

Structure des programmes et continuité des soins de santé mentale

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La continuité en tant qu'objectif est un sujet fort débattu dans le domaine des soins de santé mentale mais encore peu étudié, en partie à cause des difficultés que sa mesure pose. Un petit nombre de projets de recherche ont permis d'établir, en évaluant le degré d'utilisation des services, les caractéristiques des programmes que l'on peut associer à la continuité. Récemment, un projet de planification a fourni l'occasion d'étudier, à l'aide d'un nouvel instrument d'auto-évaluation, l'effet de ces facteurs sur la continuité. On a mesuré neuf caractéristiques et fait appel à la régression linéaire pour analyser leur incidence sur la continuité, tout en tenant compte également des caractéristiques des clients. On a constaté que les programmes fournissant certains services le soir ou la fin de semaine affichaient un degré de continuité élevé et que ceux où l'on fournissait davantage de soins dans le milieu affichaient un degré moindre. Cette dernière observation était inattendue et reflète peut-être les efforts que l'on consacre pour tenter de joindre des personnes ayant de la difficulté à accéder aux services. Le lien entre les sept autres caractéristiques et la continuité n'était pas significatif. Les chercheurs explorent les raisons susceptibles d'expliquer cette conclusion.

Mots clés : santé mentale, continuité des soins, structure des programmes

Program Structure and Continuity of Mental Health Care

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Continuity has been a much discussed but under-researched objective of mental health care, in part due to measurement challenges. A small body of research has identified program features associated with continuity, based on measures of service use. A recent planning project provided an opportunity to examine the effects of these features on continuity using a new self-report continuity measure. Nine program features were measured and linear regression analyses were used to assess the relationship between these features and continuity, controlling for client characteristics. Client continuity was higher in programs that offered some night or weekend coverage and lower in programs that provided more care in the community. This latter finding was unexpected and may represent program efforts to engage individuals experiencing difficulties with service access. The association between each of the other 7 program features and continuity was not significant. Possible explanations for this finding are explored.

Keywords: mental health, continuity of care, program structure

Having to navigate that system almost made me stop going because it was just impossible.

I wish I had...some little extra support for getting over that bad time. I wouldn't have had to leave the job.

– Onken, Dumont, Ridgway, Dornan, and Ralph (2002, p. 53)

Introduction

During the last few decades, as the locus of mental health care delivery has shifted to the community from psychiatric institutions, attention has focused on ensuring that clients have timely access to needed services in the community. Psychiatric hospitals once functioned as self-contained settings that met client needs for basic supports (e.g., food, shelter) as well as mental health treatment and rehabilitation services (Bachrach, 1984). Once the patient was discharged, responsibility for accessing supports and services shifted to the individual. However, following the first wave of deinstitutionalization in the 1950s and 1960s, it became clear that many discharged individuals were lacking both basic supports and adequate

mental health care. This was attributed in part to a limited and fragmented community mental health system unequipped to engage and keep the most needy in care (Mueser, Bond, Drake, & Resnick, 1998).

Ensuing discussions about how to resolve this problem centred on the concept of continuity of care, which Bachrach (1981) describes as “a process involving the orderly uninterrupted movement of clients among the diverse elements of the service delivery system” (p. 1449). Bachrach (1981, 1993) outlines a number of interrelated service delivery principles that form the basis for creating continuity in the treatment of individuals with chronic mental illness. These include *longitudinality* (episodes are consecutive and related, and continue until need ends); *individualization* (care is planned with and for the patient); *comprehensiveness* (all needs are addressed); *flexibility* (the flow of services corresponds to changes in the patient’s circumstances); *relationship* (patients are able to rely, over time, on having associations with persons who are interested in them and respond on a personal level); *accessibility* (patients are able to reach the service system when they need it and in a way they can handle); and *communication* (there are links between the patients’ helpers so they can share information and integrate care). Two broad themes identified in Bachrach’s definition continue to underpin discourse in the field. These include longitudinal continuity — the consumer maintains a connection with services and providers over time; and cross-sectional continuity — care is accessible and responsive, based on the needs of the consumer (Johnson, Prosser, Bindman, & Szmukler, 1997). Recent discussions have added the notion of “experienced continuity” to emphasize the importance of assessing the perceptions of users, which may differ from that of the provider (Adair et al., 2003; Beecher, 2003; Freeman, Crawford, Weaver, Low, & de Jonge, 2003; Johnson et al.).

Despite wide acceptance of the conceptualizations of Bachrach and others, continuity research has been relatively simple and not reflective of the complexity inherent in the theories and definitions. For the most part, studies have assessed longitudinal continuity, with utilization data used to examine consistency of service use over time. Several efforts have been made to assess cross-sectional continuity by measuring diversity of service use and met need (Lehman, Postrado, Roth, McNary, & Goldman, 1994; Tessler, 1987), and more recently to obtain the consumer’s perspective (Bindman et al., 2000). Overall, measures have tended to be narrow and simplistic, definitions have been inconsistent across studies, and, where an index or scale has been attempted, psychometrics have not been tested and ceiling effects have been noted (Adair et al., 2003).

Perhaps due to this underdevelopment of measures, research on continuity of care has been sporadic over the past few decades (Adair et al.,

2003; Johnson et al., 1997). The research literature provides evidence on the characteristics of individuals who are vulnerable to care discontinuity (e.g., those with a diagnosis of personality disorder, substance abuse, or dementia; those who have lower function, are older, or are members of racial minorities) (Bindman et al., 2000; Farrell, Koch, & Blank, 1996; Johnson et al.). Less examined have been provider, program, and system influences. Yet two recent studies found that individual characteristics account for a relatively small amount of variance in the continuity of care (Bindman et al.; Durbin, Goering, Streiner, & Pink, in press). This represents a significant knowledge gap if the field is to implement services and systems of care that promote continuity. Continuity is considered an ethical principle of care (Thornicroft & Tansella, 1999) and is a criterion for assessing performance of many mental health service systems (Druss, Miller, Rosenheck, Shih, & Bost, 2002; McEvoy, Scheifler, & Frances, 1999; Rosenheck & Cicchetti, 1998).

The association between continuity of care and the structural and organizational characteristics of programs merits further examination. These characteristics include staffing, internal policies (e.g., caseload, locus of care, contact rate, hours of operation), and external policies (e.g., partnerships). Many of these elements are relatively easy to measure and, if related to continuity, can serve as a proxy for monitoring attainment of this service objective. Recent frameworks for health services research recommend testing multilevel models of service use that include program characteristics (Hohmann, 1999; Thornicroft & Tansella, 1999). A number of evidence-based practices in community mental health are defined mainly by program elements, including one of the most successful models of community support, Assertive Community Treatment (Bond, Drake, Mueser, & Latimer, 2001; Teague, Bond, & Drake, 1998). Currently there is interest in identifying the subset of service characteristics that are critical to the model's success (Anthony, Rogers, & Farkas, 2003; Phillips et al., 2001). Similarly, an important task in continuity research is to disaggregate, define, and test the effects of the various aspects of service functioning that have been considered elements of continuity.

A recent mental health planning study conducted in the province of Ontario, Canada, afforded an opportunity to examine the relationship between program structure and continuity of care. Study data included a program profile completed by a large number of community mental health programs with diverse approaches to service delivery, and a client survey that contained a new self-report measure of continuity of care, the Alberta Continuity of Services Scale subjective component. This scale addresses a number of the above-cited limitations in measurement of continuity: it is multidimensional, it was developed through a rigorous process of item development and reduction, it has undergone psycho-

metric testing, and it is based on the client's view (Adair et al., 2001; Joyce et al., in press).

The aim of the present study was to analyze these data to learn more about the relationship between program characteristics and continuity of care as experienced by the client. Specific goals were to identify and measure program elements expected to contribute to continuity, and to assess the relationship between these program elements and subjective continuity.

Literature Review

To inform the development of indicators, it is appropriate to consider various levels of evidence (Anthony et al., 2003). Two bodies of knowledge were examined to identify program indicators likely to promote continuity of care. Studies on the association between program structure and continuity were reviewed, including those using uncontrolled and descriptive designs. In addition, research on the features and effectiveness of Assertive Community Treatment (ACT) was examined, given that the primary aim of ACT is to improve continuity of care and that considerable progress has been made in defining and measuring the structural and organizational elements of the model (Teague, Bond, & Drake, 1998). In these studies, continuity was measured primarily by using objective indicators of service use: time to make contact with community programs following discharge, retention in treatment, regularity of community service use, extent of interruptions (including frequency of hospitalization and crises), and receipt of needed services.

A number of studies have assessed the impact on continuity of strategies to increase provider consistency. Smith, Hull, Hedayat-Harris, Ryder, and Berger (1999) evaluated a hospital psychiatric service, reorganized so that a core treatment team (case coordinator and psychiatrist) followed each person from inpatient to ambulatory care. The aim was to reduce disruptions in treatment through timely transfers among levels of care while maintaining consistency of core providers. The results indicated a positive impact, with inpatients from the study unit discharged earlier and attending outpatient care more frequently than inpatients in other units. Salyers, Masterton, Fekete, Picone, and Bond (1998) attribute the successful transfer of clients from intensive to standard case management to a new arrangement that ensured continuity of the treatment team (case manager and psychiatrist). A number of studies have demonstrated that clients who meet with prospective community providers prior to discharge are more likely to link up with aftercare programs (Farrell et al., 1996; Meisler et al., 1997; Olfson, Mechanic, Boyer, & Hansell 1998). Early contact may ease anxieties about the transition to community and form the basis for developing a working alliance. Abbati and Oles (1993)

assessed the impact of primary provider turnover in a mental health clinic. Following a change in provider, visits to the clinic decreased while hospital use increased. The authors suggest that providers familiar with a client learn to recognize early signs of relapse and pre-empt problems.

The evidence on caseload size and continuity is mixed. King, LeBas, and Spooner (2000) studied the association between caseload size and perception of personal efficacy among mental health case managers. Those with lower caseloads (5–20 clients) were more likely to rate themselves as able to provide timely responses and to help clients access community services. Kuno, Rothbard, and Sands (1999) found that clients of standard and intensive case management (ICM) programs were equally likely to connect with community care within 90 days of discharge and attend services regularly over the subsequent year, but that ICM clients were more likely to obtain needed services and build support networks. This was attributed to lower caseloads (20–30 clients) that allowed providers to spend more time with clients. These findings differ from those reported by Burns et al. (1999), who compared two types of case management distinguished mainly by caseload size — 10 to 15 clients per case manager (intensive) versus 30 to 35 clients (standard). Retention in treatment was higher in the standard case management programs.

Bauer et al. (1997) evaluated program changes to increase outreach and program accessibility. An outpatient mental health service was re-organized to offer visits as needed and provide telephone follow-up for missed appointments. The aim was to have delivery of care guided by client needs rather than predetermined program procedures. Following these changes, visits to the clinic by all clients increased and use of crisis services and hospital days by high users decreased. On-demand access appeared to create an opportunity for staff to provide timely responses to unplanned needs.

The ACT model was created in the early 1980s to replicate, in a community setting, the continuity of care provided by inpatient facilities (Stein & Test, 1980). This full-service model is intended to provide most of the clinical and support services needed by the client through in-vivo¹ efforts of a specially trained interdisciplinary team. Considerable effort has gone into identifying the critical ingredients of ACT and developing standardized measures for assessing fidelity to the ACT ideal (Teague et al., 1998). Many of these ingredients are intended to implement the service principles identified by Bachrach (1993) as fundamental to continuity of care (Bedell, Cohen, & Sullivan, 2000; Bond et al., 2001; Rapp, 1998; Schmidt-Posner & Jerrell, 1998). In addition to small caseload and continuity of

¹ Care delivered in the natural settings in which clients live, work, and interact with others (Bond et al., 2001).

staffing, ACT elements intended to promote continuity include multidisciplinary staffing to address all client needs, team approach and 24-hour coverage to support rapid access and ensure availability of a worker who knows the client, and frequent contact in the community to monitor client needs and provide quick responses. The impact of ACT on client continuity of care has been minimally assessed, although higher retention rates have been found in ACT compared with standard care (Marshall & Lockwood, 2003), attributed to the assertive outreach and in-vivo support features of the model (Bond, McGrew, & Fekete, 1995).

In summary, there is a small body of literature supporting the view that program structure and organization can influence the continuity of care experienced by clients. However, current research is limited in two important ways. First, measures of continuity have been primarily simple, unidimensional indicators of service connection. Responsiveness to need and the client's view have rarely been evaluated (Adair et al., 2003; Johnson et al., 1997). Second, studies have been conducted mainly within single programs, so that generalizability to other programs and settings is unknown.

The aim of the present study was to examine the relationship between program structure and continuity of care using a conceptual framework, measures, and data that address these limitations.

Sample

The sampling frame for the planning project included users of community and outpatient mental health programs in three regions of Ontario during the period April to June 2001. Excluded were crisis programs and programs that did not follow a formal service model (e.g., drop-in centres and self-help programs). Based on 3-month client lists that programs submitted to the research team, the team identified approximately 17,000 unduplicated individuals enrolled in 153 programs.

A cross-sectional design using multistage sampling was employed to develop a snapshot of the service users. First, a random sample of clients, stratified by program, was drawn for the staff assessment ($n = 2,293$). From the staff assessment sample (excluding clients of geriatric programs), a subset of individuals was randomly selected for the self-report survey ($n = 432$). These individuals could not be contacted by the survey interviewers until their approval was secured by program staff. Unfortunately, program staff were not provided with extra resources for this task and never made contact with many individuals. In addition, a small number of clients declined to participate. In total, 238 individuals (55%) completed surveys, which were linked with the staff assessments for the present study. After cases with missing information had been eliminated,

complete data were available for 215 people. Ethics approval for collection of these data was obtained from a university-affiliated hospital in each participating region.

The 215 individuals were enrolled in 81 ambulatory mental health programs, all of which completed profile questionnaires. Four day-hospital programs were excluded from the analysis due to their very short-term involvement with clients, as were seven programs with limited staffing (less than 0.5 FTE program staff) or hours of operation (less than 10 hours per week), since it was unclear whether they were truly stand-alone or part of a larger program.

The final study sample included 70 programs and 196 individuals (i.e., 1–10 clients per program). The programs encompassed outpatient treatment (33, or 47% of sample), case management (19, or 27%), vocational and social (12, or 17%), and housing (6, or 9%). This distribution was similar to that of the regional system, which was composed mainly of outpatient treatment (42%) and case management (29%), with fewer housing (12%) and rehabilitation (16%) programs. No clients in the two ACT programs in the region (2%) participated in the study.

Given the low rate of survey completion, the client sample cannot be considered representative. However, it is consistent with the population of interest — low-functioning individuals with serious mental disorders (Table 1). Comparison of clients in the study sample to the staff-assessment sample shows that they were similar in age ($F = 1.64, p = .20$), proportion with schizophrenia/psychotic disorder ($\chi^2 = 0.31, p = .58$), married/living common law ($\chi^2 = 0.30, p = .58$), and on public assistance/disability ($\chi^2 = 0.81, p = .37$), but the analytic sample contained more females (63% versus 56%, $\chi^2 = 4.21, p = .04$).

Measures

Program Profile

Senior managers of participating programs completed the Program Profile, a survey of program structure and operation that assessed staffing, access to care, service delivery approaches, and partnerships. The survey was developed specifically for the planning project, with domains and items adapted from other measures of program implementation including the Dartmouth ACT Fidelity Scale, or DACTS (Teague et al., 1998), the Case Management Practices Survey (Ellison, Rogers, Sciarappa, Cohen, & Forbess, 1995), and the Community Program Philosophy Scale (Expanded), or CPPS (Jerrell & Hargreaves, 1996). The profile was piloted and items were revised to enhance clarity and utility. Respondents were instructed to use the best information available to answer questions. Data quality checks addressed missing, inconsistent, and outlier responses.

Table 1 Client Socio-demographic and Illness Profile

Client Characteristics		% clients (n = 196)
Demographics and Community Functioning	25 and under	6.7
	65+	4.1
	Female	62.8
	Non-white race	26.0
	Married/living common law	35.4
	Not working for pay (full-time or part-time)	68.4
	Receiving public assistance/disability pension	71.1
	Psychiatric admission in past 6 months	13.8
Diagnostic ¹ and Illness Profile	Schizophrenia/psychotic disorder	30.6
	Mood disorder	61.7
	Personality disorder	19.4
	Substance abuse disorder	10.7
	Two or more psychiatric diagnoses	49.5
	Medical diagnosis	43.2
	Taking psychotropic medication	89.3
	“Severe” overall impairment ² (CCAR rating)	7.2
	“Few” strengths and resources ² (CCAR rating)	21.5
¹ Diagnostic categories are not mutually exclusive; an individual can have multiple diagnoses. ² Rating of 7 or higher on a nine-point scale.		

Consumer Survey

The consumer survey comprised three sections: the first collected socio-demographic information, the second collected information on current service use and perceptions of unmet need, and the third consisted of the 43-item Alberta Continuity of Services Scale subjective component. This scale was developed through a systematic process including a comprehensive literature review, input from consumers and family members, item generation, field testing for item reduction, and psychometric evaluation. The final tool consists of 43 statements about experiences using mental health services, rated on a five-point scale from strongly disagree

to strongly agree (midpoint anchor = “not sure”) (Adair et al., 2001; Joyce et al., in press). The rating period — the preceding 18 months — was shortened to 6 months for the present study to minimize recall bias.

The Alberta Continuity of Services Scale was further evaluated using data from the present study (Durbin et al., in press). Thirteen items with low response rates or ceiling effects were removed. Factor analyses of the remaining 30 items yielded three subscales, labelled system access (12 items), interpersonal aspects of care (10 items), and team function and outreach (8 items), accounting for 37% of the total variance. For the three subscales and total score, internal consistency reliability was acceptable (Cronbach alphas of 0.80, 0.80, 0.74, and 0.88, respectively); bivariate correlations between subscales of 0.46 to 0.59 indicated a common underlying construct without redundancy; and associations between subscale scores and independent measures of consumer illness and current service use supported construct validity. Examples of subscale items are: system access (e.g., *There don't seem to be links from one service to the next*), relationship (e.g., *I was asked what I wanted out of treatment*), team function and outreach (e.g., *I am reminded of appointments or called if I miss one*). Given the strong correlation between the three subscales and the total score ($r = 0.76\text{--}0.86$), the total score provided the most reliable estimate of continuity for testing the study questions.

The survey was administered by a trained interviewer during a face-to-face meeting with the client after informed consent had been obtained.

Staff Assessment

The staff rated client impairment using the Colorado Client Assessment Record (CCAR), a standardized measure of client functioning that has undergone several refinements since it was first developed in 1978. In the 1997 version used in this project, staff rated client impairment on a nine-point scale across 21 domains covering symptoms (8 ratings), behaviours (5 ratings), health and self-care (2 ratings), social and community functioning (4 ratings), substance abuse (1 rating), and security/management (1 rating). Staff also rated client strengths and resources across four domains, then rated overall problem severity and overall strengths. The CCAR was completed by a trained program staff member based on his or her knowledge of the client. An interview was not required. Adequate interrater reliability and validity of the CCAR have been demonstrated in Ontario and other jurisdictions (Durbin, Cochrane, Goering, & Macfarlane, 2001; Ellis, Wackwitz, & Foster, 1991). Other client information reported by staff included demographics, community functioning, diagnoses, and use of inpatient and emergency mental health services in the preceding 6 months.

Table 2 Continuity Indicators

Program Feature and Intended Benefit	Source	Rating Category Definitions		
		1	2	3
Access				
<i>Program staff size</i> Sufficiently large to consistently provide the necessary coverage and staffing diversity. ¹	DACTS	Up to 2.5 program staff FTEs	2.6–6.0 program staff FTEs	> 6.0 program staff FTEs
<i>Hours of operation</i> Broader coverage enables crises to be addressed by staff who know the client well.	DACTS CPPS	None	Some night (after 7 pm) or some weekend coverage	Some night (after 7 pm) and some weekend coverage
<i>Visit scheduling</i> As-needed visits create flexibility for responding to client needs.	—	<5% contact with clients as needed	5–20% contact with clients as needed	More than 20% contact with clients as needed
Responsiveness Outreach				
<i>Continuity of program staff</i> ² Maintaining the same staff over time supports development of relationships and therapeutic alliance.	DACTS CPPS	50% or more staff turnover in past year	Some staff turnover in past year (1–50%)	No staff turnover in past year
<i>Caseload size</i> Smaller caseload gives workers more time to offer outreach, provide direct service, and respond to crises.	DACTS	50+ clients per FTE program staff	21–49 clients per FTE program staff	20 clients or fewer per FTE program staff

<i>Frequency of contact</i> Higher frequency allows for the latitude needed to respond to client needs.	DACTS CPPS	Monthly contact or less for at least 50% of clients	Between categories 1 and 3	Multiple contacts per week for at least 50% of clients
<i>Locus of contact</i> Provision of care in the community can help ensure that clients are engaged and their needs are met.	DACTS CPPS	No contacts in community	Some contacts in community (1–40%)	Over 40% of contacts occur in community
Comprehensive Care / Met Need				
<i>Psychiatrist on staff</i> Program provides psychiatric treatment, reducing need for referral.	DACTS	Not on staff or available	Available through formal agreement	On staff
<i>Interagency collaboration</i> Increases the coordination needed to facilitate access and provide comprehensive care.	CPPS	No signed agreements	1 signed agreement	2 or more signed agreements
<p>¹ This item also addresses the third aim of providing comprehensive care. ² The number of program staff who left the program plus the number who joined the program / total number of program staff.</p>				

Program Continuity Indicators

Candidate indicators were based on program elements associated in the literature with care continuity and measured in the profile. Definitions and response categories were based on two well-known scales, the DACTS (Teague et al., 1998) and the CPPS (Jerrell & Hargreaves, 1996). The DACTS measures the degree of program fidelity to the ACT model across 26 elements. The CPPS is less model-specific, designed to characterize the values and practices of community support programs serving clients with severe mental illness along 20 dimensions.

Drawing on these two measures, a three-point, behaviourally anchored response scale was developed per indicator, with higher ratings given to fuller implementation of practices expected to create continuity. A rating of 3 indicated moderate to high implementation of the practice, 2 indicated low to moderate implementation, and 1 indicated absence of the practice or very low implementation. Given the investigators' prior experience with the program profile in multiple planning projects and the range of program types represented in the present study (i.e., from office-based counselling services to intensive, outreach-oriented support programs), these categories were expected to capture the full range of performance as well as make meaningful distinctions.

Table 2 presents the nine selected indicators and response categories, grouped under three service domains related to continuity of care. Face validity was supported in feedback sessions with community providers and health services researchers. However, two program features measured by the DACTS and considered relevant to providing comprehensive and continuous care — team approach and multidisciplinary staffing — could not be calculated as the required data were not available from the profile.

Analysis

Frequency distributions were generated for each program indicator to examine the range of practices captured, and Pearson correlation coefficients were produced to assess bivariate relationships. Validity of the indicators was assessed using a “known groups” analysis. Programs were classified into one of three broad groups²: outpatient counselling/treatment ($n = 33$); rehabilitation, including social and vocational programs ($n = 12$); and individualized support, including case management and supported housing programs ($n = 22$). Group differences on the continuity indicators were compared with a priori expectations. Overall, individualized support programs were expected to score the highest on the continuity indicators, counselling/treatment programs were expected to

² Except for three residential programs that did not fit into any category.

score the lowest, and rehabilitation programs were expected to fall in between. Some departures in relative performance were expected for specific indicators. For example, while individualized support programs were expected to give priority to outreach and responsiveness (measured by locus and frequency of contact and by caseload size), both rehabilitation and individualized support programs were expected to emphasize accessibility (indicated by as-needed visits and extended hours of operation), and treatment programs were considered more likely to have psychiatrists on staff. For several indicators (such as program staff size and continuity of staffing), variances were not expected to be associated with program type. Group differences were assessed using chi-squared tests.

The effect of each program feature on client-rated continuity was assessed using linear regression analysis. While techniques such as hierarchical linear modelling are ideal for analyzing mixed-level data, taking advantage of the full power of data available at the client level, the study sample did not meet the minimum requirement for this procedure of three observations per program (Wheaton & Stohschein, 2003). An alternative approach, regression analysis, which modelled relationships at the program rather than the individual level, was employed. This avoided the problem of lack of independence of individual-level observations within each program. Client scores per program were averaged and merged with the program records. Then, given the variable number of clients per program in the sample, program records were weighted³ to give greater influence to program data that were based on more client observations. In a series of separate linear regressions, the dependent variable — client continuity rating — was regressed on each of the program indicators (coded as two dummy variables), using the sequential method to control for client characteristics associated with continuity (step 1) before adding the program indicator dummy variables (step 2). Client variables included in step 1 were sex, race, and personality disorder. All analyses used SPSS version 11.5.

Results

Table 3 reports the frequency distributions of the indicators for the total sample and by subgroup for the “known groups” analysis. Floor and ceiling effects were not evident. Programs were almost equally distributed across the three levels of implementation for continuity of staff, locus of contact, and psychiatrist on staff, and no rating category including more than 63% of programs. Most likely to be implemented were low caseloads (42% of programs reported caseloads of 20 clients or fewer)

³Weights were calculated to maintain the total sample of 70 (i.e., weight = number of observations per program/196*70).

Table 3 Indicator Frequency Distribution for Total Sample and by Subgroup

Program Indicator / Program Type	Indicator Frequency Distributions Across Rating Categories (%)		
	Up to 2.5 FTEs	2.6-6.0 FTEs	6.1+ FTEs
Program Size			
IND (<i>n</i> = 22)	9.1	40.9	50.0
REHAB (<i>n</i> = 12)	41.7	41.7	16.7
C/T (<i>n</i> = 33)	36.4	42.4	21.2
Total (<i>n</i> = 67)	28.4	41.8	29.9
Hours of Operation*	None	Some night or weekend	Some night and weekend
IND	45.5	13.6	40.9
REHAB	83.3	8.3	8.3
C/T	66.7	24.2	9.1
Total	62.7	17.9	19.4
Visit Scheduling*	< 5% of contacts as needed	5-20% contacts as needed	> 20% of contacts as needed
IND	13.6	50.0	36.4
REHAB	41.7	8.3	50.0
C/T	39.4	48.5	12.1
Total	31.3	41.8	26.9
Continuity of Program Staff	>50% turnover	1-50% turnover	No turnover
IND	36.4	54.5	9.1
REHAB	41.7	16.7	41.7
C/T	33.3	27.3	39.4
Total	35.8	34.3	29.9

Caseload Size	50 clients or more	21-49 clients	1-20 clients
IND	4.5	36.4	59.1
REHAB	8.3	41.7	50.0
C/T	24.2	48.5	27.3
Total	14.9	43.3	41.8
Frequency of Contact	Monthly or less	Weekly	Multiple contacts per week
IND	36.4	45.5	18.2
REHAB	8.3	50.0	41.7
C/T	48.5	30.3	21.2
Total	37.3	38.8	23.9
Locus of Contact***	None	1-40%	> 40%
IND	0.0	22.7	77.3
REHAB	33.3	50.0	16.7
C/T	56.3	40.6	3.1
Total	33.3	36.4	30.3
Psychiatrist on Staff**	Not on staff or available	Available through agreement	On staff
IND	40.9	31.8	27.3
REHAB	75.0	25.0	0.0
C/T	12.5	37.5	50.0
Total	33.3	33.3	33.3
Signed Service Agreements*	None	1	2 or more
IND	40.9	31.8	27.3
REHAB	33.3	25.0	41.7
C/T	75.8	12.1	22.1
Total	56.7	20.9	22.4
Significance of chi-square test: * $p < .05$; ** $p < .01$; *** $p = .001$			
Note: IND = individualized support; REHAB = rehabilitation; C/T = counselling/treatment			

and psychiatrists on staff (33%); least likely were after-hours access (63% provided none) and signed service agreements (57% had none).

Many of the expected differences between the program subgroups were found. Individualized support programs were more likely to provide in-vivo support and after-hours access, both individualized support and rehabilitation programs were more likely to offer as-needed visits, outpatient treatment programs were more likely to have psychiatrists on staff, and program types did not differ in staff size and turnover rates. Contrary to expectations, there were no significant differences among the three program types in frequency of client contact and caseload size, although more treatment programs reported caseloads of over 50 clients.

There were few significant correlations between indicators, suggesting that programs implemented these features selectively rather than as an aggregate package. Of 36 tested associations, only three were significant (i.e., $p < 0.01$). Greater frequency of contact was associated with lower caseloads ($r = 0.52$), and programs that were more likely to deliver in-vivo support were also more likely to allow as-needed visits ($r = 0.36$) and less likely to have access to psychiatrists ($r = -0.36$). This latter association is explained by the fact that access to psychiatrists was greater in treatment programs that tended to be site-based and conduct little outreach.

The mean continuity rating for the sample was 3.48 on a five-point scale ($sd = 0.32$), with a slight clustering of responses towards the positive end of the scale (skewness = -0.76). Results of the linear regression analyses are reported in Table 4. Client characteristics (sex, race, presence of personality disorder) accounted for 23% of variation in the continuity rating. Only two of the nine program features added significantly to the prediction models. Hours of operation predicted an additional 8% of variation in the rating. Level of in-vivo support also affected continuity but not in the expected direction. Ratings were significantly lower in programs that offered more care in the community ($> 40\%$ of client contacts outside of program setting). This finding is difficult to interpret. Given that outreach is used to engage clients with a history of irregular service use, it is possible that the low ratings represent a client subgroup still experiencing difficulties with service access. While several individual risk factors were controlled in the analyses, there may be other unmeasured client variables that account for this finding, such as time in the program. Overall, the results of regression analysis give little support to the hypothesis that the structure and organization of programs influence the continuity of care experienced by the recipients of services.

Table 4 Effect of Program Variables on Subjective Continuity of Care

Program Feature	Regression Coefficients									
	R ² (Step 1 ¹)	R ² Change (When Step 2 Added ²)	F Change (df= 2, 64), p	Constant	% Female	% Personality Disorder	% Non-white	Program Indicator -Moderate Rating	Program Indicator -High Rating	
<i>Program size</i>	0.23	0.01	0.51, 0.61	3.83	-.26*	-.28*	-.33*	-.08	-.02	
<i>Hours of operation</i>	0.23	0.08	3.66, 0.03	3.71	-.32**	-.38**	-.33*	.22*	.18*	
<i>Visit scheduling</i>	0.23	0.04	1.62, 0.21	3.81	-.28*	-.24	-.35*	-.09	-.07	
<i>Staff turnover</i>	0.23	0.01	0.32, 0.73	3.75	-.26*	-.30*	-.34*	.06	.04	
<i>Caseload size</i>	0.23	0.03	1.05, 0.36	3.68	-.22	-.32*	-.35*	.07	.15	
<i>Frequency of contact</i>	0.23	0.01	0.45, 0.64	3.84	-.29*	-.30*	-.31*	-.08	-.03	
<i>Locus of contacts</i>	0.23	0.10	4.93, 0.01	3.86	-.32**	-.33*	-.30*	.05	-.19*	
<i>Psychiatrist on staff</i>	0.23	0.01	.48, 0.62	3.77	-.27*	-.27*	-.32*	.08	0.5	
<i>Interagency collaboration</i>	0.23	0.04	1.60, 0.21	3.89	-.31**	-.26	-.35*	-.17	-.04	

¹ Step 1 includes three individual variables: sex, race, personality disorder.

² Step 2 includes program indicator, converted from one categorical to two binary variables to indicate moderate (1 = yes) or high (1 = yes) implementation of practice; reference condition is low/no implementation.

Note: Significant p values: * < .05, ** < .01; *** < .001

Discussion

Although continuity of care has been a concern in mental health services since the first wave of deinstitutionalization, limited evidence on strategies for its improvement has been produced. The fact that personal characteristics account for only a small amount of variation in continuity of care (Bindman et al., 2000; Durbin et al., in press) suggests that other factors are at play. The present study drew on conceptual models and empirical research to identify program structural and organizational features expected to influence continuity, and assessed the impact on a sample of service users. The strengths of the study were use of a multidimensional measure of continuity based on client perceptions, and participation from a large number of community services with a broad range of mandates and approaches.

The results are not encouraging. Seven out of nine assessed elements demonstrated no effect on continuity. In-vivo contact had an impact, but the direction was opposite to what was hypothesized. Higher levels of community contact were associated with lower continuity of care. Only hours of operation produced the expected effect, with availability of program staff at night and on weekends creating better continuity for clients.

There are a number of possible explanations for the lack of relationship between these program elements and continuity of care. In previous studies, continuity was operationalized mainly using measures of service connection over time and across organizational boundaries. The Alberta scale is a new self-report measure that evaluates the experience of continuity from the perspective of the client. Measured domains focus not on the quantity of services received but on the quality (e.g., what and when). While previous studies have found a relationship between program structure and patterns of service use, it appears that structure is not predictive of the aspects of the care experience that create continuity for the client and were measured in this study.

In addition, measure and sample-size limitations may have reduced the ability to find a relationship. Given the number of programs in the study and the range of service practices represented, only a three-level response scale could be created for each program indicator. This reduced the precision of the indicators, with the result that the performance threshold for assigning the highest rating on some items may have been too low to influence continuity of care. Regarding the sample, the data analysis was conducted at the program level. Client continuity scores were aggregated to the program level, but the small number of participants per program in the study may not have represented average program experience. While it is difficult to hypothesize the nature of the

sample bias, a relationship between program structure and continuity may have been missed.

However, it is also worth considering that program structure and delivery do not influence the continuity of care experienced by clients. Thornicroft, Wykes, Holloway, Johnson, and Szmukler (1998) distinguish structure from process, arguing that programs “act as the vehicle for delivery of treatments but should not be mistaken for the treatments themselves” (p. 424). Investigators in the Robert Wood Johnston and Fort Bragg demonstration projects used this argument to explain their finding of a lack of association between system integration and client outcome (Bickman, 1996; Lehman et al., 1994). They state that integration increased interagency collaboration but did not address quality or appropriateness of the care provided. Similarly, Burns et al. (1999) found no association between caseload size in case management programs and a number of client outcomes; they suggest that form should not be examined in isolation from content (such as provider efforts at coordination).

If subjective continuity is dependent on factors other than program structure, what other determinants should be examined? Provider and relationship variables are promising areas for future examination. In a qualitative study, Ware, Tugenberg, Dickey, and McHorney (1999) identified a number of provider behaviours thought to contribute to continuity of care, including stepping out of prescribed roles, intervening early, and accommodating client preferences. These qualities have formed the conceptual basis for development of a new self-report continuity measure (Ware, Dickey, Tugenberg, & McHorney, 2003). In interviews with outreach workers, Strike, O’Grady, Myers, and Millson (in press) found that flexible role boundaries and “going the extra mile” were considered key to providing responsive care. When Stiffman et al. (2001) modelled adolescent use of mental health services, they found that provider variables — perception of client need, awareness of other system resources, and personal connections — considerably improved the model beyond what client characteristics alone were able to predict. There also is a solid body of literature linking better working alliance between clients and providers with retention in treatment and adherence to treatment plans (Frank & Gunderson, 1990), and a recent study that looked specifically at client continuity of care following psychiatric discharge found that better alliance with inpatient staff predicted higher rates of outpatient follow-up and continuation in community services (Druss, Rosenheck, & Stolar, 1999).

The important role of providers in creating continuity has implications for nurses working in community mental health programs. The Alberta tool indicates that continuity is created when clients have a good relationship with providers, feel that providers are responsive to their

needs, and are confident that the care team is working together on their behalf. These elements are already familiar to nurses, as therapeutic alliance, effective listening, and showing empathy are considered the essence of nursing practice (Kai & Crosland, 2002; Peplau, 1988). A recent project developed by nurses used the therapeutic relationship as the building block for a program to transition individuals with chronic mental illness from inpatient to community care (Forchuk, Jewell, Schofield, Sircelj, & Valledor, 1998). Continuity of care is also a service concern in inpatient nursing where priority is given to maintaining consistency of provider and the care team (Reid, Haggerty, & McKendry, 2002). The findings of the present study reinforce the value of nursing practices for creating continuity and may be an area where nursing can provide leadership in the field.

In addition to the measurement and sample issues cited above, several other limitations need to be considered when interpreting the present results. First, standard program indicators do not exist. The assessed program characteristics were based on a literature review and stakeholder input. However, measures of several elements were not available in the study dataset — for example, multidisciplinary staff and team approach/shared caseloads — and other important program elements may have been missed. Second, the program profile is a self-report tool and sources of information used by respondents varied. Although the quality of the submitted data was checked (e.g., responses within accepted range, internally consistent), study resources did not permit a more comprehensive audit to verify accuracy. Finally, it is possible that program structure is more important for those most vulnerable to care discontinuities. As some of these subgroups (such as younger individuals and those with substance abuse disorders) were not well represented in the sample, potential associations may have been missed.

Conclusion

Continuity of care is a much-discussed but under-researched objective of service delivery. Part of the problem has been lack of suitable measures. This study examined the relationship between program structure and continuity, using a new multidimensional measure based on client perception. Measured program elements were associated with objective continuity in previous research but were not related to subjective continuity in the present study. It appears that program practices that help clients continue in treatment and access diverse services are not effective for meeting client expectations for responsive and coordinated care. Continued investigations of the determinants of both objective and subjective continuity are needed, using larger and more varied client and

program samples and testing more complex models. A closer examination of high-risk subgroups could help to identify approaches that respond to specific vulnerabilities.

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