate possible leads to find new resources or update existing ones, including making cold calls to find or locate resources. 7.8 Identify, develop and maintain good relationships and linkage with a wide range of community resources. 7.9 Work collaboratively within and across programs, services and resource people for the benefit of clients.
8.0 Connect client with community resources and supports for increased stabilization and support	8.1 Provide information on available community resources with client. 8.2 Make referrals appropriate to client needs and preferences. 8.3 Directly assist and accompany client in accessing and attending services, programs and appointments, with dignity as empowered consumers. 8.4 Support skill development in activities of daily living to build client capacity to seek out and engage independently with community resources. 8.5 Refer and link clients directly to the appropriate staff at community support programs and social supports.

	8.6 Coordinate internal and external programs, services and resource people for the benefit of the client. 8.7 Respect client's decision to discontinue, change, or choose alternate more appropriate supports and services, based on an understanding of their experiences.
9.0 Advocate for client services and rights to support transitional needs	9.1 Represent and promote the full range of client abilities and needs in the context of their environment, to community program staff. 9.2 Educate and encourage staff of community resources in the provision of strength-based client centred approaches to delivery of services in relation to specific individual client situations. 9.3 Advocate for changes to policies, procedures and approaches that respect the individual rights and dignity, as well as their strengths and needs. 9.4 Facilitate and support self-advocacy. 9.5 Be assertive, persuasive and persistent in attaining needed resources for clients and when unsuccessful, let go and problem solve alternatives. 9.6 Diplomatically challenge stigmatizing attitudes and beliefs about mental illness.

	9.7 Advocate for services and resources that meet specific individual needs.
10.0 Support interpersonal resources for crisis management and ongoing support	10.1 Assist clients to engage in positive supporting relationships in the community. 10.2 Provide information and support to family members and/or personal supports as needed with the client's involvement and consent. 10.3 Engage with the family and/or personal support network to understand their point of view, how the client's illness has impacted them over their lifetime. 10.4 Engage with the family and/or personal support network to understand the level of involvement that is comfortable for them. 10.5 Provide non-judgemental support to family members and/or personal supports regardless of the levels and types of support they can or will provide to the client. 10.6 Provide support to the client's landlord or other interpersonal supports, as agreeable to client and in a manner that demonstrates awareness of the differences between maintaining confidentiality in relation to giving versus receiving information. 10.7 Develop strategies for resolving problems related to confidentiality in the process of engaging interpersonal

	supports. 10.8 Facilitate the development of natural support networks.
11.0 Facilitate client empowerment and autonomy, from crisis to increased stability	11.1 Provide the appropriate amount and type of support in a way that respects the existing strengths and competence of the client. 11.2 Work collaboratively with client to minimize risks. 11.3 Provide non-judgemental support for harm or risk reduction, even if there is still existing risk, respecting the client's right to choose based on informed decision making. 11.4 Utilize a range of approaches to ensure informed decision making, for example, education and role play. 11.5 Respect and assist the client to make her/his own decisions and choices even when TCM may not agree. 11.6 Teach new skills and build on existing skills that assist the client in achieving goals and managing stress. 11.7 Inform and educate to contribute to the client's understanding and awareness of mental illness, medications, coping, resources, and the role of environmental supports.

	11.8 Identify and appreciate meaningful movement or change, no matter how small it may seem, and communicate this to clients to help them see and value their accomplishments. 11.9 Reinforce client strengths, resources, skills, past successes, and all changes, no matter how small or large. 11.10 Support the client in risk taking and managing potential consequences, in the move to self determination and their right to make their own mistakes. 11.11 Encourage client to take responsibility for achieving their goals. 11.12 Educate client on the program resources, supports and expectations of client responsibility for follow-up. 11.13 Provide caring confrontations to support increased awareness of self-defeating behaviours or attitudes.
12.0 Manage the transition process	12.1 Understand the challenges and nonlinear processes of transition and change as involving growth and setbacks, and periods of rapid and little change. 12.2 Demonstrate sensitivity to the types of support needed in life-changing circumstances that involve new experiences and require the learning of new skills.

	12.3 Understand the challenges and impacts of change on individuals. 12.4 Accurately assesses the need for taking an active role in stabilizing a crisis versus a supportive role as the client self manages using their own coping strategies, and is able to move in and out of these roles as appropriate. 12.5 Adjust the amount, type and intensity of support as needed depending on the stage of transition and individual circumstances, preference and needs. 12.6 Balance hope and reality within self and client. 12.7 Adjust approach from crisis management, risk management and stabilization to empowerment, self responsibility and self-determination, as needed and appropriate for the client in transition. 12.8 Conduct outreach activities to assist clients leaving hospital to achieve a smooth transition to community without crisis. 12.9 Trust in the person's ability to change, learn and grow.
13.0 Respond to clients in crisis	13.1 Teach skills and develop capacities to prevent or avoid crisis in the future.

	13.2 Knows and effectively uses a range of crisis prevention and intervention approaches in conjunction with knowledge of the client gained through engaging the client-TCM relationship. 13.3 Act independently to calmly respond to unexpected crisis situations when occurring on a home visit. 13.4 Take measures to prevent or minimize unexpected crises for example, by calling ahead to check-in before an upcoming visit. 13.5 Actively monitor client needs and status for the prevention of further crisis. 13.6 Be aware of environmental risks to TCM and others in the home, for example, physical surroundings and other people present in the client's home. 13.7 Manage potential triggers and sensitivities proactively to avoid unnecessary stress. 13.8 Respond to contain crises and ensure safety. 13.9 Assist the client to frame and use crisis as learning opportunities.

	13.10 Assess when hospitalization is the best solution given the available alternatives and need for safety or intervention. 13.11 Work as a team with mobile crisis workers when responding in on-call weekend crisis support role.
14.0 Maintain current professional skills	14.1 Promote collaboration and coordination across services and programs. 14.2 Identify training needs, participate in continuing education, apply new learning on the job, and self-evaluate. 14.3 Ensure ongoing review of relevant policies and legislation (including but not limited to privacy and confidentiality) to ensure familiarity and to remain current on new developments. 14.4 Actively participate in team supervision and team meetings to review difficult or challenging situations. 14.5 Demonstrate integrity regarding client confidentiality when working with outside agencies. 14.6 Enter and maintain up-to-date information about client services, supports and referrals according to Ministry of Health guidelines, ensuring accuracy and completeness.

	14.7 Work independently and take primary responsibility for a set client caseload. 14.8 Manage time to meet caseloads and remain flexible with clients. 14.9 Seek out and utilize peers and team manager for support and consultation as needed. 14.10 Understand and act in accordance with relevant legal and health related laws, policies, regulations and procedures. 14.11 Use self awareness to review and reflect on work with clients, and monitor and address stressors or potential issues. 14.12 Maintain regular and ongoing communication with MCWs on pertinent TCM client issues related to TCM intake, crisis management, and discharge timing, needs and plans.

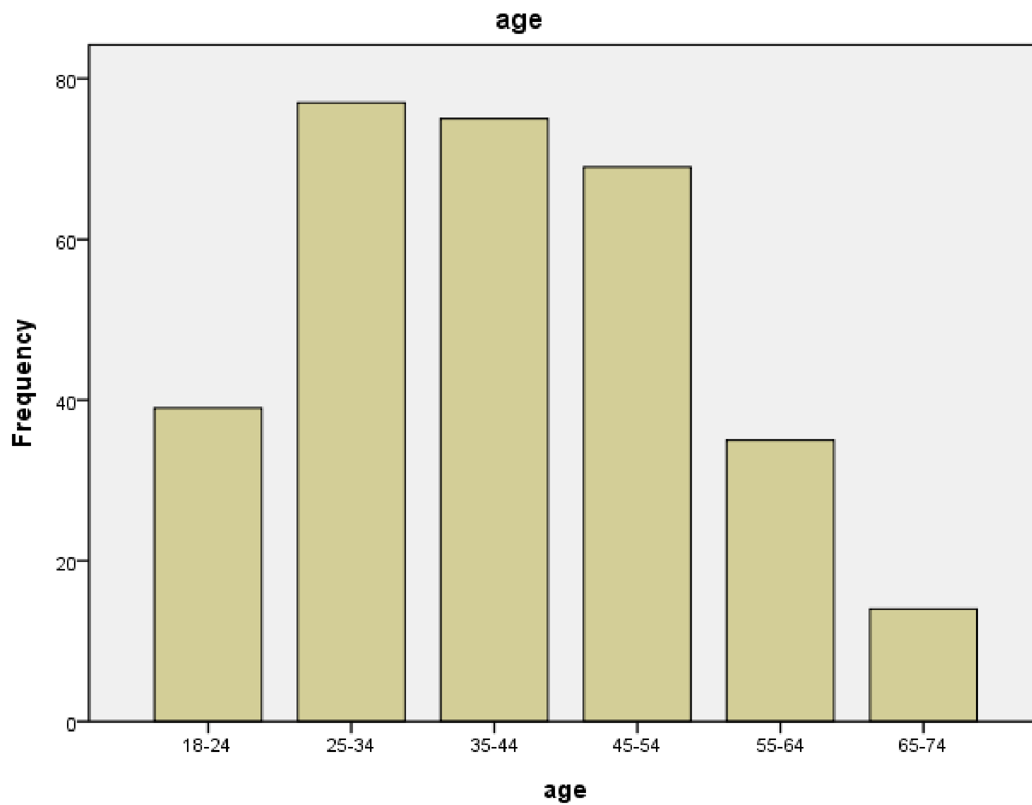
APPENDIX C: Tables for selected findings

i) Socio-demographic features of the population served by TCM

Age

Table 1: Age of people served by TCM

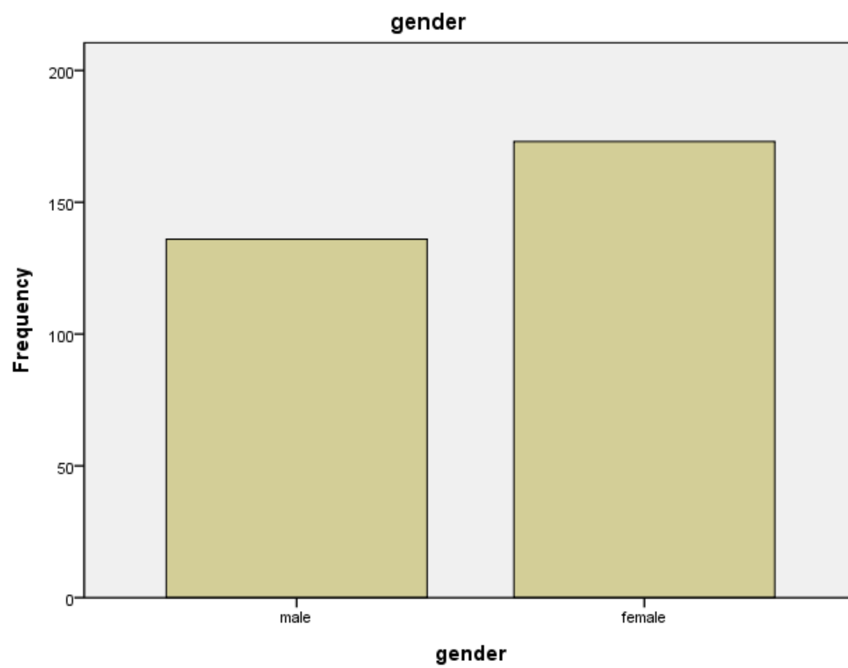
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-24	39	12.6	12.6	12.6
	25-34	77	24.9	24.9	37.5
	35-44	75	24.3	24.3	61.8
	45-54	69	22.3	22.3	84.1
	55-64	35	11.3	11.3	95.5
	65-74	14	4.5	4.5	100.0
	Total	309	100.0	100.0	



Gender

Table 2: gender of people served by TCM

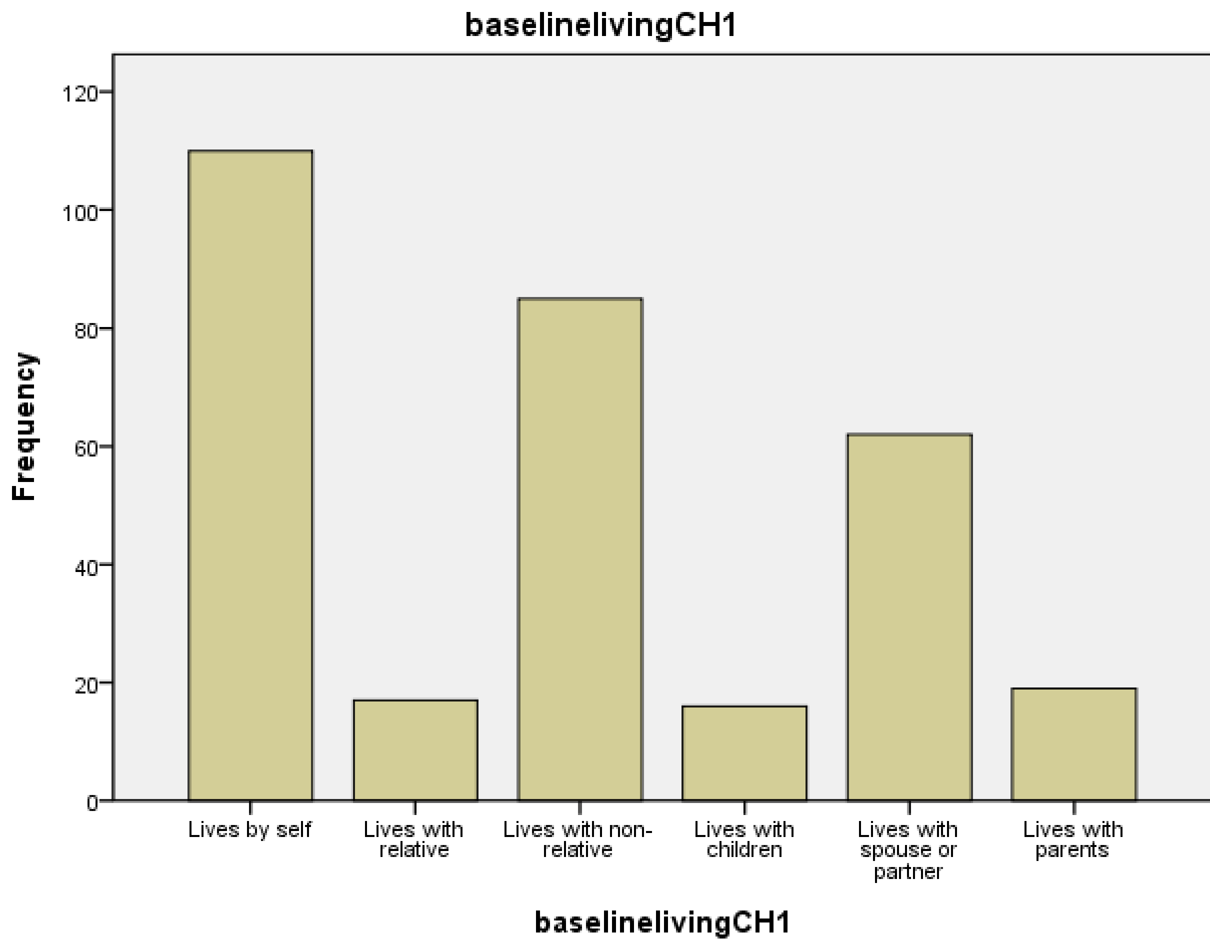
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	136	44.0	44.0	44.0
	female	173	56.0	56.0	100.0
	Total	309	100.0	100.0	



Living Status

Table 3: Living status at entry to TCM

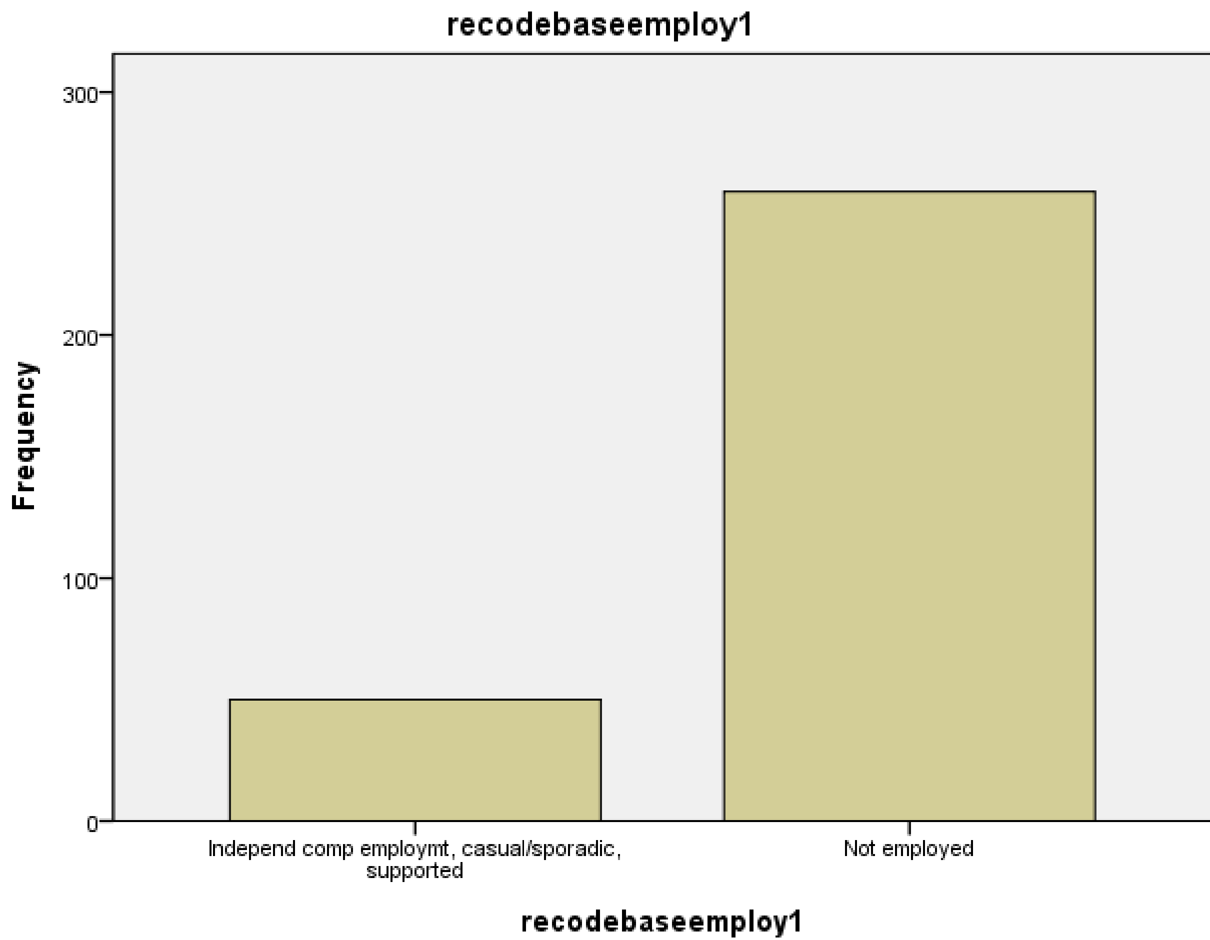
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Lives by self	110	35.6	35.6	35.6
	Lives with relative	17	5.5	5.5	41.1
	Lives with non-relative	85	27.5	27.5	68.6
	Lives with children	16	5.2	5.2	73.8
	Lives with spouse or partner	62	20.1	20.1	93.9
	Lives with parents	19	6.1	6.1	100.0
	Total	309	100.0	100.0	



Employment

Table 4: Employment status at entry to TCM

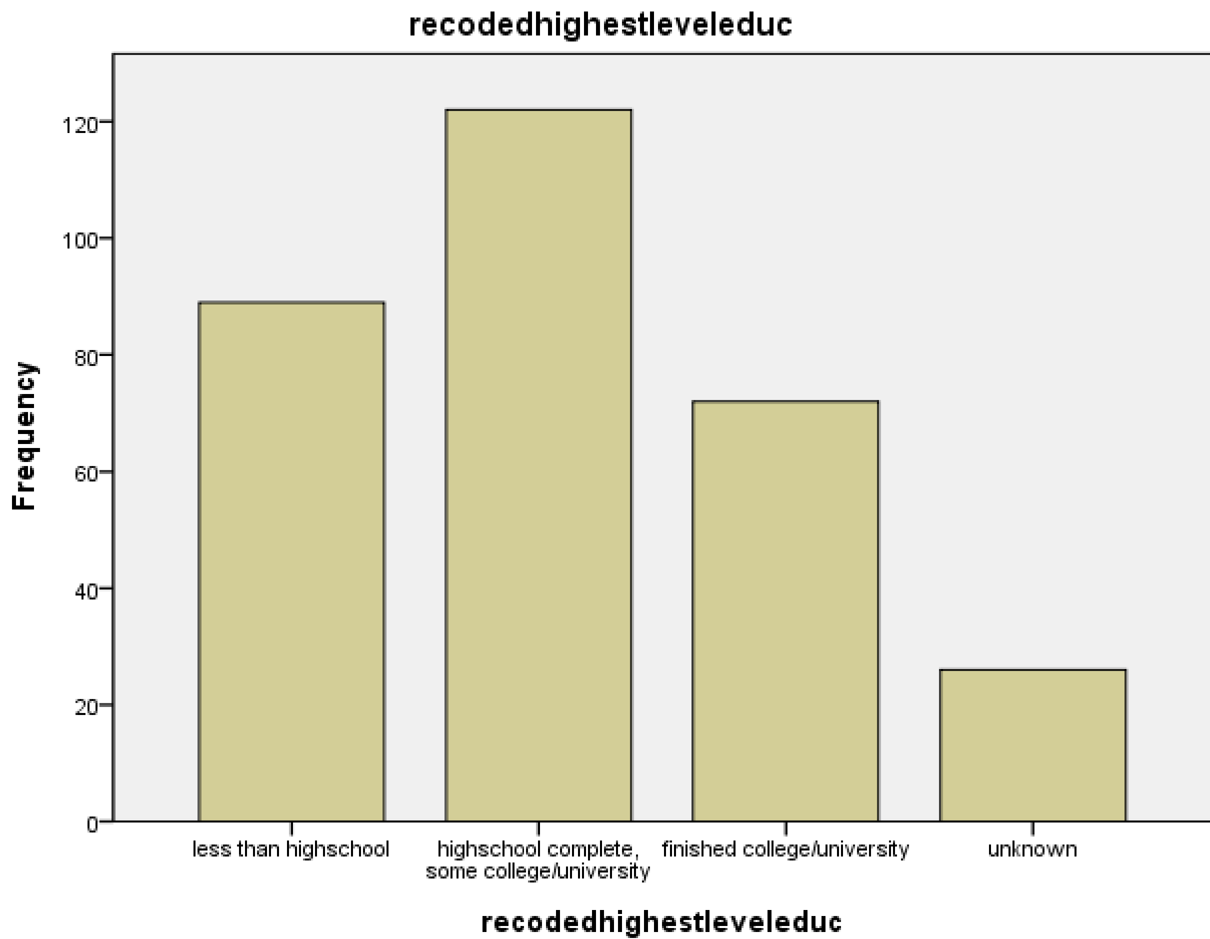
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Independ comp employmt, casual/sporadic, supported	50	16.2	16.2	16.2
	Not employed	259	83.8	83.8	100.0
	Total	309	100.0	100.0	



Education

Table 5:highest level education achieved

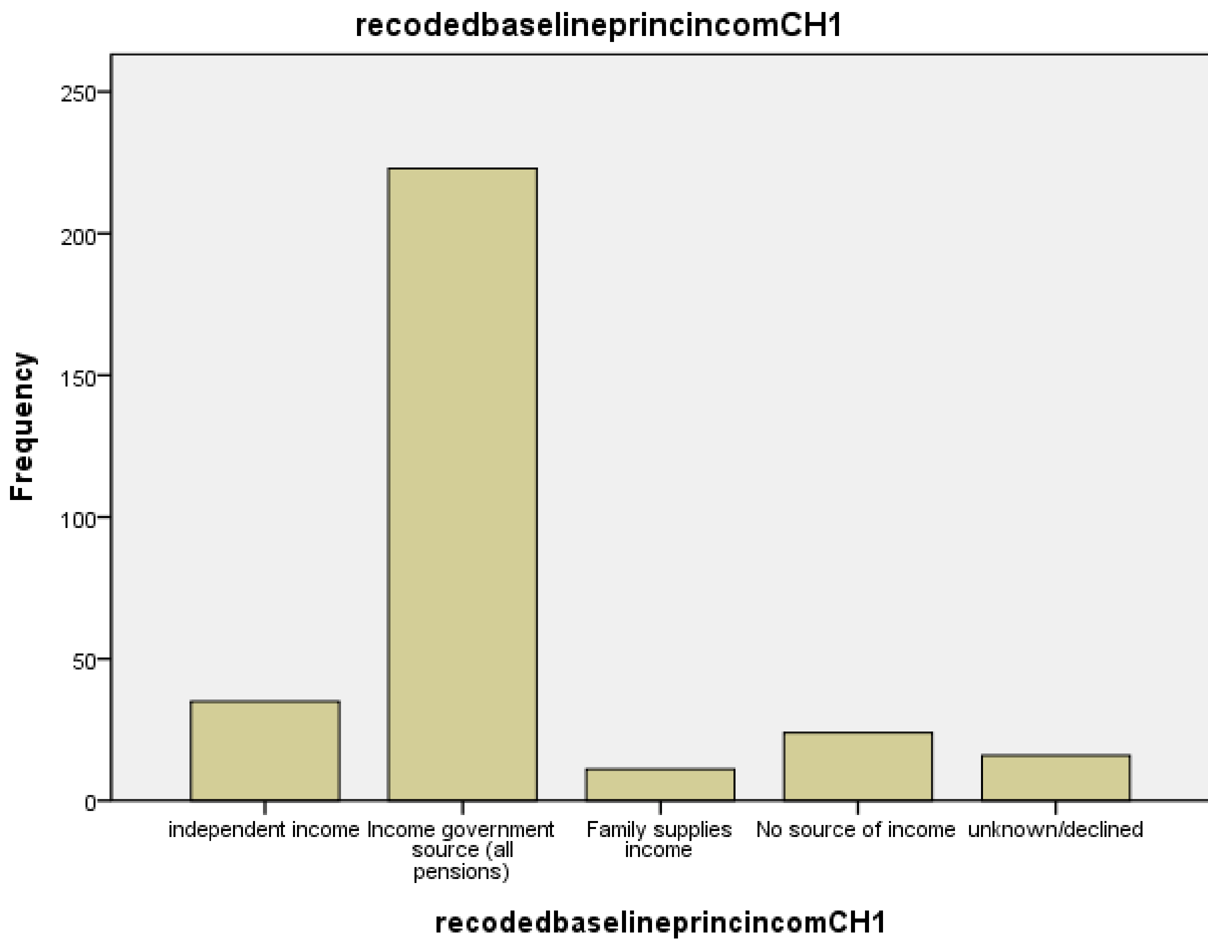
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than highschool	89	28.8	28.8	28.8
	highschool complete, some college/university	122	39.5	39.5	68.3
	finished college/university	72	23.3	23.3	91.6
	unknown	26	8.4	8.4	100.0
	Total	309	100.0	100.0	



Income

Table 6 : Principal income at time of entry to TCM

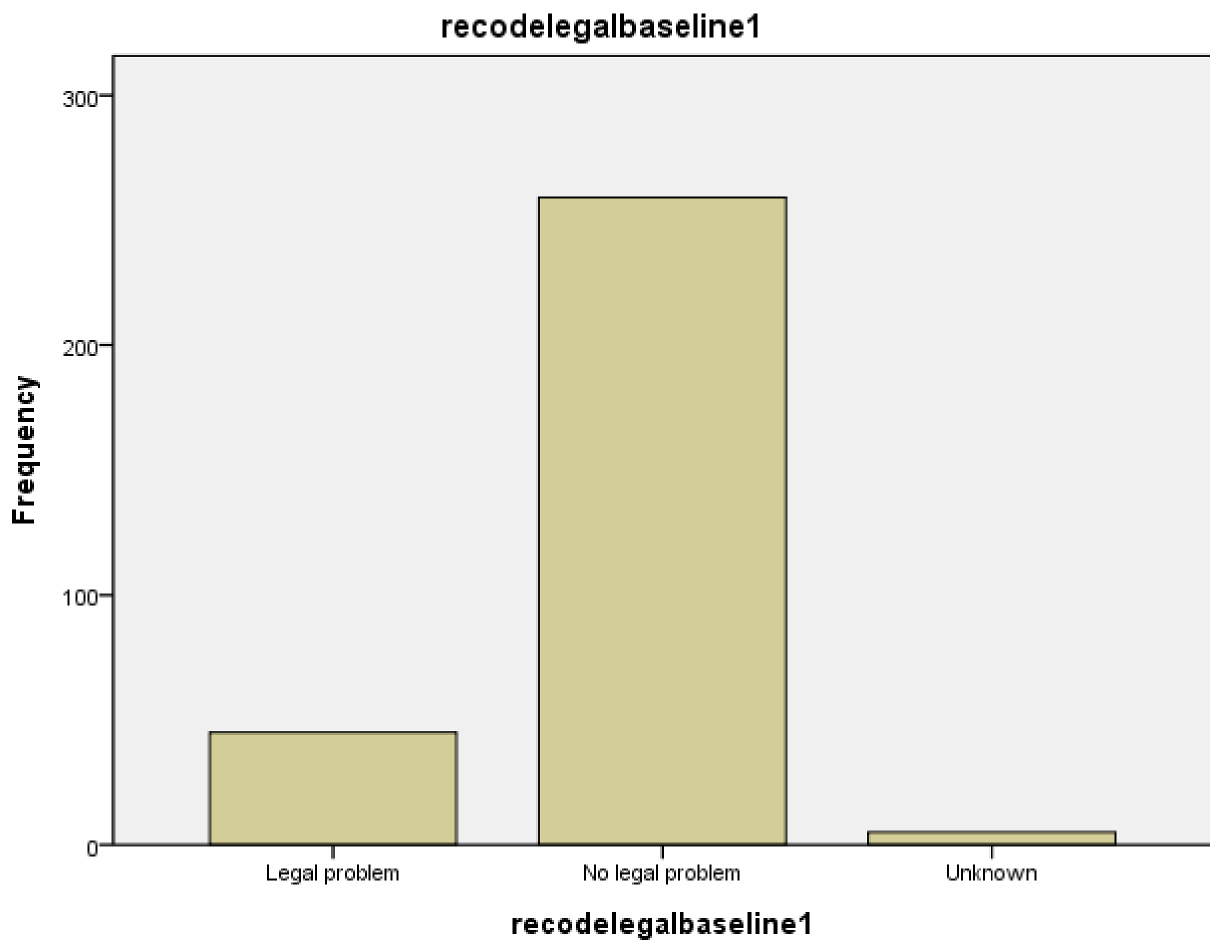
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	independent income	35	11.3	11.3	11.3
	Income government source (all pensions)	223	72.2	72.2	83.5
	Family supplies income	11	3.6	3.6	87.1
	No source of income	24	7.8	7.8	94.8
	unknown/declined	16	5.2	5.2	100.0
	Total	309	100.0	100.0	



Legal status

Table 7: Legal status at entry to TCM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Legal problem	45	14.6	14.6	14.6
	No legal problem	259	83.8	83.8	98.4
	Unknown	5	1.6	1.6	100.0
	Total	309	100.0	100.0	

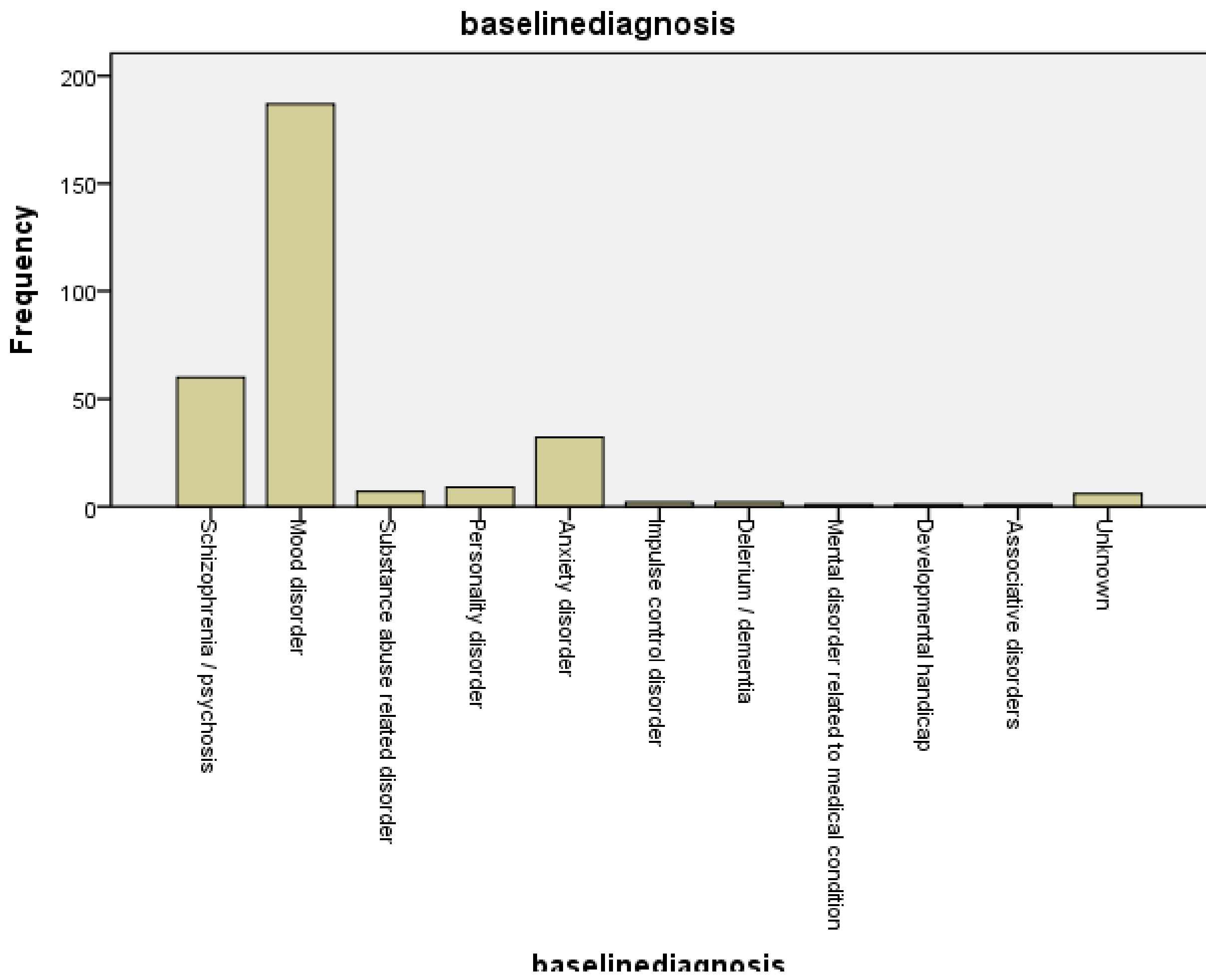


ii. Clinical features of the population served by TCM

Diagnosis

Table 8: Diagnosis at time of entry to TCM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Schizophrenia / psychosis	60	19.4	19.5	19.5
	Mood disorder	187	60.5	60.7	80.2
	Substance abuse related disorder	7	2.3	2.3	82.5
	Personality disorder	9	2.9	2.9	85.4
	Anxiety disorder	32	10.4	10.4	95.8
	Impulse control disorder	2	.6	.6	96.4
	Delerium / dementia	2	.6	.6	97.1
	Mental disorder related to medical condition	1	.3	.3	97.4
	Developmental handicap	1	.3	.3	97.7
	Associative disorders	1	.3	.3	98.1
	Unknown	6	1.9	1.9	100.0
	Total	308	99.7	100.0	
Missing	0	1	.3		
Total		309	100.0		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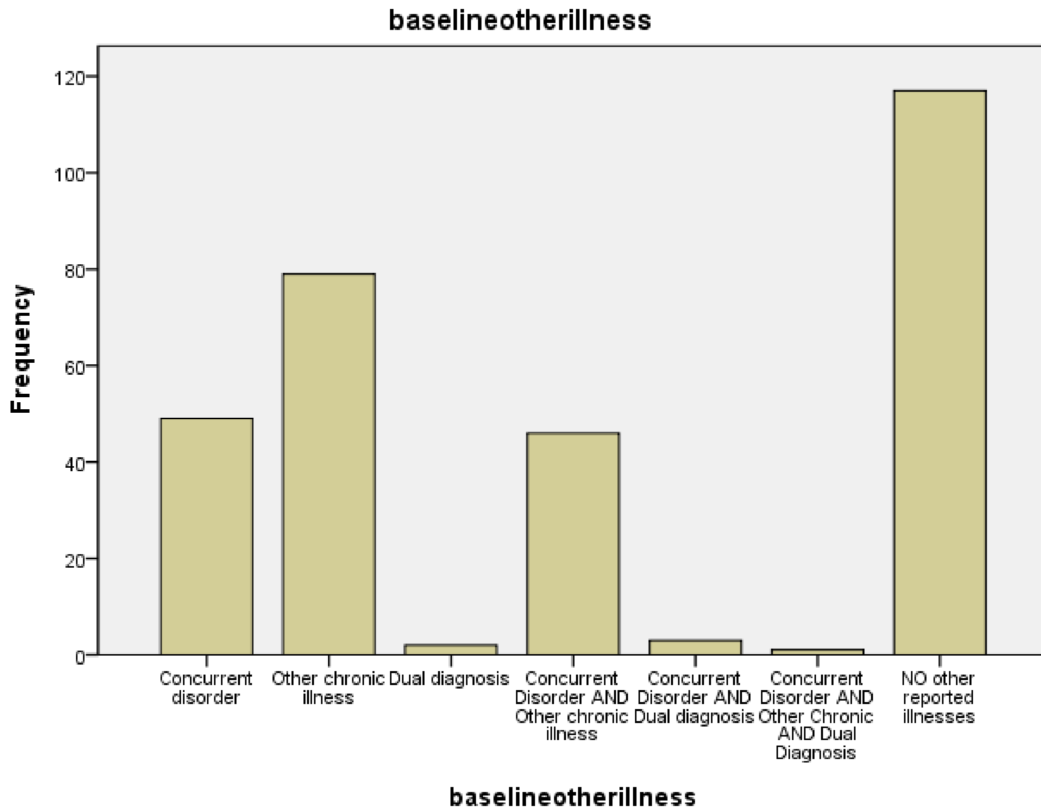
Frequency
200
150
100
50
0
Schizophrenia / psychosis
Mood disorder
Substance abuse related disorder
Personality disorder
Anxiety disorder
Impulse control disorder
Delerium / dementia
Mental disorder related to medical condition
Developmental handicap
Associative disorders
Unknown
baselinediagnosis

Table 9: secondary diagnosis upon entry to TCM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Concurrent disorder	49	15.9	16.5	16.5
	Other chronic illness	79	25.6	26.6	43.1
	Dual diagnosis	2	.6	.7	43.8
	Concurrent Disorder AND Other chronic illness	46	14.9	15.5	59.3
	Concurrent Disorder AND Dual diagnosis	3	1.0	1.0	60.3
	Concurrent Disorder AND Other Chronic AND Dual Diagnosis	1	.3	.3	60.6
	NO other reported illnesses	117	37.9	39.4	100.0
	Total	297	96.1	100.0	
Missing	0	12	3.9		
Total		309	100.0		



Use of hospital services

Emergency room visits

Table 10: Use of emergency services 1 year before and 1 year after receiving TCM

	N	Mean	Std. Deviation	Std. Error Mean
BEFOREemergvisit	309	1.14	2.235	.127
AFTERemergvisit	309	.91	2.978	.169

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
BEFOREemergvisit	8.935	308	.000	1.136	.89	1.39
AFTERemergvisit	5.388	308	.000	.913	.58	1.25

Number of days in hospital

Table 11: Days in hospital 1 year before and 1 year after receiving TCM

	N	Mean	Std. Deviation	Std. Error Mean
INPTBeforenumbdaystotal	307	7.12	17.056	.973
INPTafterdaystotal	307	6.02	19.518	1.114

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
INPTBeforenumbdaystotal	7.312	306	.000	7.117	5.20	9.03
INPTafterdaystotal	5.404	306	.000	6.020	3.83	8.21

iii. Service utilization patterns

Referral Source

Table 12: Referral source

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	FCMH Crisis Service	222	71.8	71.8	71.8
	Hospitals	83	26.9	26.9	98.7
	Act/case management	2	.6	.6	99.4
	criminal justice system	1	.3	.3	99.7
	Unknown	1	.3	.3	100.0
	Total	309	100.0	100.0	

Table 13: Recoded referral source

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	FCMH Crisis Service	222	72.8	72.8	72.8
	Hospitals	83	27.2	27.2	100.0
	Total	305	100.0	100.0	

Table 14 : Referral source by age: crosstabulation

			age						Total
			18-24	25-34	35-44	45-54	55-64	65-74	
recodereferralsource	FCMH Crisis Service	Count	32	63	56	47	18	6	222
		% within recodereferralsource	14.4%	28.4%	25.2%	21.2%	8.1%	2.7%	100.0%
		% within age	82.1%	84.0%	75.7%	68.1%	51.4%	46.2%	72.8%
		% of Total	10.5%	20.7%	18.4%	15.4%	5.9%	2.0%	72.8%
	Hospitals	Count	7	12	18	22	17	7	83
		% within recodereferralsource	8.4%	14.5%	21.7%	26.5%	20.5%	8.4%	100.0%
		% within age	17.9%	16.0%	24.3%	31.9%	48.6%	53.8%	27.2%
		% of Total	2.3%	3.9%	5.9%	7.2%	5.6%	2.3%	27.2%
Total		Count	39	75	74	69	35	13	305
		% within recodereferralsource	12.8%	24.6%	24.3%	22.6%	11.5%	4.3%	100.0%
		% within age	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	12.8%	24.6%	24.3%	22.6%	11.5%	4.3%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.239[a]	5	.001
Likelihood Ratio	19.483	5	.002
Linear-by-Linear Association	17.712	1	.000
N of Valid Cases	305		

Use of hospital services by referral source – Referrals from crisis services

Emergency room visits

Table 15: Emergency room visits 1 year before and one year after receiving TCM: Referral source crisis services

	N	Mean	Std. Deviation	Std. Error Mean
BEFOREemergvisit	222	1.24	2.446	.164
AFTERemergvisit	222	.95	3.253	.218

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
BEFOREemergvisit	7.545	221	.000	1.239	.92	1.56
AFTERemergvisit	4.353	221	.000	.950	.52	1.38

Number of admissions to hospital

Table 16: Number of admissions to hospital 1 year before and 1 year following TCM services: Crisis service referral

	N	Mean	Std. Deviation	Std. Error Mean
INPTBeforetimes	220	.33	.995	.067
INPTaftertimes	220	.38	1.051	.071

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
INPTBeforetimes	4.947	219	.000	.332	.20	.46
INPTaftertimes	5.327	219	.000	.377	.24	.52

Number of days in hospital

Table 17: Number of days in hospital 1 year before and 1 year following TCM: Crisis service referral source

	N	Mean	Std. Deviation	Std. Error Mean
INPTBeforenumbdaystotal	220	2.95	10.007	.675
INPTafterdaystotal	220	3.71	10.844	.731

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
INPTBeforenumbdaystotal	4.372	219	.000	2.950	1.62	4.28
INPTafterdaystotal	5.073	219	.000	3.709	2.27	5.15

Use of hospital services by referral source – Referrals from hospitals

Emergency room visits

Table 18: Emergency visits 1 year prior and one year following TCM services: Hospital referrals

	N	Mean	Std. Deviation	Std. Error Mean
BEFOREemergvisit	83	.90	1.582	.174
AFTERemergvisit	83	.86	2.176	.239

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
BEFOREemergvisit	5.204	82	.000	.904	.56	1.25
AFTERemergvisit	3.581	82	.001	.855	.38	1.33

Number of admissions to hospital

Table 19: Number of admission to hospital 1 year before and 1 year following TCM: Hospital referrals

	N	Mean	Std. Deviation	Std. Error Mean
INPTBeforetimes	83	1.04	.917	.101
INPTaftertimes	83	.83	1.873	.206

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
INPTBeforetimes	10.299	82	.000	1.036	.84	1.24
INPTaftertimes	4.044	82	.000	.831	.42	1.24

Number of days in hospital

Table 20: Number of days in hospital 1 year before and one year following TCM services: Hospital referrals

	N	Mean	Std. Deviation	Std. Error Mean
INPTBeforenumbdaystotal	83	17.36	23.858	2.619
INPTafterdaystotal	83	12.43	32.402	3.557

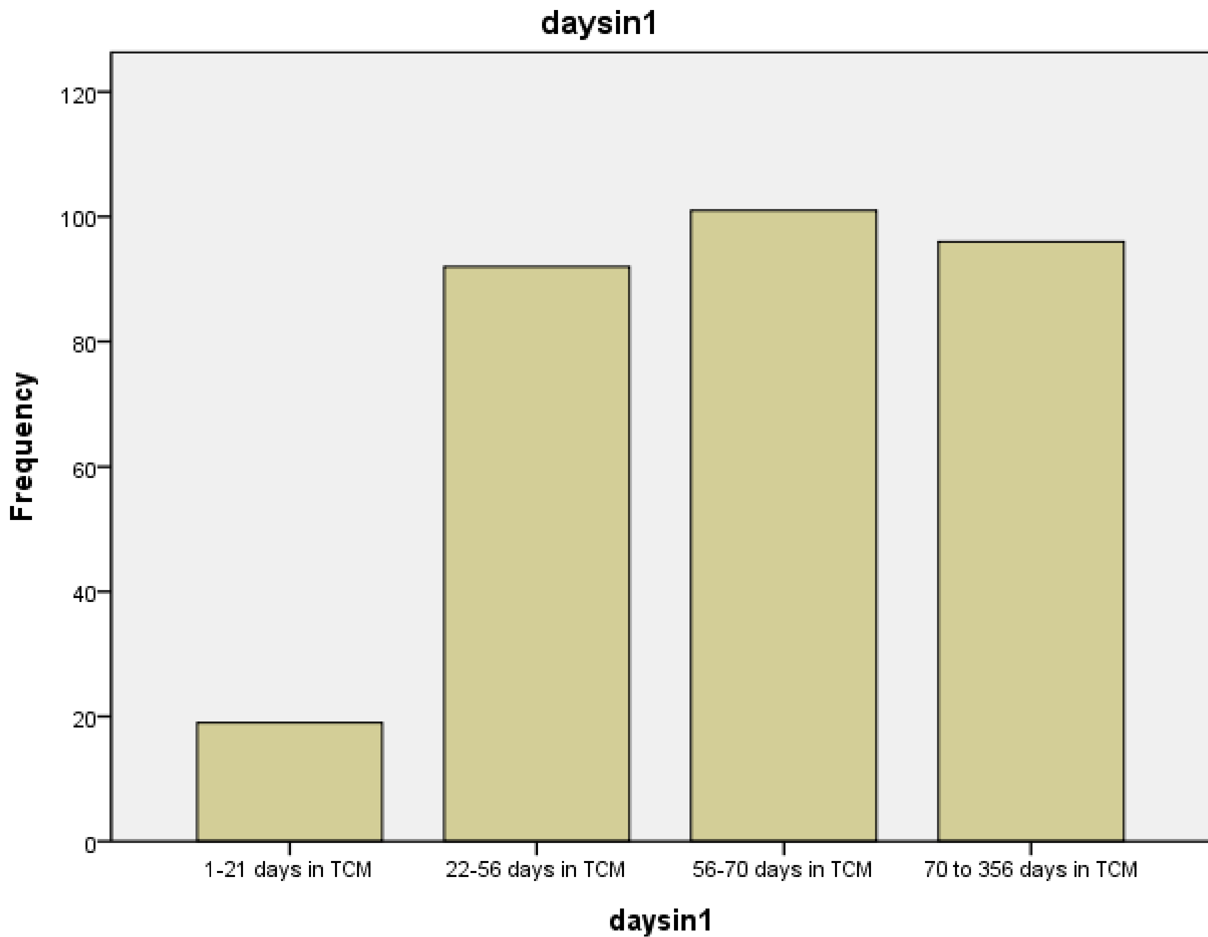
One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
INPTBeforenumbdaystotal	6.630	82	.000	17.361	12.15	22.57
INPTafterdaystotal	3.496	82	.001	12.434	5.36	19.51

Length of time receiving TCM services

Table 21: Length of time in TCM for all service recipients

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-21 days in TCM	19	6.1	6.2	6.2
	22-56 days in TCM	92	29.8	29.9	36.0
	56-70 days in TCM	101	32.7	32.8	68.8
	70 to 356 days in TCM	96	31.1	31.2	100.0
	Total	308	99.7	100.0	
Missing	0	1	.3		
Total		309	100.0		



Exit disposition

Table 22: Exit disposition for all people served by TCM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completion without referral	80	25.9	26.1	26.1
	Completion with referral	126	40.8	41.0	67.1
	Withdrawl	58	18.8	18.9	86.0
	Relocation, Death, Unknown, Not Noted	43	13.9	14.0	100.0
	Total	307	99.4	100.0	
Missing	0	2	.6		
Total		309	100.0