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The Quality of Life of Persons with Chronic Mental Illness
in Community-Based Housing

by

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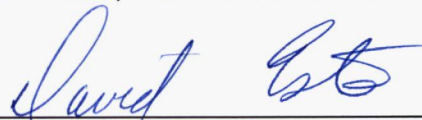
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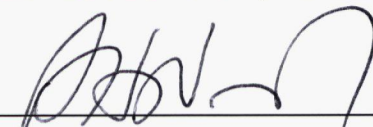
The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "The Quality of Life of Persons with Chronic Mental Illness in Community-Based Housing" submitted by Andrew Harris George in partial fulfillment of the requirements for the degree of Master of Social Work.




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Abstract

The quality of life of persons with chronic mental illness in group home, supervised apartment, and supported independent living situations was compared. A quality of life assessment was conducted utilizing a 109 item questionnaire comprised of fourteen life-domain scales. Generally, the group home sub-sample reported a better quality of life, followed by the supervised apartment and the supported independent living sub-samples. The statistical analyses showed significant differences between the housing sub-samples for the life-domain areas: satisfaction of basic needs, interpersonal interactions, and adjustment to work at home. The results indicated that while housing situation was influential in the quality of life of the sub-samples to varying degrees, other influences related to demographic variables also influenced quality of life. The limitations of the study were discussed, as well as the study's implications for the target agency, future research, and social work practice.

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Dedication

This thesis is dedicated to Chelsea Ann Pichach
(January 6, 1973 - October 2, 1994) and Vince Van de Pol
(October 21, 1950 - October 11, 1993). They each showed me
the human side of mental illness, and the toll it can take.

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CHAPTER ONE

Introduction

This chapter provides an orientation to this exploratory study of community-based housing for persons with chronic mental illness. The chapter begins by identifying the target population. The second section provides a brief overview of community-based housing and some of the problems associated with planning for the needs of this population. The next section presents the purpose of the study, and identifies the research questions. The succeeding section of the chapter outlines the study strategy. In the final section, the relevance of the profession of social work is discussed in relation to the field of community-based mental health.

The Target Population

An array of terminology has been used in the literature to describe the target population of this study. Examples of some of the terms include "chronic mental patient, severely psychiatrically disabled, long-term mentally ill, and the chronically mentally ill" (Lieberman, 1988, p. xviii). The terms "mental disorder" and "mental illness"

are sometimes used interchangeably when referring to a diagnosis that appears in the American Psychiatric Association's diagnostic and statistical manuals (e.g., Health and Welfare Canada, 1990).

Certain terms are considered controversial because they may be damaging in some way to the individuals they are attempting to describe (Bachrach, 1988; Liberman, 1988; Tessler and Goldman, 1982). Some advocates for the target population suggest that terminology that implies chronicity, or uses the word "chronic", are stigmatizing to the individuals concerned (Bachrach, 1988). According to Tessler and Goldman (1982), "the emphasis on chronicity strikes some observers as being overly pessimistic and promoting a self-fulfilling prognosis" (p. 4).

In response to concerns about the stigmatization of persons with chronic mental illness, terms such as "client" or "patient" have been used by some authors (Tessler and Goldman, 1982). The term "consumer" appears to be increasingly used to refer to persons with chronic mental illness who employ mental health services (e.g., Cnaan, Blankertz and Saunders, 1992; Massey and Wu, 1993; Tanzman, 1993).

In this text the target population will most often be referred to as "persons with chronic mental illness", which was the preferred terminology used in a recent Calgary study about stigma and community reintegration (George, 1993).

The term "consumer" will also appear throughout the text, when appropriate, in reference to the target population.

Prior to the advent of deinstitutionalization policy, which will be discussed in Chapter Two, persons defined as having chronic mental illness were simply ex-patients from the large mental hospitals, "whose chronicity was thought to be institutionally induced" (Rubin, 1986, p. 6). "With deinstitutionalization, however, the need for language that could acknowledge the distinctions among mentally ill individuals became apparent" (Bachrach, 1988, p. 384). More explicit and concise definitions could assist researchers and service providers in determining the best match between mentally ill individuals and services (Bachrach, 1988).

The following examples represent some recent attempts at defining the target population utilizing varying degrees of comprehensiveness and explicitness:

Those individuals who, by reason of severe and persistent mental disorder, experience serious limitations in their functioning relative to primary aspects of daily living such as personal relations, living arrangements, and employment. (Test, 1981)

... one who has a severe and persistent psychiatric disorder that will render him or her dependent on the psychiatric and support services for a very long time—often, if not usually, for life. (Bachrach, 1984, p. 577)

The chronically mentally ill population encompasses persons who suffer certain mental and emotional disorders (organic brain syndrome, schizophrenia, recurrent depressive or manic-depressive disorders, and paranoid and other psychoses, plus other disorders that may be chronic) that erode or prevent the development.

of their functional capacities in relation to three or more primary aspects of daily life—personal hygiene and self-care, self-direction, interpersonal relations, social transactions, learning, and recreation—and that erode or prevent the development of their economic self-sufficiency.

... included in the target population are persons who are or were former residents of institutions (public and private hospitals and nursing homes) and persons who are at risk of institutionalization because of persistent mental disability. (From A National Plan for the Chronically Mentally Ill, published in 1980, as cited by Tessler and Goldman, 1982, p. 5)

Most attempts at definition share the three common elements of "diagnosis", "duration", and "disability" (Farkas, Anthony and Cohen, 1989), but the operationalization of these elements has been cause for disagreement (Bachrach, 1988). Gerhart (1990), for example, would not include diagnosed personality disorders in a definition of chronic mental illness, whereas Tessler and Goldman (1982) would. Furthermore, operationalizing what is meant by duration and disability becomes problematic when an individual's illness is episodic rather than continuous, or when the disability is not directly related to the illness (Bachrach, 1988).

Although the resolution of definitional problems may be useful for researchers and planners, the sheer diversity of this population could make it unfeasible to be precise. The chronically mentally ill population varies significantly by demographic profile, diagnosis, symptomatology, level of functioning, and service needs (Stroul, 1989). Difficulties

in defining the population are further compounded by the sheer scope of the problem of chronic mental illness. The Canadian Mental Health Association estimates that there are about 19,000 persons with chronic mental illness in the Province of Alberta (1993, p. 1).

A potentially useful definitional strategy that has gained favour in Canada was offered in Health and Welfare Canada's 1988 publication entitled, Mental Health for Canadians: Striking a Balance. In this document mental disorders are conceptualized as lying on a continuum ranging from severe to negligible symptomatology or from "maximal mental disorder" to "absence of mental disorder". Mental health is conceptualized using a separate continuum that ranges from "minimal mental health" to "optimal mental health".

This approach recognizes that persons with mental disorders also fall somewhere on the mental health continuum and that optimal mental health for this population represents more than the successful management of psychiatric symptoms. On the mental health continuum individual, social, and environmental factors are acknowledged to affect the state of a person's mental health. The treatment of persons with chronic mental illness, therefore, must encompass individual, social, and environmental factors to secure optimal mental health for that person. The Province of Alberta has embraced the

concepts presented in Striking a Balance in its new mental health policies (Mental Health Strategic Planning Advisory Committee, 1993).

An Overview of Community-Based Housing

The deinstitutionalization movement, which began in Canada in the mid 1950's, spawned the rise of community-based care for persons with chronic mental illness (Herman and Smith, 1989). Community-based service approaches have evolved from the re-creation of small institutions at the community level to progressive community support models whose goals espouse full community participation and integration of service consumers (Carling, 1990a). Today, community-based housing is seen as an intrinsic component of the community support approach to treating mental illness (Gerhart, 1990; Hall, Nelson and Fowler, 1987; Lamb, 1982; Parrish, 1990).

A broad variety of community-based housing options are available, depending on the jurisdiction in which the service consumer resides. In the City of Calgary, for example, community-based housing programs include adult foster homes, group homes, supervised apartments, and a variety of supported independent living arrangements (Community Mental Health Services Planning Committee, 1993). An array of community-based housing options exist in other jurisdictions, including: quarter-way houses, half-way

houses, three-quarter way houses, and family foster care (Blanch, Carling, and Ridgeway, 1988), as well as board-and-care homes, and satellite apartments (Phipps and Liberman, 1988).

Despite the range of community-based housing options that are available to program planners, several problems exist when it comes to facilitating housing for persons with chronic mental illness. For example, models of community-based housing that have been developed successfully in one jurisdiction frequently fail when attempted elsewhere (Bachrach, 1989; Ridgeway and Zipple, 1990). Bachrach (1989) explained this failure as being related to the social, political and economic environments that are unique to individual communities.

Gaps in knowledge exist concerning how best to match housing consumers with housing type for outcome success (Carling, 1993). As well, researchers have yet to adequately explain the link between housing characteristics, housing program goals, and client outcomes (Nelson and Fowler, 1987).

Additional research is required to assist planners in making program design choices that best meet the needs of housing program consumers.

The Purpose of the Study

The purpose of this study was to examine whether persons with chronic mental illness residing in various kinds of community-based housing experience differences in their quality of life. The call for quality of life studies of community-based housing programs has been well documented (Carling, 1990a; Ridgeway and Zippel, 1990). Quality of life has become increasingly popular as a dependent variable in research involving persons with chronic mental illness (Baker and Intagliata, 1982; Bigelow and Young, 1991; Brown, 1983; Johnson, 1991; Oliver and Mohamad, 1992; Pinkney, Gerber and Lafave, 1991).

The rationale for this study was based, in part, on the results of numerous mental health consumer preference surveys that were recently summarized by Tanzman (1993). Her findings indicate that a majority of persons with mental illness wish to live independently in the community, in normalized housing, alone or with another person who is not mentally ill (p. 453). Despite the consensus among the persons surveyed that they would prefer independent living, there is no body of evidence that indicates that their quality of life would be better living independently in the community than in other types of supported housing.

This study was framed around the examination of two research questions:

1. Do persons with chronic mental illness living in independent housing with an outreach support

component experience better quality of life when compared with other more structured supportive housing approaches?

2. How does the quality of life of persons with chronic mental illness who receive services in different community-based housing programs compare?

The Strategy Used in the Study

The strategy employed in the study was to survey a sample of persons with chronic mental illness who were receiving services through three different community-based housing programs in the City of Calgary. The housing programs that were surveyed included: (a) group homes, (b) supervised apartments, and (c) supported independent living. These programs form part of the range of direct services offered by the Canadian Mental Health Association/Alberta South Central Region office in Calgary. This agency permitted access to their housing program consumers for the purpose of this study.

The survey consisted of a face-to-face structured interview with sixty housing program consumers utilizing an instrument which assessed quality of life. The interviews were done at the convenience of the study participants, and most often took place in the participant's home. The survey was conducted between January 1993 and September 1994.

Social Work and Community-Based Mental Health Services

While the treatment of persons with chronic mental illness is frequently seen as falling within the domain of psychiatry and psychology, social work has played a significant role in providing services to this population. In almost every province and territory in Canada, the profession of social work is identified prominently in mental health service delivery (Health and Welfare Canada, 1990). In community-based care, persons with chronic mental illness require both individual services and assistance in making their voices heard by the public and the policy makers. A social work practice approach, when applied to services for persons with chronic mental illness in the Calgary community, could be very effective.

The realm of social work practice has historically encompassed the double mandate of social casework and social reform (Yelaja, 1985). Social work's individual casework functions include: assisting clients to develop problem-solving skills; helping clients cultivate and maintain social support networks; and assisting clients in resource acquisition while promoting client self-determination and optimal independence (Canadian Association of Social Workers, 1983). It is also incumbent on social workers to seek social justice through individual and group advocacy (Canadian Association of Social Workers, 1983).

The person-in-environment concept is a "cornerstone of social work, and the foundation of much of social work education" (Rapp and Hanson, 1988, p. 272). This concept, which is central to systems theory, recognizes that a person's ability to function effectively is related to the quality of their interactions within their environment (Rodway, 1986). The dual focus nature of the person-in-environment concept ensures that social workers will concern themselves with an individual's strengths and disabilities, as well as the environmental context in which that individual lives.

The continuing trend toward community-based care could have positive implications for social workers who are practicing, or are considering practicing, in the mental health field. Callicutt (1993) identified that "meeting the needs of patients returning to the community continues to be a major function of social workers" (p. 31). Wintersteen (1986) contends that social workers are particularly well suited to provide community-based treatment because of the dual focus of their practice framework, and the compatibility of the person-in-environment concept with the needs of the chronically mentally ill in the community.

Social workers have the ability and knowledge base to assume a variety of roles in the field of community-based mental health. Roles ascribed to social work professionals in this field include case management and quality control

(Gerhart, 1990), research (Rubin, 1986), community development (Tarail, 1983), planning (DeMoll, 1983), administration (Kane, 1983), advocacy (Walz and Groze, 1991), and service to individuals (Watkins, 1983), families and groups (Bardill and Saunders, 1983). Because of the importance of housing programming in community-based care, this study has potential relevance for all social work roles in the field of mental health.

CHAPTER TWO

Background and Relevant Literature

This chapter sets the study context. The first section recounts the deinstitutionalization movement and its impact on services for persons with chronic mental illness. Approaches to community-based housing are reviewed in the second section. The third section provides an overview of community-based housing services in the City of Calgary. The final section of the chapter examines quality of life research in the mental health field, with particular emphasis on community-based housing.

The Deinstitutionalization of Mental Health Services

The most significant trend in the evolution of treatment for persons with chronic mental illness in the past forty years has been that of deinstitutionalization. The deinstitutionalization process was introduced in Canada and the U.S. in the 1950s (Herman and Smith, 1989; Lamb, 1982; Richman and Harris, 1983). Prior to deinstitutionalization in Canada:

... almost all treatment of severely ill psychiatric patients was provided in provincial institutions, which were often located in very isolated areas. Patients were often admitted by

legal process and retained in locked wards. These institutions often operated at more than 100% of capacity, with the number of patients on the books averaging more than the rated bed capacity. Understaffing, overcrowding and the lack of effective treatments led to an emphasis on custody rather than therapy. This type of care was primitive and restrictive, and it relied on methods involving seclusion, and chemical and physical restraints. (Health and Welfare Canada, p. 13)

Deinstitutionalization has moved the majority of persons with chronic mental illness out of psychiatric institutions and into the community. The deinstitutionalization movement merits examination as background in this study because community-based housing programming did not become a recognized need until the community became the focus of treatment for persons with chronic mental illness.

Deinstitutionalization Defined

A frequently cited definition of deinstitutionalization was proposed by Bachrach in 1976. She saw the "process involving two elements: (1) the eschewal of traditional institutional settings—primarily state hospitals—for the care of the [chronically] mentally ill, and (2) the concurrent expansion of community-based services for treatment of these individuals" (cited in Bachrach, 1983, p.5). Another definition was developed by the U.S. National Institute of Mental Health (NIMH), which regarded deinstitutionalization as:

- 1) the prevention of inappropriate mental hospital admissions through the provision of community alternatives for treatment;

- 2) the release to the community of all institutionalized patients who have been given adequate preparation for such change; and
- 3) the establishment and maintenance of community support systems for non-institutionalized people receiving mental health services in the community.
(cited in Torrey, 1988, p.4)

The Factors That Motivated Deinstitutionalization Policy

According to Johnson (1990), the process of deinstitutionalization was not something that was anticipated or planned. She claims that it "did not even have a name when it happened" (p. 24). Deinstitutionalization was motivated by a combination of factors including: the development of psychoactive medications; the civil rights movement; a new social treatment philosophy; and a desire on the part of governments to save money on expensive institutional care (Lamb, 1984). Johnson (1990) would add that the optimism that existed in the wake of World War II was also a contributing factor.

Pharmaceutical advances in the 1950s, such as the development of anti-depressant medications and the phenothiazines, were found to significantly reduce psychiatric symptomatology and therefore the need for high patient/staff ratios to control patients (Grob, 1992). Grob (1992) contends that these new medications also challenged the need for the popular milieu therapies of the time which required the patients to be in closed institutional settings.

In the U.S., civil libertarians were growing increasingly concerned about patient overcrowding, the use of experimental treatments and medications on unsuspecting institutionalized patients, and inappropriate or unwarranted committals to psychiatric institutions (Solomon, Gordon and Davis, 1984). According to Grob (1991), sociologists such as Goffman and Scheff, and radical psychiatrists such as Szasz and Laing, fuelled the patient rights debates by attacking the very foundations of psychiatry's medical/biological model of mental illness. In Canada, moral concerns about the institutional treatment of persons with chronic mental illness were advanced in the Canadian Mental Health Association's (CMHA) publication of More for the Mind, in 1963 (Roberts, 1989).

A new philosophy of social treatment grew out of clinical research that suggested that institutional interventions were not working in most cases and were even contributing to increased symptomatology in patients (Scully, 1981). Estroff (1981) concluded, "we learned that creating closed communities of patients and staff with traditional medical and hospital sociocultural systems contributed to the social construction of a very crazy reality for patients" (p. 118). The notion of social treatment generated the rise of the community mental health movement in the U.S. in the early 1960s (Lamb, 1982). A community-based approach to treatment was advocated for Canada in More

for the Mind (Tyhurst, Chalke, Lawson, McNeel, Roberts, Taylor, Weil, and Griffin, 1963), and by the 1964 Royal Commission on Health Services (cited in Richman and Harris, 1983).

In 1963, the federal government in the U.S. enacted Aid to the Disabled, which made persons with chronic mental illness eligible for federal assistance in the community. This legislation provided monetary incentives to the state governments, who were financially responsible for the large state mental hospitals, to discharge more patients into the community (Lamb, 1982). While similar fiscal advantages were not in evidence in the Canadian system at the time, it was clearly recognized by policy advisors that community-based approaches were "a more effective and more economical way of achieving maximum development of people, with dignity, than the continued extension of the mental hospital system" (Blair, 1969, p. 24).

Canadian Patient Populations and Deinstitutionalization

Richman and Harris (1983), in their study of the deinstitutionalization process in Canada, reported statistical evidence of the decline in patient populations in mental hospitals in the 1960s and 1970s. Citing Statistics Canada data, they indicated that mental hospital bed capacity fell by two-thirds, from 47,633 in 1960 to 15,011 by 1976 (p. 70). The decreasing patient numbers were the result of a variety of provincial depopulation efforts

in the large psychiatric facilities, and in some cases the outright closure of these institutions. In Saskatchewan, for example, the patient population in that province's mental institutions declined from 4,000 in 1955 to under 200 by 1984 (Silzer, 1984).

While mental hospital populations have dramatically decreased in Canada, Statistics Canada data reflect that the number of psychiatric beds in general hospitals increased from 844 in 1960 to 5,836 by 1976 (cited in Richman and Harris, 1983, p. 70). The distribution of the decreases in mental hospital beds and the increases in general hospital psychiatric beds has been uneven in Canada due to differing provincial strategies in approaching deinstitutionalization (Richman and Harris, 1983).

The Consequences of Deinstitutionalization

Theoretically, a systematic emptying of the large psychiatric institutions in North America was to be accompanied by the growth and development of community-based facilities, residences, and services mandated to assist the community reintegration efforts of the discharged patient population (Carling, 1990a; Goldstein, Dziobek, Clark, & Bassuk, 1990; Kalifon, 1989; Rosenfield, 1991). However, due to piecemeal and inadequate planning, professional and administrative turf protection, the lack of political will among governments (Harnois, 1992), and negative public attitudes toward the mentally ill (Bassuk & Lamb, 1986),

deinstitutionalization is now widely viewed as having failed persons with chronic mental illness (Harnois, 1992; Rosenfield, 1991; Zusman, Friedman, & Levin, 1988).

Lamb (1982), in reviewing the early consequences of deinstitutionalization in the U.S., reported that many ex-patients found themselves in either deplorable living situations or homeless upon their return to the community. Most ex-patients were unable to find employment and many were readmitted to local hospitals within a year. In addition, there was a lack of service coordination and integration of services at the community level.

Smith and Herman (1989), in their study of deinstitutionalized patients in central Canada in the early 1980s, found that their sample reported serious difficulties in a number of areas upon their return to the community. These ex-patients described that: (a) they were stigmatized because of their illnesses; (b) forced to live in poverty because of the lack of financial assistance and job opportunities; (c) could not find secure, affordable, and adequate housing; (d) lacked the skills of basic living; and (e) were unable to find accessible or helpful aftercare.

Toews and Barnes, in their 1982 needs assessment of persons with chronic mental illness in Canada, reported that the mental health care system was "grossly overloaded" (p. 2). The problems cited in their study included a lack of psychiatric hospital beds at the local level, excessive case

loads for community mental health workers, a lack of spaces in community-based programs, inadequacies in housing, generally, and in supervised housing, specifically. This failure to provide adequate services at the community level was seen as contributing to a "revolving door" effect, resulting in "many needless readmissions" to hospital (Toews and Barnes, 1982, p. 2).

Deinstitutionalization in Alberta

Like other parts of Canada and the U.S., the Province of Alberta has also experienced a deinstitutionalization process. But, unlike her provincial neighbour Saskatchewan, whose promise of "comprehensive care" in the community placed her at the forefront of the movement in the 1960s in Canada (Farley, 1968, p. 30), Alberta has approached deinstitutionalization more cautiously. Deinstitutionalization remains an ongoing process in Alberta, however, the direction being set by the current provincial government may finally move the province into the post-institutional era.

Alberta's mental health delivery system was first actualized with the construction of the Ponoka Insane Asylum (since renamed Alberta Hospital Ponoka), which opened in 1911. In 1923 the Alberta Hospital at Oliver (now called Alberta Hospital Edmonton) was opened. Patient populations were huge at these large mental hospitals, with Ponoka, for example, attaining a peak patient population of 1,685 in 1937 (cited in Clarke Institute of Psychiatry, 1983).

Additional smaller facilities, called Provincial Auxiliary Mental Hospitals, were added to the system during the 1930s at Claresholm and Raymond, and at Camrose in 1947. However, over the years the majority of Alberta's institutionalized mentally ill population resided in the Ponoka or Oliver facilities. To this day these mental institutions are still active and they remain as vivid reminders of Alberta's "era of containment" (Doyle, 1992) in mental health services.

In 1968 Dr. W. R. N. Blair was commissioned by the Government of Alberta to undertake a comprehensive independent study of the province's mental health system. In 1969 Mental Health in Alberta was published. The "Blair Report", as the study has come to be known, recommended sweeping changes to the system, including: reducing the number of beds in mental hospitals; creating small psychiatric units in all of the provinces active acute hospitals; increasing services in the community, such as clinics, sheltered workshops, and half-way houses; educating the public about mental illness; and delegating authority for the management of mental health services to local communities (Blair, 1969). Blair also recommended that new mental health legislation be drafted to replace the 1965 Mental Health Act which did not reflect contemporary thinking about mental illness and its treatment. It should be noted that many of the recommendations put forward in the report originated in a comparative study and survey document

that was produced by R. P. Farley (1968). Both Blair and Farley were clearly advocating for the full-scale deinstitutionalization and renovation of Alberta's mental health system.

While several of Blair's recommendations for change have been implemented, substantive changes have come very slowly. Alberta had a new mental health act and a structure for regional authority in place by 1972, and many larger regional hospitals did open psychiatric units. Ponoka's patient population was reduced to 347 by 1976 (cited in Clarke Institute of Psychiatry, 1983), and government operated community mental health clinics were established or enhanced to provide mental health services to the community, including aftercare to discharged psychiatric patients.

In 1979, Assured Income for the Severely Handicapped (AISH) was introduced. This social welfare program, which remains in place today, entitles non-institutionalized persons with chronic mental illness to a monthly benefit, provided a psychiatrist has deemed them to be permanently disabled (Alberta Family and Social Services, 1990).

In the wake of the Blair Report, two other independent studies specific to mental health in Alberta were commissioned during the early 1980's. The "McKinsey Report" (1980), formally entitled The Challenge for Psychiatric Care in Edmonton and Northern Alberta - An Action Program for the 1980's, and the "Clarke Report" (1983), entitled The

Southern Alberta Study of Psychiatric Needs and Provisions, both recommended improved coordination of mental health services (Alberta Health, 1988). They contended that planning in mental health services had been done on a piecemeal basis and consequently that service gaps had developed.

The Clarke Report, for example, identified that while the patient populations in the mental hospitals in southern Alberta had declined from 2427 to 1250 between 1960 and 1980, only 194 psychiatric beds had been developed in local hospitals (Clarke Institute of Psychiatry, 1983). The Clarke group indicated that the number of local psychiatric hospital beds fell well short of their suggested standard of 50 beds per 100,000 population. While the Clarke Report recommended that the number of acute local beds needed to be increased, they also advised that no new local beds should be created "without the concomitant development of community support services" (p. 18). Community support services were to include "transitional and permanent housing, social/recreational facilities, and vocational/educational programs" (p. 17). The Clarke Report recognized that a dangerous pattern was developing in Alberta, whereby the government was saving money by closing down large numbers of mental hospital beds but not shifting any of those savings to the development of necessary services in the community.

Alberta's mental health legislation was revisited in the early 1980's in response to the changing approaches to treating persons with chronic mental illness, and the need for legislation that would be consistent with the Canadian Charter of Rights and Freedoms. The Report of the Task Force to Review the Mental Health Act, known as the "Drewry Report" (1983), successfully redressed many of the civil rights concerns regarding the treatment of persons with mental illness that were exposed by the Charter. Drewry made several recommendations but perhaps the most important concerned involuntary committal to hospital. Drewry recommended that committal should not occur unless there were reasonable and probable grounds that the person suffered from a mental disorder and was considered a danger to self or others. The Drewry Report also advised that involuntary patients should have a right to refuse treatment. The new Mental Health Act, based on the Drewry Report and subsequent amendments, was finally consolidated in 1990, thus bringing Alberta's mental health legislation into line with the other provinces in Canada.

Perhaps the best reflection of the state of Alberta's mental health system is in the level of support that is being provided to persons with chronic mental illness in the community, as well as where the province's mental health dollars are being spent. It is notable that the level of benefits paid to single disabled persons in Alberta in 1992,

including many with a chronic mental illness, represented only 26% of the estimated annual income of single employable persons in this province (National Council on Welfare, 1992). The \$6,855 paid out in 1992 to individual AISH recipients placed them 55% below the Nation Council on Welfare's poverty line. According to the Council's figures, Alberta paid the lowest annual entitlement rate in Canada, in 1992, to persons with disabilities in the community.

While maintaining low levels of benefits to persons with chronic mental illness in the community, the bulk of Alberta's mental health dollars continue to be directed toward institutions rather than community support programming. According to the CMHA, Alberta Division, in 1989/90 only 21% of Alberta's direct mental health dollars were spent in the community (cited in Macnaughton, 1991). If the government's community mental health clinics, are factored out, only 5% of Alberta's direct mental health dollars are used to fund the non-governmental agencies that deliver community support services. Conversely, in 1989/90 Alberta spent 75% of direct mental health dollars on institutional care, a percentage that is almost twice that of Saskatchewan's 39% (CMHA, Alberta Division and Saskatchewan Health, as cited in Macnaughton, 1991). According to Bernie Doyle (1992), who was the Assistant Deputy Minister of Alberta Health's Mental Health Division, Alberta spent 83% of its mental health expenditures on

institutions, 9% on physicians and psychiatrists, and only 8% on community services, in 1991. While persons with chronic mental illness have been deinstitutionalized in Alberta, the mental health dollars have not been.

In 1993 the Progressive Conservatives, under the leadership of Premier Ralph Klein, were returned for another mandate in Alberta. The basis of their election strategy was a promise to balance the provincial budget in three years. The Ministries of Health and Social Services have been prominent in the deficit cutting efforts of this government. According to Dr. Lyle Oberg, the provincial MLA who is piloting health reform in Alberta, 17% is targeted to be cut from the health expenditures, including mental health, by 1997 (Walker, 1994). In Calgary, for example, plans are currently under way to close two core area hospitals, each of which were designated in the 1990 Mental Health Act as active psychiatric treatment facilities. These closures could seriously impact the accessibility of inpatient services for persons with chronic mental illness in crisis. Other cost cutting recommendations include the privatization of the province's network of community mental health clinics (Mental Health Strategic Planning Committee, 1993).

The current provincial government has adopted, in principle, the mental health policies outlined in the document, Future Directions for Mental Health Services in

Alberta (Alberta Health, 1992). These future directions include a continuation of deinstitutionalization policy, and the development of community care alternatives for persons with chronic mental illness (Mental Health Strategic Planning Committee, 1993). But what will Alberta's new mental health service delivery system look like by the year 1997, in light of the government's deficit cutting plans? Will the government continue to save money by depopulating institutions without redirecting the bulk of the savings to community support services? The answers to these questions will have serious implications for both persons with chronic mental illness and the community-based agencies that serve this population.

Final Reflections on Deinstitutionalization

Deinstitutionalization represents a philosophical shift, from the traditional institution-based models of intervention and treatment, to community-based approaches. Presently in Canada, only persons with acute symptomatology, or those considered dangerous to themselves or others, are likely to find themselves institutionalized within the public mental health system at taxpayers' expense, due to the impact of the Charter of Rights and Freedoms and provincial deficit cutting in health care. Persons with chronic mental illness, except in the most extreme cases, are now being treated in local hospitals rather than large institutions. Average inpatient general hospital stays are

becoming increasingly shorter and the numbers of psychiatric hospital beds are continuing to decline. In practical terms, while deinstitutionalization policies may have enhanced the overall level of freedom available to persons afflicted with chronic mental illness, for many individuals these policies have also diminished the security of knowing where the next meal was coming from and whether there would be a roof to sleep under at night.

While the success or failure of the deinstitutionalization process may be arguable, Bachrach (1983) has rightly pointed out that the process has been productive in causing mental health professionals "to think about the needs of the chronically mentally ill in a new way" (p. 9). As examples, she cited the broad recognition that such elements as social support networks, and appropriate residential options, are now considered essentials in successful community-based treatment. Lamb (1982) summarizes the shift in thinking in the following acknowledgement:

... we need to realize that if we can simply improve the quality of life for these patients and make them feel more comfortable living low-energy but satisfying lives in a non-hospital environment, we will have taken a great step forward in the management of the long-term mentally ill and in making real the benefits expected of deinstitutionalization. (p. 25)

Housing for Persons with Chronic Mental Illness

Deinstitutionalization policies have had a significant impact on housing for persons with chronic mental illness

(Bassuk and Lamb, 1986; Kalifon, 1989; Lamb, 1984; Rosenfield, 1991). Before the 1950s, most persons with a chronic mental illness in North America resided in institutions that were designed to segregate and contain (Ridgeway and Zipple, 1990). The displacement of large numbers of ex-patients from asylums and mental hospitals to the community stimulated the development of alternative approaches to sheltered-care for this population (Segal and Aviram, 1978,).

Segal and Aviram (1978) reported that, in the U.S., early forms of alternative housing included nursing homes, board-and-care homes and adult foster homes, most of which were private, for-profit operations. According to Blanch, Carling, and Ridgeway (1988), facilities as large as two to three hundred beds were also considered by policymakers in the U.S. to fall under the realm of community-based care.

In Canada, those individuals who found themselves discharged to the community in the early days of deinstitutionalization were confronted with, as Farley (1968) described, "a number of ad hoc services, but no comprehensive, integrated or cohesive mental health program" (p. 35). The lack of services availability forced many families to reassume the responsibility for housing and caring for their disabled family member (Leverman, 1984).

In the 1960s in Alberta, ex-patients who could not stay with relatives or friends, or manage a place of their own,

may have been referred to one of the half-way houses or foster home programs described by Farley (1968). The half-way houses were an early form of transitional community-based housing, where discharged patients could become accustomed to the community before attempting to go it alone. The foster homes provided long-term care in the community or transitional support services, dependent on the needs of the ex-patient. These community-based housing alternatives were offered only in Calgary and Edmonton, and were almost exclusively operated by the outpatient services departments of Alberta's large mental institutions.

By the mid 1970s the need for a more comprehensive approach to community-based housing for persons with chronic mental illness was becoming apparent in many jurisdictions in North America. The limited community-based services of the time were mostly custodial in nature and therefore did not focus on reintegrating ex-patients into the community. Ridgeway and Zipple (1990) have recounted that the notion of continuum housing began to gain acceptance, by the late 1970s, among the mental health service professionals who saw community reintegration as a worthy objective.

The continuum models, or transitional models as they are sometimes called (Lee, 1978), consist of a series of housing programs, ranging from highly restrictive to least restrictive, designed to move the discharged patient from the hospital to independence in the community (Ridgeway and

Zipple, 1990). A residential continuum can include a variety of housing program types, for example, assessment homes, group homes or half-way houses, supervised apartments, and supportive independent living. Residency in each of the continuum housing programs is time limited. Moving to the next program level requires the achievement of developmental skills at the lower levels. Numerous continuum models were conceived and practiced throughout the late 1970s and 1980s in North America, with varying degrees of comprehensiveness and coordination (Ridgeway and Zipple, 1990).

The Clarke Institute of Psychiatry's study of southern Alberta's mental health services in 1983 identified that a loose continuum model was in evidence in Calgary at that time, operated by the CMHA/Alberta South Central Region and the Calgary Association of Self Help (CASH). Calgary's housing program continuum consisted of a short stay transitional home (30-60 days), four supervised groups homes with limited stays of one to two years, and a supervised apartment program with a limited stay of three years. The Clarke group reported that, despite the existence of these housing programs, there were "insufficient numbers and models of resources in all categories" in Calgary (Clarke Institute of Psychiatry, 1983, Part IV, pp. 74-75).

Ridgeway and Zipple (1990) contended that, despite their wide acceptance and application, the continuum models

have failed to meet the housing needs of persons with chronic mental illness. These models are "primarily a clinical modality designed to treat mentally ill individuals, rather than a home for those who live there" (Ridgeway and Zipple, 1990, p. 17). The very logic of this treatment modality has a destabilizing influence on program consumers. For example, these models explicitly require that program consumers must not only move from one residential situation to another, which is stressful in of itself, but that such moves must take place within a limited amount of time. As well, the continuum models have failed to meet their ultimate goal of successfully moving individuals into stable housing in the community with the skills necessary for independent living (Blanch, Carling, and Ridgeway, 1988). Finally, the continuum models' "facility-based approach (relying on group homes, half-way houses, and so forth) is too costly to meet the needs of the large numbers of individuals with psychiatric disabilities who need housing" (Hogan and Carling, 1992, p. 216).

Because of their shortcomings, the continuum models have recently fallen into disfavour among mental health advocates, service consumers and their family members, and service providers (Hogan and Carling, 1992). Ridgeway and Zipple (1990) believe that a paradigm shift is occurring in housing for persons with chronic mental illness, where the

continuum models are being supplanted by supportive housing models.

The term "supported housing" has been used in recent mental health literature to describe a new approach to meeting the housing and support needs of persons with chronic mental illness (Carling, 1990a; Carling, 1990b; Cohen and Somers, 1990; Livingston, Srebnik, King, and Gordon, 1992; Parrish, 1990; Ridgeway and Zipple, 1990). The notion of supported housing has sprung from the psychosocial and psychiatric rehabilitation literature of the past decade. Both of these types of rehabilitative philosophies are based on the principles of consumer involvement, consumer self-determination, the uniqueness of the individual, the development of individual competencies, a focus on the consumer's real life environment, and the provision of supports that are comprehensive and not time limited (Farkas, Anthony, and Cohen, 1989; Tessier and Clément as cited by Harnois, 1992).

Carling (1992) identified the three key elements of supported housing: "(1) consumers choose their own living situations; (2) consumers live in normal, stable housing, not in mental health programs; and (3) consumers have the services and supports required to maximize their opportunities for success over time" (p. 30). These elements are consistent with the primary goals espoused by advocates of "independent living" for persons with

psychiatric disabilities (e.g., Howie the Harp, 1990; Deegan, 1992). Advocates of independent living have played an influential role in the advancement of the supported housing approach (Carling, 1990b).

It is important to keep in mind that community-based housing approaches are constantly evolving in accordance with social, political, and economic influences. At any given time, in any well populated area, the observer is likely to find some combination of the community-based housing types that have been described in this section. A specific housing program may even combine characteristics of two or more different models at the same time. The heterogeneity of persons with chronic mental illness may dictate that a variety of models and approaches must somehow coexist to meet the diverse needs of this population.

Community-Based Housing in Context

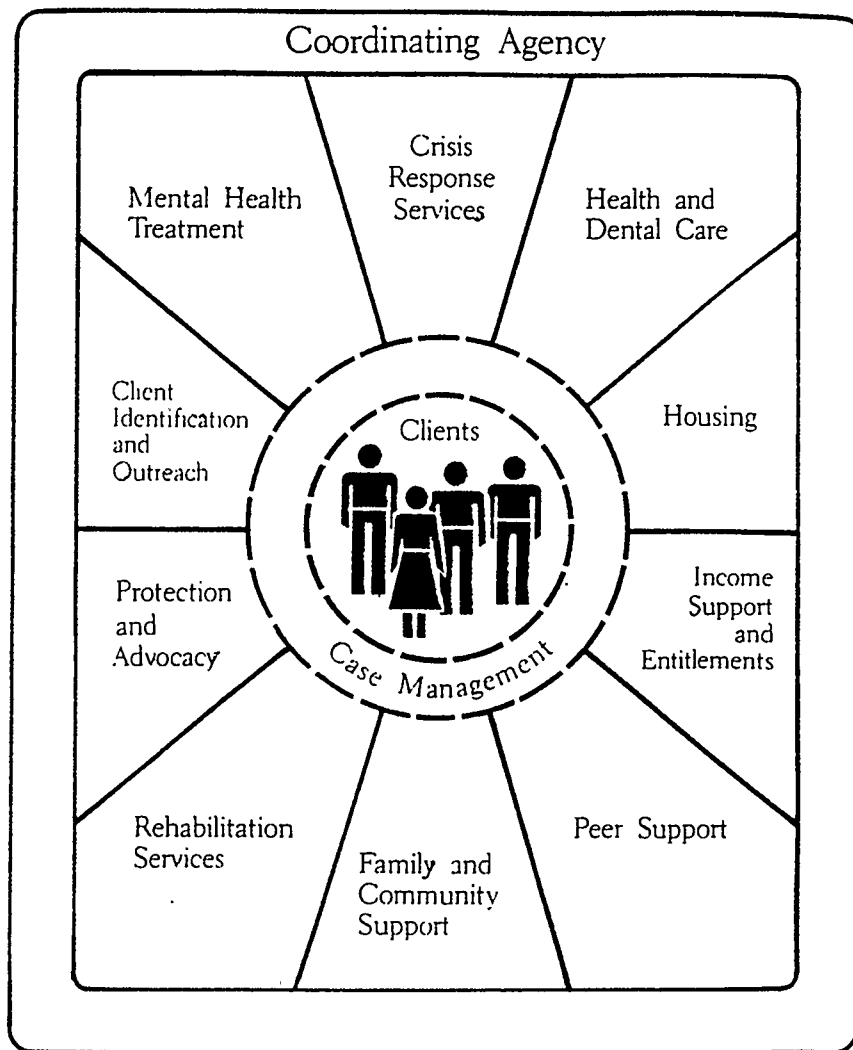
It is currently recognized that treatment success in the community requires an array of community services and supports, of which community-based housing options are an integral part (Kuehnel, Liberman, Storzbach, and Rose, 1990; Stroul, 1989; Trainor, Pomeroy, and Pape, 1993). The purpose of this section is to convey a conceptual understanding of where housing fits in a community care system. This will be done by examining two contemporary community care models.

The Community Support System (CSS) concept was introduced through NIMH's Community Support Program (CSP) in 1977, and is based on the philosophy that persons with mental illness have the same rights as others in the community (Kuehnel et al., 1990). A CSS is a client-centred approach which promotes: (a) consumer empowerment; (b) flexible, coordinated services; (c) a normalizing environment; and (d) the use of least restrictive, natural supports (Stroul, 1989). A CSS provides an organized network of care where persons with mental illness have their needs met in the community rather than in an institutional setting (Figure 2.1).

While the client is central to the CSS concept of community-based care, case management is crucial in the coordination of the service and support spectrum. According to Phipps and Liberman (1988), the functions of case management in a CSS include: "(a) patient identification and outreach; (b) individual assessment; (c) service planning; (d) linkage with requisite services; (e) monitoring service delivery; and (f) patient advocacy" (p. 293). It is incumbent on the case manager or case management team to carry out its functions within the context of a long-term, supportive relationship with the consumer (Kuehnel et al., 1990).

Housing is one of ten key elements in the service and support spectrum of a CSS approach. Kuehnel et al (1990),

Figure 2.1
A Community Support System



Source: Stroul, 1989.

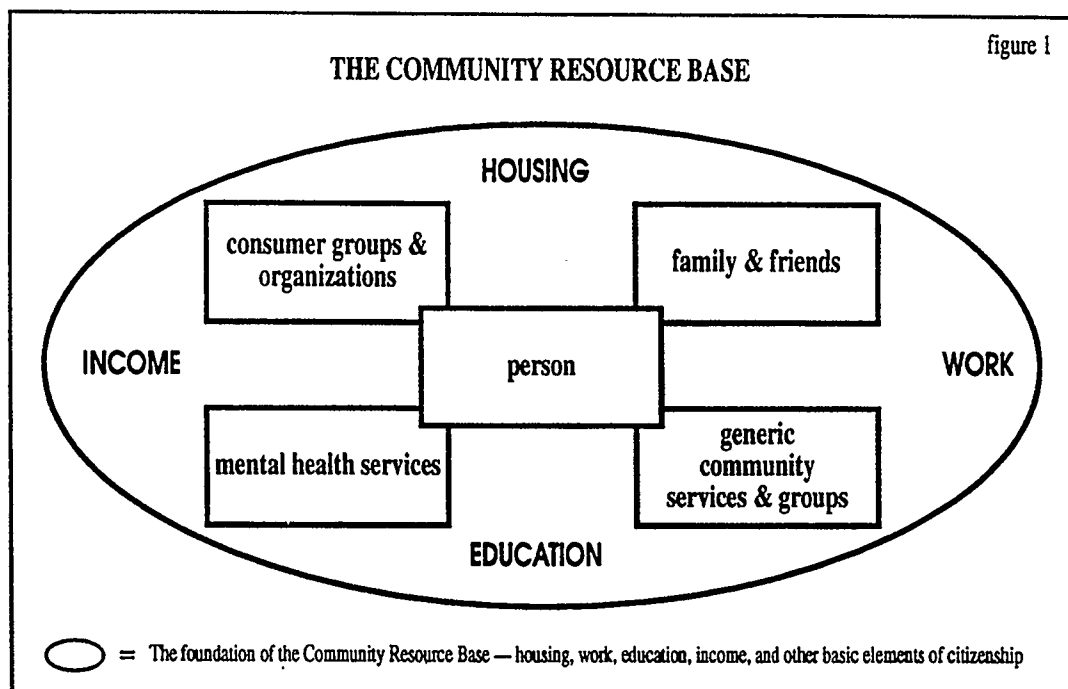
have suggested that housing is perceived by many persons with chronic mental illness as their most important need, even more important than treatment. While there is a need for definitive research about which type of CSS housing approach is best (Anthony and Blanch, 1989), it is clear that a lack of decent and affordable housing could jeopardize the overall success of a CSS (Stroul, 1989).

In 1984 the CMHA produced a report entitled A Framework for Support for People With Severe Mental Disabilities (Trainor and Church, 1984) in which they outlined the principles and concepts of a community care approach. The "Framework for Support" has evolved since that time and has recently been updated in A New Framework for Support for People With Serious Mental Health Problems (Trainor, Pomeroy, and Pape, 1993). The Framework is similar to the CSS in that it conceptualizes the person with mental illness residing in the community with a variety of services and supports. But while the CSS is a comprehensive, community treatment approach, the Framework is more about community living than community treatment.

The Framework for Support takes a person-centred, rather than CSS's client-centred, approach to community care (Figure 2.2). The Framework envisions a "community resource base" encompassing four sectors, including consumer groups, family and friends, mental health services, and generic community services. These four sectors are built squarely on a foundation of housing, income, work, and education. The premise behind the foundation is that all Canadians, regardless of their mental health, are entitled to adequate income levels, meaningful work or activities, decent and affordable housing, and appropriate education (Trainor and Pape, 1994).

Figure 2.2

A Framework for Support



Source: Trainor, Pomeroy, and Pape, 1993.

The Framework for Support acknowledges the importance of the formal service delivery system but advocates for the increased role of the informal supports to be found among family, friends, self-help and consumer groups. In this approach consumer empowerment is fundamental, as is the goal of consumers reaching their optimum level of independence in a normalized community environment. The Framework recognizes that housing is one of the four basic rights of citizenship but does not recommend a specific housing type or model. However, it can be assumed that housing decisions should ultimately rest with the consumer, not the service provider.

The CSS and the Framework for Support represent two visions of comprehensive community care. Adequate and appropriate housing is considered to be an essential element of each approach. A wide application of either of these visions of community care can only auger well for the enhancement of community-based and supported independent housing.

Community-Based Housing Programs in Calgary

This section contains a general survey of community-based housing programs, for persons with chronic mental illness, currently operating in the City of Calgary. This overview is intended to enhance the reader's understanding of the program options that are available locally.

Presently, there are four basic types of community-based housing programs in the City of Calgary, including adult foster homes, group homes, supervised apartments and supported independent living (Table 2.1). It is noteworthy that there are currently more than twice as many long-term housing spaces (144) as there are transitional housing spaces (60). When compared with 1983, when there were 66 transitional spaces and 58 long-term spaces in Calgary (Clarke Institute of Psychiatry, 1983), these figures show that transitional housing capacity has remained stable while there has been a marked growth in long-term housing capacity. The Community Mental Health Services Planning

Table 2.1

Community-Based Housing and Supported Independent Living
Programs in the City of Calgary (December 1, 1994)

Program Type	Program Name	Capacity
A) Community-Based Housing		
1. Adult Foster Homes	AMHS-Approved Homes	59
2. a) Group Homes (Transitional)	CMHA-Marguerite House	8*
	-Roberts House	8*
	DSM Consulting	6*
b) Group Homes (Long-term)	CMHA-Albert House	3
	-Keith House	3
	-Hunter House	6
3. a) Supervised Apartments (Transitional)	CMHA-Horizon West	17*
	-Horizon 14	17*
b) Supervised Apartments (Long-term)	CMHA-Horizon Park	8
	Community Lamda-One	32
	-Two	30
c) Forensic Apartments (Transitional)	Bedford House- Note:3-4 of 22 spaces are used by mentally ill persons	4*
Totals	Long-Term Transitional*	144 + 60* 204
B) Supported Independent Living	CMHA Independent Living Support (ILS)	80
	DSM Consulting (ILS)	25
	AMHS-Satellite Services	45
Total		150

Sources: Alberta Mental Health Services (AMHS); Community Lamda; Canadian Mental Health Association; and the Community Mental Health Services Planning Committee.

Committee (CMHSPC) has recently recommended that community-based housing be increased by 24 spaces in order to meet consumer needs.

The number of supported independent living spaces (150) demonstrates that this type of community-based housing programming has shown the most growth in the past decade. Supported independent living programs did not exist in southern Alberta when the Clarke group conducted their study. The CMHSPC has recommended that supported independent living capacity in Calgary should be increased by 180 spaces to meet current consumer needs.

A dynamic link exists between community-based housing programming and the acute psychiatric spaces in Calgary's local general hospitals. While community-based housing has expanded through the 1980s and early 1990s, the number of acute psychiatric beds has declined from 194 in 1983 (Clarke Institute of Psychiatry, 1983), to 145 in December, 1994 (personal communication with Arlene Weidner, the Regional Health Authority's committee chairman for the mentally ill). The CMHSPC has recognized the trends of declining acute beds and the resultant early discharges and shorter hospital stays. They therefore have recommended the above-mentioned increases in community program spaces to try to accommodate the continuance of these trends.

The current trends in Calgary's acute psychiatric hospital care influenced the recent closure of Westhill

group home, which was operated by the CASH. Westhill provided short-term housing (102 day maximum), for up to eight discharged psychiatric patients, where a resident's community reintegration needs could be assessed (CMHSPC, 1993). According to Marion McGrath, the Executive Director of CASH, many referrals to Westhill were being discharged too early from local hospitals due to the shortages of acute psychiatric beds, and the influence of the Alberta's Hospital Performance Index on the length of psychiatric inpatient stays (personal communication with Marion McGrath). These unstabilized ex-patients could often not be maintained at Westhill, as their presence raised safety concerns for staff and other residents, and disrupted group home programming. In recent years an increasing number of residents had to be readmitted to hospital because they were not well enough to return to the community. The facility closed, in part, because the hospitals stopped referring patients, and Westhill could not maintain the required client numbers to make the operation feasible. Westhill's closure has meant that there is currently no community-based housing, for recently discharged psychiatric patients, that offers community assessment services and 24-hour staff supervision.

Community-based housing and support programming for persons with chronic mental illness is in a serious state of flux because of the restructuring of health care in the

Province of Alberta. The network of non-governmental agencies that currently provide many of these programs in the Calgary community are very concerned about the effects the mental health funding cuts will have on their ability to maintain their levels of service. At this juncture it is impossible to predict the impact that a restructured mental health system will have on Calgary's community-based housing and support services.

Quality of Life and Mental Health Services

The purpose of this section is to convey the relevance of quality of life as the chosen dependent variable in this study. The section will begin with a brief history of quality of life research, followed by an examination of the definitional and measurement problems associated with using quality of life as a research variable. The application of quality of life research will then be discussed. The section will conclude with a review of a number of studies where different housing situations for persons with chronic mental illness have been surveyed using quality of life instruments.

The Growth of Interest in Quality of Life

The 1970s, in the U.S., marked the beginning of a decade of national concern with the quality of life of Americans (Environmental Protection Agency, 1973). In 1971, the American Institutes for Research decided to dedicate

their efforts toward "defining, surveying, analyzing, and studying the quality of life of specific individuals" with the purpose of "improving the quality of life of Americans" (Flanagan, 1978, p. 138). During the 1970s there was a flurry of national surveys bent on ascertaining the state of well-being in America (Campbell, 1981). Survey instruments were developed that examined a broad range of quality of life issues including: national morale, public corruption, crime, discrimination, living standards, education, employment, service delivery, and leisure activities (Campbell and Kahn, 1976).

Quality of life surveys were initially found to be useful in a number of fields including sociology, psychology, economics, political science, and health care (Schuessler and Fisher, 1985). By the late 1970s, researchers began to declare the potential merits of assessing the quality of life of persons with chronic mental illness residing in the community (e.g., Flanagan, 1978; Zautra, Beier, and Cappel, 1977). Since that time, quality of life has become recognized as an important variable in assessing the status of the consumers of community-based mental health services (De Bruyn, 1994; NIMH, 1991).

The increased interest in quality of life assessment within the mental health field has been due, in part, to the notion that deinstitutionalization would improve the lives of persons with chronic mental illness (Rosenfield, 1987).

However, the failures of the deinstitutionalization process have raised concerns that the quality of life of this population has not improved as expected (Lehman, Ward, and Linn, 1982; Rosenfield, 1987; Toews and Barnes, 1983). McCoin (1988) even speculated that a neo-conservative social, economic, and political agenda, along with an overzealous civil rights movement, have undermined the provision of effective community-based mental health services, thereby eroding the quality of life of mentally ill persons.

The desire to know more about the well-being of persons with chronic mental illness in the community has stimulated the growth in quality of life studies. There have been several survey instruments developed since the 1970s that purport to measure the quality of life of persons with mental illness (e.g., Satisfaction with Life Domains Scale, Baker and Intagliata, 1982; Quality of Life Questionnaire, Bigelow, Brodsky, Stewart, and Olson, 1982; Quality of Life Scale, Flanagan, 1978; Quality of Life Interview, Lehman, Ward, and Linn, 1982; and the Quality of Life Checklist, Malm, May, and Dencker, 1981). In addition, some researchers have developed models that combine a number of instruments to measure the quality of life of this population (e.g., Franklin, Simmons, Solovitz, Clemons, and Miller, 1986). However, the differences in quality of life definitions, theories, and instrument construction have

brought into question the validity and usefulness of measuring quality of life.

Defining Quality of Life

Like chronic mental illness, quality of life has its share of definitional problems. This is largely because quality of life is a complex, multidimensional concept that "means different things to different people" (Environmental Protection Agency, 1973, p. I-1). It is also clear that the meaning of quality of life varies in accordance to the specific discipline or field of study (Environmental Protection Agency, 1973). Therefore, the definitions and meanings discussed in this subsection will be drawn for the most part from mental health literature.

Some researchers have developed generic definitions that are helpful in providing a basic understanding of what is meant by the term "quality of life". For example, Zautra and Goodhart (1979) conceptualized quality of life as simply "the goodness of life" (p. 1). Incorporating the work of Deiner; Lehman; and Campbell, Converse and Rodgers; Fabian (1989) defined quality of life as "the sense of well-being and satisfaction experienced by people in the context of their current life situations" (p. 40). Johnson (1991), drawing on the work of Baker and Intagliata, defined quality of life "as how persons perceived their environment...to meet their own needs, desires, beliefs, and experiences of health and well-being" (p. 24). Bigelow et al. (1982), who

developed the questionnaire that was chosen for use in this study, conceptualized that quality of life was about "an individual participating in an environment" (p. 350). They defined a person's quality of life as "(a) general happiness or satisfaction of his or her needs and (b) performance or actualization of his or her abilities" (p. 350). Quality of life, in summary, concerns the level of fulfilment an individual experiences within the context of their environment and life situation.

Measuring Quality of Life

Quality of life instrumentation varies in style and complexity in accordance with different conceptualizations of the construct quality of life. For example, the Baker and Intagliata (1982) scale is a simple, fifteen question, subjective survey that asks how satisfied respondents are with different areas of their life. The Lehman et al. (1982) interview is a more comprehensive satisfaction survey that was based on the concept that well-being is a product of personal characteristics, subjective impressions, and objective life conditions in a number of life areas (Lehman, 1988). The Quality of Life Questionnaire (QLQ) is a comprehensive instrument that was conceptually derived from Maslow's theory of needs, as well as the role theory of Sarbin and Allen (Bigelow et al., 1982). The QLQ differs from the life satisfaction surveys because it includes role

performance and need satisfaction as part of the quality of life equation (Bigelow et al., 1982).

The measurement technology utilized most often in the examination of the quality of life construct has been the "life-domain approach" (Cheng, 1988). This approach surveys a number of life-domains that, when combined, comprise an individual's total quality of life. Flanagan (1978), measured fifteen components of quality of life which he grouped into five larger categories or domains. The Baker and Intagliata (1982) scale surveys satisfaction based on fifteen life-domains while the Lehman et al. (1982) interview studies nine life-domains. The Bigelow et al. (1982) questionnaire assesses individuals on seventeen life-domain scales. Examples of the life-domains that may be contained in a quality of life instrument include: living situation, leisure or recreational activities, family interactions, social interactions, employment, finances, and physical health. The choice of life-domains in quality of life instrumentation appears to be rooted in the conceptualization of the quality of life construct and the purpose for which the instrument was designed.

Most comprehensive quality of life instruments are designed to seek a combination of objective and subjective information from respondents (Schuessler and Fisher, 1985; Roessler, 1990). Objective indicators of quality of life include social factors and functions that are observable,

such as income, number of visits with family or friends, or numbers of hours spent on specific daily activities (Roessler, 1990). Objective indicators are useful in assessing quality of life "because they are tangible, reflect accepted norms of function and life-style, and more directly address environmental conditions and behaviours that can be manipulated in service programs" (Lehman, 1983).

Subjective indicators of quality of life are those that solicit responses concerning a respondent's well-being, or the level of satisfaction a respondent feels regarding certain life or environmental situations (Schuessler and Fisher, 1985). Examples of subjective indicators include items which ask about job satisfaction or satisfaction with a housing situation. A respondent might also be asked to rate their level of well-being on a certain domain, or even life in general. Subjective indicators of quality of life are valuable because they are reflective of the perceived needs of the respondents, and thereby provide information that can assist program planners in determining service priorities (Cheng, 1988).

Research on the relationship between subjective and objective indicators suggests that the strength of the correlation is only moderate, and is inconsistent across life-domains (Lehman et al., 1982). However, this finding supports the belief that quality of life instruments should include both subjective and objective indicators because

they are complementary in the kinds of information they provide (Lehman, 1983).

The personal characteristics of respondents have been found to influence the subjective and objective indicators of quality of life (Lehman, 1983). Subjective quality of life, for example, can be negatively influenced by the presence of depression and anxiety (Lehman, 1988). Lehman, Slaughter, and Myers (1992), in their study of the effects of gender and age on quality of life, discovered that variations in subjective scores depended on the combined influence of gender and age, while these variables influenced objective indicators independently. It is therefore advisable to consider the impact of personal characteristics when analyzing any quality of life data.

Quality of Life Instrumentation Problems

The construction of quality of life instruments is fraught with methodological problems and potential biases. Wasserman (1992), for example, points out that a lack of consensus exists among sociological quality of life researchers as to which specific variables should be included in the development of indices. In mental health quality of life instrumentation, there is not only a lack of consensus on which variables should be included in a particular life-domain, but also there is disagreement concerning which life-domains should be included in a quality of life instrument.

The selection of objective indicator items for inclusion in an instrument has great potential for bias, in that some items may be based on unproven, value-based assumptions about what constitutes good quality of life. For example, a respondent may be given a low item score for not visiting with family members, when it may be healthier for that person to avoid family contact because of past physical or sexual abuse. Because quality of life is rooted in personal values and beliefs, some form of bias is likely present in every quality of life instrument, to some extent. Therefore, care must be taken to consider instrument bias when analyzing and discussing the results of quality of life surveys.

Another instrument design problem concerns the weighting given to subjective and objective indicators. Wasserman (1992) has suggested that weighting is a problem in sociological quality of life studies that aggregate variables in their results. Weighting can be a problem in quality of life studies when determining scoring systems on specific items, and when tallying objective and subjective items from the same life-domain scale to determine the total score.

Perhaps the most pertinent question concerning instrument construction is whether subjective and objective indicators are of equal value in assessing quality of life?

If not, which type of quality of life indicator is most important?

The above-mentioned difficulties represent only some of the problems associated with quality of life instrumentation. Despite the problems, quality of life assessment is still seen as a preferred tool when evaluating comprehensive rehabilitation programming for persons with disabilities (Fabian, 1991; Roessler, 1990).

Applications for Quality of Life Research

Quality of life assessments of persons with chronic mental illness can have a variety of applications on both macro and micro levels. On a macro level, quality of life data can illuminate the effects of social change, shifts in policy, and the allocations of resources (Fabian, 1991). On a micro level, quality of life data can be used to compare the status of individuals in different mental health programs, and to measure individual change in response to a program treatment (Bigelow, McFarland, and Olsen, 1991d). The statistics gathered in quality of life investigations can also be used to identify the needs of specific risk groups (Cheng, 1988; Zautra and Goodhart, 1979). Not all quality of life instruments can be applied to the above-mentioned applications. It is therefore incumbent on researchers to ensure that the survey instrument chosen is a good match for the desired application.

Quality of Life Studies of Community-Based Housing

There is scant literature available where the quality of life of persons with chronic mental illness residing in community-based housing is measured. The lack of studies in this field of research confirms that a considerable gap in knowledge exists. In the following subsection, literature that was pertinent to this study is reviewed.

Lehman et al. (1982) conducted a study of the quality of life experienced by 278 former mental patients who were residents of licensed board-and-care homes in the City of Los Angeles in 1980. The board-and-care homes studied were quite large, housing at least fifty ex-patients. The purpose of the study was to examine the quality of life of persons with chronic mental illness residing in these types of community-based facilities.

Lehman et al. (1982) discovered that the majority of residents were "mostly satisfied" with the life-domain areas measured by the Quality of Life Interview (QLI). It was therefore concluded that this type of housing was an acceptable alternative to institution for most of the respondents. The life areas where the most dissatisfaction was reported concerned finances, employment, and personal safety. Lehman et al. rightly concluded that these areas were outside of the realm of medical services, and would need to be addressed by community social services.

Other findings in the Lehman et al. (1982) study have implications for those community agencies that provide housing services. Privacy, autonomy, and frequency of contacts with family and close friends, were highly correlated to life satisfaction, while the number of leisure activities engaged in by the respondents had little impact on life satisfaction.

Lehman and his various associates have conducted a series of studies where the quality of life of persons with chronic mental illness in different living situations has been compared. Lehman, Possidente, and Hawker (1986) applied the QLI to compare chronically mentally ill persons in a state hospital, and other community-based settings, in Rochester, N.Y. The community-based settings included, two large residential facilities (over 200 beds), six group homes (up to 25 beds), and two non-congregated supervised apartment programs. In addition, the respondents were subdivided with respect to their lengths of stay in the community and state hospital programs.

The findings of this study indicated that the community respondents reported a better quality of life than did the hospital respondents. For both groups, quality of life scores improved with time, with the respondents who had stayed in the setting for longer than six months reporting a better quality of life than those who had stayed less than six months. The researchers noted that there was great

variability between the community and hospital groups and the length of stay sub-groups, both demographically and in terms of their psychopathology. Causal relationships were not implied because of the lack of randomization and the differences in personal characteristics between the two groups.

The key point of discussion in the Lehman et al. (1986) study concerned the state hospital population. The researchers called for interventions that would improve the quality of life of inpatients who are not capable of residing in an unstructured, less restrictive community setting.

Lehman et al. (1991) examined the Rochester and Los Angeles data to determine whether quality of life improves as the housing setting decreases in size and restrictiveness. They found that quality of life did tend to improve as residential size and the level of restrictiveness decreased. The researchers clearly cautioned against drawing causal relationships due to differential sample sizes, the lack of random assignment to each setting, and the differences in the respondent groups demographically and in terms of psychopathology.

Of note in the Lehman et al. (1991) study, is the finding that the quality of life experiences regarding family relations, social relations, leisure, and safety were constant across the different settings, and therefore were

apparently unaffected by housing type. The researchers cited "the common lack of integration of housing services with mental health, rehabilitation, and social services in the community" (p. 47) as a possible explanation for this finding.

Shadish, Orwin, Silber, and Bootzin (1985) studied the subjective well-being of chronically mentally ill persons in nursing homes, in comparison to other groups including mentally ill persons in other settings. A variety of instruments were used that measured well-being and satisfaction, but none that purported to assess quality of life.

The Shadish et al. (1985) findings challenge the Lehman studies by suggesting that perceptions of well-being are unrelated to a mentally ill person's symptomatology or degree of community integration. These researchers surmise the, "increased well-being is associated with perceptions that the home is cohesive, is low in conflict and patient self-expression, has an emphasis on patient independence and influence in the home, and is relatively high in physical comfort" (p. 246). This study underscores the notion that a good quality of life can be attainable in both institutional and community-based types of housing, provided the psychosocial environment is comfortable, non-stressful, and empowering.

Two British research teams have recently used quality of life as a dependent variable in comparative studies of housing for persons with chronic mental illness. Simpson, Hyde, and Faragher (1989) applied the QLI (Lehman et al., 1982) to three groups using community facilities in South Manchester including: (a) inpatients on acute psychiatric wards in a district general hospital; (b) residents of a small, long-term, rehabilitation hospital/hostel; and (c) residents living in group homes.

The Simpson et al. (1989) findings support those reported earlier by Lehman et al. (1986 and 1991), that individuals residing in the least restrictive, smaller, housing environments experienced a better quality of life. This research team also reinforced the importance of psychopathology in the spectrum of community-based housing for persons with mental illness. Their results indicated that the patients in acute care experienced the most severe levels of psychopathology, with the hostel residents showing more moderate levels, and the group home residents demonstrating the least severe levels of psychopathology.

Oliver and Mohamad (1992) adapted the QLI (Lehman et al., 1982) to study community-based facilities, for persons with chronic mental illness, in the Preston/Chorley area of Lancashire. The purpose of the study was to determine if there were differences in quality of life in accordance to the economic sector providing the care. The divisions of

housing by economic sector were as follows: (a) two public sector hostels that provide staffed transitional care; (b) six private boarding-out homes; and (c) seven voluntary sector group homes.

The results of this study indicated that there were no significant differences in subjective well-being scores across the three types of housing. However, the objective indicator scores were generally higher for the public hostels, followed by the voluntary sectors group homes, then the boarding-out services of the private sector. The overall conclusion was that there was little to choose among the three sectors in terms of service superiority.

Oliver and Mohamad (1992) went on to explain that their results could have been obtained because psychopathology was evenly distributed across the three groups, or the adapted quality of life instrument may not have been sensitive enough for "such service oriented research" (p. 403). In the end the researchers called for more studies with larger samples.

Conclusion

The increased application of quality of life assessments to various component services for persons with chronic mental illness, has paralleled the realization that successful community care requires a multifaceted approach to intervention (Stein and Test, 1979). Quality of life, as a construct, represents a holistic approach to evaluation

that is well matched to contemporary community care models (e.g., Community Support Services and Framework for Support). Quality of life is also a "wellness construct" (Roessler, 1990), that is consistent with the philosophical underpinnings of contemporary mental health service planning in Alberta and Canada (see Alberta Health, 1992; Health and Welfare Canada, 1988).

The World Health Organization has recognized the importance of housing as "a major defence against ill health", and as a significant support to an individual in the attainment of "optimal physical, mental, and social well-being" (Goldstein, Novick, and Schaefer, 1990, p. 161). In other words, housing is a key determinant factor in an individual's quality of life. The measurement of the quality of life of persons with chronic mental illness in different types of community-based housing is therefore a relevant focus for research. Quality of life investigations of disabled individuals, such as persons with chronic mental illness, are also timely, given the pressures of our social, political, and economic times (McCoin, 1988), and service planning dilemmas faced by community-based agencies in their attempts to respond to the recent shifts in the direction of mental health policies.

Finally, quality of life assessment is well suited to the social work profession because it focuses on that basic social work tenet, the person-in-environment. The ability

of quality of life instruments to highlight the needs of individuals and client groups can aid social workers in their individual and collective casework functions. Quality of life assessments are also potentially useful to social workers in their advocacy and social change functions because, if used regularly, they can identify how risk groups are being affected by adjustments in social policies and resource allocations.

CHAPTER THREE

Method

In this chapter the methodology and procedures utilized in conducting the study are explained. The chapter is divided into five main sections, with the first section describing the target agency and programs from which the study sample was drawn. The next section delineates the design of the study, including the sample selection method. Section three discusses the quality of life instrumentation chosen for the study, while the fourth section outlines the procedures used in conducting the quality of life interviews with the participant sample. The final section identifies the data analysis methods.

The Target Agency and Programs

The target agency for this study was the Canadian Mental Health Association's (CMHA) Alberta South Central Region (ASCR) office in the City of Calgary. The CMHA is a national non-profit organization, that exists as a network of provincial and regional offices whose overall purpose is the promotion of mental health for Canadians. This mandate

is reflected in the following mission statement of the CMHA/ASCR:

The Canadian Mental Health Association is dedicated to enhancing, maintaining and promoting the mental well-being of all individuals. As a part of the Association, Alberta South Central Region has a mission focused on social change, education, and support services. The objective of our mission is the integration into society of persons recovering from mental disorders, the destigmatization of mental illness, and the promotion of mental health. (CMHA/ASCR, p. 4, 1994)

To achieve its mandate, CMHA/ASCR offers a range of programs for the general public and persons with chronic mental illness, including: (a) community education and resource services; (b) individual advocacy and social action; (c) suicide services; (d) and community support services.

The CMHA/ASCR is guided by the person-centred philosophy espoused in A New Framework for Support (Trainor, Pomeroy, and Pape, 1993). The programs are based on a wellness, rather than illness, approach to mental health, and are therefore consistent with the mental health continuum model found in Striking a Balance (Health and Welfare Canada, 1988). The CMHA/ASCR aspires to enhance the community resource base of persons with mental health problems (e.g., housing, education, work, and income). The organization also strives to enlist the active participation of its consumers in agency planning and decision-making.

This agency was selected as the target agency for this study because it offers three distinct types of community-

based housing programs for persons with chronic mental illness. The CMHA/ASCR agreed to endorse and support this study as part of their mandate to promote research in the mental health field, and because it was recognized that this research may have value in their program planning and decision-making. Pending the results of this study, the agency is considering the use of quality of life as an outcome measure to assist in their program evaluation process.

The community-based housing programs at the CMHA/ASCR are managed by the Community Supports Team. This team is responsible for the group homes, supervised apartments, and Independent Living Support (ILS) services, as well as other community support programming. In the following subsection, the three types of housing programs that were targeted in the study will be described. The program descriptions were developed through personal communications with the Community Supports Team administrators, from CMHA/ASCR marketing material, and from the Community-Based Service Proposal (Community Mental Health Services Planning Committee, 1993). The number of program spaces available in each of the target programs (as of December 1, 1994) can be found by referring to Table 2.1 in the previous chapter.

The Group Homes

The Community Supports Team operates the three group homes surveyed for this study. The group homes, Roberts

House, Hunter House and Marguerite House, are situated in different suburban neighbourhoods in the City of Calgary. They are owned by the Horizon Housing Society, a non-profit organization that provides housing for persons with disabilities, and leased to CMHA/ASCR. The CMHA/ASCR administers the group homes under Alberta's Social Care Facilities Licensing Act.

Roberts House provides transitional housing with twenty-four hour supervision and support from on-site staff. Marguerite House also provides transitional housing but supervision and support is only available on-site for twelve hours a day on weekdays. Assistance to Marguerite House residents on weekends and overnight is available by telephoning Roberts House on-site staff. This difference in on-site supervision and support implies that Roberts House is intended to house residents that require more staff support than the residents at Marguerite House. While there are no specified time limits on residential tenure at Roberts House and Marguerite House, residents are expected to eventually move into other parts of CMHA/ASCR's program continuum, or into an independent living situation.

Hunter House provides long-term housing for older persons with chronic mental illness. Most Hunter House residents have received mental health services for many years. The residents at Hunter House require less staff support than residents of the other two group homes because

they are considered more stable, and have acquired adequate levels of basic living skills. While on-site staff support is minimal at Hunter House, a staff person does maintain an office in the group home. Residents of Hunter House are requested to telephone Roberts House staff if they require assistance when the Hunter House on-site staff person is not available. Since Hunter House is long-term rather than transitional housing, the program is geared toward maintaining a resident's level of functioning in a community-based housing setting, as opposed to fostering functional gains that would lead to independent living.

Generally, residents at the group homes are expected to participate in meal planning and preparation, and basic household chores. In addition to the individualized services provided in conjunction with a resident's key worker, supportive counselling, advocacy services, conflict mediation, and skills development training are available at the group homes from on-site staff. Various social and leisure activities for the group home residents are also facilitated by on-site staff.

All group home residents have an individual service plan that is negotiated among the resident, their CMHA/ASCR key worker, and their psychiatric case manager. In the case of the group homes and supervised apartments, key workers are assigned when the individual enters the CMHA/ASCR housing system. A key worker may not necessarily be an on-

site staff person at the same group home where the resident lives.

In order to be accepted into the three group homes a residential candidate must meet the following criteria:

- 18 years of age or older
- primary diagnosis of mental illness
- under psychiatric/medical care with psychiatric case management
- self-medicating (medication monitoring available)
- demonstrate need for supportive housing services
- willingness to participate in the program and follow psychiatric treatment plan
(Community Mental Health Services Planning Committee, 1993, p. B3)

The group homes are completely furnished, although some personal furniture items are accommodated. Virtually all residents have their own private bedrooms. Residents are supplied with all basic amenities with the exception of personal toiletry items. The fees structure is a flat \$450.00 a month, which is comprised of \$320.00 for rent and \$130.00 for food and supplies.

The Supervised Apartments

The Community Supports Team oversees supervised apartment programs in two multi-storey apartment buildings in Calgary, Horizon 14 and Horizon West. The CMHA/ASCR leases the apartments from the Horizon Housing Society and acts as landlord to program consumers, in line with the regulations contained in Alberta's Residential Tenancies Act. The supervised apartments are non-congregated, that is, they are scattered throughout the two buildings. Only a

portion of the residents at Horizon West and Horizon 14 have chronic mental illness. CMHA/ASCR support staff are available for twelve hours a day on weekdays, at either the on-site offices or by telephone. On weekends and overnight, assistance is available by telephoning Roberts House on-site staff.

As with the group homes, each resident has an individualized service plan that they are actively involved in developing with their CMHA/ASCR key worker and case manager. The key worker may or may not be the on-site support staff person for the building in which the program consumer resides.

The apartment programs are identical at both sites. CMHA/ASCR on-site staff provide services similar to those at the group homes. While the program consumers are encouraged to attend a weekly group meeting with program staff and other consumers, it is not a prerequisite for receiving service. The apartments are transitional housing and the lengths of stay for residents is individually determined.

Horizon West and Horizon 14 form another part of CMHA/ASCR's continuum of services. Since there is less staff support in the supervised apartments than the transitional group homes, it is assumed by CMHA/ASCR that the consumers of the supervised apartment programs are generally more stable and have better basic life skills.

The acceptance criteria for the supervised apartments are the same as for the group homes.

The apartments are single or double occupancy units, and are furnished, although personal furnishing items are accommodated. The rent is \$250.00 per person for a double unit, and \$350.00 for single occupancy.

The Independent Living Support Program

Community Supports' ILS program provides a variety of outreach support services to persons with chronic mental illness who live independently in the community. The program and service goals include:

1. To assist individuals to live in the community.
2. To develop an individual service plan with each individual.
3. To provide supports and training for the maintenance and development of living skills in the areas of home management, money management, interpersonal relationships, leisure pursuits, and self-care.
4. To advocate for individuals when necessary to ensure they receive adequate care, treatment, services, and information. (Community Mental Health Services Planning Committee, 1993, p. 29)

ILS direct service staff have a caseload of twenty consumers whom they meet on a regular, but flexible, basis. In general, ILS service consumers receive one hour of service a week.

The ILS program is, in part, another transitional component in CMHA/ASCR's service continuum that fills the gap between other kinds of community-based housing (ie.

group homes and supervised apartments) and full independent living. However, the program also serves individuals that need ongoing support.

The program strives to meet the service needs of a variety of different consumers. For example, ILS will provide services to persons with chronic mental illness who have moved through the service continuum and are ready to attempt supported independent living. The ILS program is also designed to meet the service needs of individuals who have never entered the service continuum, or those "hard to serve" individuals who have experienced difficulty adapting to, or tolerating, the expectations of other more structured housing programs.

The acceptance criteria for ILS service are the same as previously noted for the group homes and supervised apartments, however there is some marginal flexibility. For example, some ILS consumers without a psychiatric case manager have received service in the past.

The Community Supports Team provides ILS services to the two small, long-term residences (Albert House and Keith House) and eight long-term apartments (Horizon Park) that are operated by the Horizon Housing Society. In the case of these residences the Horizon Housing Society is the landlord. These residential types vary from CMHA/ASCR's other group homes and supervised apartments because they are considered permanent housing and there are fewer program

expectations. The consumers in these residences receive ILS services in the same way as consumers who live in open market housing.

CMHA/ASCR's housing and ILS programs form a continuum of services where varying levels of supervision and support are provided. However, this service continuum differs from the linear continuum approach to housing described in Chapter Two, where the chronically mentally ill person moves through the service continuum from most restrictive to least restrictive, then to independence. In CMHA/ASCR's housing and support programs consumers can enter the service continuum at potentially any level where a space is available, and move to any level on the continuum that best meets their individual needs and service goals.

The Study Design

The study was conducted using a cross-sectional research design. A cross-sectional design studies a particular phenomenon by taking a one time cross-section (Rubin and Babbie, 1993). In this study the phenomenon involved persons with chronic mental illness utilizing three different types of supportive housing programs, while the one time cross-section was done using a quality of life assessment tool. Rubin and Babbie (1993) have indicated that cross-sectional designs are very popular in social work research, and can be used in conjunction with both

qualitative and quantitative research methodologies. The type of cross-sectional design used in this study was exploratory, and not intended to imply that causal relationships exist between housing programs and quality of life.

This type of study design was practically necessary because the consumer participants had already been in their particular housing situations for a period of time prior to the application of the quality of life assessment. As well, the options of random selection, random assignment of consumer participants into the different housing types, and the control of numerous intervening variables, was not possible. While there are admittedly shortcomings in the chosen design, other researchers have used a similar design approach in studies comparing quality of life among persons with chronic mental illness in different residential settings (e.g., Simpson et al., 1989; Oliver and Mohamad, 1992; Lehman et al., 1986; and Lehman et al., 1991).

Sample Selection

When the CMHA Regional Director was contacted about the proposed study, permission was granted that allowed access to CMHA/ASCR service consumers provided consumer participation was voluntary, an informed consent process would be utilized, and participant confidentiality would be protected. Once these conditions were assured, a presentation was made to CMHA/ASCR staff to explain the

study and request assistance in locating volunteer participants. After the presentation, letters of introduction were given to all the key workers and ILS staff for distribution to their consumer caseloads (Appendix A). This method of voluntary sample acquisition proved to be largely unsuccessful as only a handful of consumers chose to respond to the letter.

When the poor initial response threatened to jeopardize the entire study in its early stages, sub-sample targets were set as a way of identifying the approximate sample size that would permit a viable study. The targets chosen for each sub-sample were set at fifty percent of the capacity of the supervised apartment and ILS programs. Because of the relatively small capacity of the group home program, when compared to the two other programs, the group home sub-sample target was set at seventy-five percent of capacity. These targets meant that 16 was set for the group home sub-sample, 17 for the supervised apartment sub-sample, and 27 for the ILS sub-sample, for an overall sample of 60 participants. (Note: During the course of data collection the capacity of the ILS program expanded to 80 from 54.)

To meet these sub-sample targets and encourage voluntary participation in the study, the next strategy was to make group presentations to the residents of the group homes, as well as at the supervised apartment community meetings. This more personalized approach was more

successful than the first approach, particularly among the group home residents. Response from those who attended the community meetings at the supervised apartments was also good, however, because less than fifty percent of the residents chose to come the community meetings, the majority of apartment residents did not have the benefit of a presentation. Using the presentation method, virtually all of the voluntary participants in the group home and supervised apartment sub-samples were surveyed between January and April of 1993.

The ILS sub-sample could not be collected by the presentation method because there were no instances when ILS consumers were together in one place to allow for a presentation. In order to gather ILS volunteer participants, the collection strategy continued to involve encouraging ILS staff to inform their consumers about the study. When it was clear that there were not enough ILS volunteer participants to make the study viable, one of the Community Supports Team Leaders telephoned several ILS consumers to encourage them to consider participating in the study. Those ILS consumers who consented to give their telephone numbers to the researcher were then contacted and given the details about the study. Following this procedure, all of the ILS consumers who agreed to contact with the researcher subsequently consented to participate in the study. Due to the problems encountered in accessing ILS

consumers, the ILS sub-sample took far longer to collect than the other two sub-samples. The ILS sub-sample was collected between January of 1993 and September of 1994.

Quality of Life Instrumentation

The Quality of Life Questionnaire -- Respondent Self-Report Version (QLQ-RSR) (Bigelow, Gareau, and Young, 1991a) was the instrument selected for use in this study (Appendix E). This instrument consists of a structured interview that takes an average of three-quarters of an hour to administer. Objective and subjective data are obtained on fourteen life-domain scales divided into four groupings. The psychological distress, psychological well-being, tolerance of stress, total basic need satisfaction, and independence life-domain scales form the personal adjustment grouping. The interpersonal adjustment grouping includes the interpersonal interactions, spouse role, and social support life-domain scales. The work at home, employability, work on the job, and meaningful use of leisure time life-domain scales are included in the adjustment to productivity grouping. While the civic adjustment grouping consists of the negative consequences of alcohol use and the negative consequences of drug use life-domain scales.

The QLQ-RSR is one of the quality of life questionnaires that have been developed by Bigelow and associates in the State of Oregon. Although the Bigelow

questionnaires have not yet been utilized to compare the quality of life of persons with chronic mental illness in different community-based housing settings, as the Lehman et al. (1982) interview has, they have been used as outcome instruments to assess to effectiveness of Oregon's deinstitutionalization process (Bigelow, McFarland, Gareau, and Young, 1991c), and the effectiveness of a case management program (Bigelow and Young, 1991).

The QLQ-RSR was selected for a variety of reasons. The instrument has excellent face validity and a good level of overall internal consistency, although four of the life-domain scales do suffer from low internal consistency (Bigelow, McFarland, and Olson, 1991d). The QLQ-RSR has proven that it can discriminate between mental health clients and others groups of individuals, and that it is sensitive to treatment effects (Bigelow et al., 1991d). According to Bigelow et al. (1991d), this instrument has shown itself to be a valid measure of the quality of life construct.

In addition to the reasons listed above, the QLQ-RSR was selected because it is a stand alone instrument that does not require other instrumentation to measure symptomatology or attitudes. As well, the QLQ-RSR has been applied to a randomly selected community sample of 190 residents of the State of Oregon (Bigelow et al., 1991d). The quality of life scores from the community sample of

Oregonians provide a basis for comparisons with the quality of life scores of persons with chronic mental illness. Finally, the training package that comes with this instrument (Olson, Swayer, Stewart, and Bigelow, 1991) is extremely detailed and comprehensive, thereby ensuring that the interview and scoring procedures used in this study are consistent with those used in other studies with the same instrumentation.

The Interviews

The quality of life interviews most often took place in the residence of the volunteer participant, however, two participants were interviewed at a neutral site of their choosing. Most of the interviews at Marguerite House and Roberts House occurred in the on-site offices, rather than in the bedrooms of the volunteer participants. Fifty-nine of the 60 interviews were attended by the interviewer and the volunteer participant only. In one case, the volunteer participant requested that their ILS worker also be in the room during the interview. All of the interviews were conducted by the author.

The process for beginning each interview involved a brief explanation of the study's purpose to ensure that the volunteer participant had a clear understanding of the nature of the study and what their participation would entail. This discussion was followed by the reading and

signing of the consent form (Appendix B). The volunteer participants were given the option of having the interviewer read them the consent form aloud, if they desired.

Each consent form was individually coded and this code number was then used as the only identifying information placed on the participant's QLQ-RSR answer sheet (Appendix C). Participants were advised that the consent form and the answer sheet were the property of the author and that no identifying information would be given to CMHA/ASCR or any other agency or individual. In this way participant confidentiality was guaranteed.

The next step involved an explanation of how the QLQ-RSR would be conducted. Using an example, the structured interview process was described. Participants were told that the questionnaire included a number of different sections and that a statement indicating the section's focus would be read at the beginning of each section. Participants were then told that the individual questions in each section would be read aloud, followed by a reading of the range of available responses. Participants were instructed that their task was to choose the answer that best applied to them at that time.

Before beginning the QLQ-RSR, participants were asked to provide information about their personal characteristics in order to complete a demographic profile. It was explained that data concerning the personal characteristics

of the sample could be helpful in developing a further understanding the factors that influence quality of life. A demographic profile face sheet was developed specifically for this study (Appendix D). The demographic variables included: gender, ethnic origin, age, diagnosis, years since diagnosis, use of medication, housing program, single occupancy, and the time spent in the present housing arrangement. Additional demographic information, with respect to a participant's marital situation, income source, and employment situation, was collected through items in the QLQ-RSR.

The QLQ-RSR was conducted in accordance with the interview guidelines that accompanied the questionnaire package (Bigelow, Gareau, and Young, 1991b). These guidelines assist the interviewer in dealing with non-response situations by providing reworded questions and definitions for respondents with poor verbal skills. The guidelines also provide coding information for items when the respondent has refused to answer, cannot choose from the range of possible answers, or when the item does not apply to the respondent.

A short debriefing session followed the completion of the questionnaire portion of the interview. Participants were asked how they enjoyed the interview and whether they had any questions about it. Generally, participants responded that it was far easier than they had anticipated.

Finally, participants were told that they could contact the author through the CMHA/ASCR office if they had any further questions or concerns arising from the interview.

The average total interview time was a little less than one hour, with the longest interview taking almost 90 minutes and the shortest interview lasting 35 minutes.

Statistical Analyses

The scoring of the QLQ-RSR was accomplished using the scoring procedure and formulae provided in the training package (Olson et al., 1991). The process involved the conversion of participant responses into raw scores, then into intermediate scores, and finally into standard scores (Appendix F). The scoring was done by hand, however, the process was expedited by utilizing the conversion tables found in the training package. The higher scores on the life-domain scales of the QLQ-RSR reflect a better the quality of life.

The conversion of the intermediate scores into standard scores allowed for comparisons to be made with the community sample of randomly selected Oregonians. The means of the community sample scores have been preadjusted so that they have a numerical value of 50 on all the QLQ-RSR life-domain scales.

In order to address the two research questions a variety of descriptive and inferential statistics were

derived by utilizing SPSS for Windows (1993) computer software. Included in the descriptive statistics were computations of frequency distributions, central tendency, and variability for the three housing sub-samples and the overall sample. Descriptive statistics were collected for all of the QLQ-RSR life-domain scales and the demographic variables.

Univariate comparisons of the life-domain scale means for the three housing sub-samples were carried out using a one-way analysis of variance (ANOVA). One-way ANOVA is useful when assessing the significant differences between the means of two or more groups (Diekhoff, 1992). The assumptions of one-way ANOVA require at least interval measurement of the dependent variable, normal distribution of the dependent variable in all groups, and homogeneity of variance in all groups (Howell, 1989).

ANOVA was an appropriate test for this study because the three groups differed on the focal independent variable (housing situation), and because the life-domain scales use the interval level of measurement. While the normal distribution and homogeneity of variance assumptions were not completely met in this study, the robustness of ANOVA can overcome such violations (Diekhoff, 1992). Finally, one-way ANOVA was the inferential test of choice in other key comparative studies of quality of life (e.g., Bigelow et al., 1991d; and Simpson et al., 1989).

As part of the one-way ANOVA procedure, Levene's test for homogeneity of variance was employed to identify the life-domain scales where there was a lack of homogeneity. Harmonic mean procedures were also utilized to accommodate for the differences in the sizes of the sub-samples (Howell, 1989).

One-way ANOVA requires a post hoc comparison test in order to determine which group means produced a finding of significance (Diekhoff, 1992). The post hoc test chosen for this study was Tukey's HSD (Honestly Significant Difference) procedure, because of its relative strength in comparison to other post hoc tests (Keppel, 1982).

One-way ANOVA procedures were also utilized to assess the impact of selected demographic variables on the quality of life of the consumer participants. The selected variables included: age, diagnosis, years since diagnosis, and time spent in present housing arrangement. Age, years since diagnosis, and time spent in present housing arrangement were each recoded into three groups with an adequate sub-sample size to allow for one-way ANOVA procedures to be performed. Diagnosis was also recoded into three groups including: schizophrenia, bi-polar illness, and other. Other diagnostic categories were not chosen for this analysis because of the lack of adequate sub-sample size to allow the test to be potentially meaningful.

Gender and single occupancy were the other demographic variables selected for inferential testing. For these dichotomous variables, a *t*-test for independent samples was the test of choice. Like one-way ANOVA, the *t*-test for independent samples assesses significant differences between sample means, but it is employed when there are only two groups to test (Diekhoff, 1992).

CHAPTER FOUR

Results

This chapter reviews the pertinent results of the quality of life assessment of the participant sample in relation to housing situation and other selected demographic variables. The first section summarizes the demographic profiles of the overall participant sample and the group home, supervised apartment, and Independent Living Support (ILS) sub-samples. The second section presents the results of the quality of life assessment of the overall sample and the three housing sub-samples. Section three reviews the subsidiary analyses of selected demographic variables in relation to quality of life.

The Participant Sample

A demographic profile of each participant was assembled as part of the interview process. Table 4.1 summarizes most of the essential data that describes the sixty study participants.

The gender of the overall participant sample was almost evenly divided. Ages ranged from 21 to 61, with an mean age of 38 years. Schizophrenia was the predominant diagnostic

Table 4.1

The Demographic Profile of the Overall Sample

Demographic Variables	N=60
<u>Gender</u>	
male	28 (47)
female	32 (53)
<u>Age [mean]</u>	38
<u>Diagnosis</u>	
schizophrenia	27 (45)
bi-polar illness	14 (23)
borderline personality	1 (2)
multiple personality	2 (3)
anxiety disorder	2 (3)
other	11 (19)
unknown	3 (5)
<u>Years Since Diagnosis [mean]</u>	10
<u>Single Occupancy</u>	
yes	32 (53)
no	28 (47)
<u>Months in Housing [mean]</u>	26
<u>Primary Income Source</u>	
AISH	47 (79)
social assistance	5 (8)
disability pension	2 (3)
other	6 (10)
<u>Marital Situation</u>	
never married	40 (67)
widowed	1 (2)
divorced	14 (23)
separated	3 (5)
married	2 (3)
<u>Employment</u>	
not employed	52 (87)
irregular [<17 hours weekly]	2 (3)
part-time [17-34 hours weekly]	3 (5)
full-time [35+ hours weekly]	3 (5)

Note: Percentages appear in brackets (%) and total 100 for applicable variables.

category (45%), followed by bi-polar illness (23%), and other (19%). The elapsed time since being diagnosed ranged from 1 to 39 years, and averaged 10 years. Two participants were unable to provide an estimate of how long it had been since they were diagnosed. Slightly over half of the participants lived alone. The time spent in present housing situation ranged from 1 month to 14 years, with a mean of a little over two years. Assured Income for the Severely Disabled (AISH) was the primary source of income for almost four out of five participants. Two-thirds of the sample were never married, while 23 percent were divorced. Only two participants reported that they were currently married. Almost 90 percent of the participants were not employed.

Demographic data that does not appear in Table 4.1 includes information on ethnic origin and medication. The ethnic origin of the participant sample was predominantly white (97%). Two black consumers were the only non-white participants. All of the study participants reported taking prescribed medications as part of their psychiatric treatment.

The Housing Sub-Samples

In Table 4.2 the demographic profiles of the three housing sub-samples are summarized.

There were differences on gender among the three housing sub-samples. While the group home and ILS sub-samples each had more female participants than male

Table 4.2

The Demographic Profile for Housing Situation

Demographic Variables	Group Homes n=18	Supervised Apartments n=16	ILS n=26
<u>Gender</u>			
male	8 (44)	10 (63)	10 (38)
female	10 (56)	6 (37)	16 (62)
<u>Age [mean]</u>	39	38	37
<u>Diagnosis</u>			
schizophrenia	12 (67)	7 (44)	8 (31)
bi-polar illness	2 (11)	6 (38)	6 (23)
borderline personality			1 (4)
multiple personality			2 (8)
anxiety disorder		1 (6)	1 (4)
other	4 (22)	2 (12)	5 (19)
unknown			3 (11)
<u>Years Since Diagnosis [mean]</u>	12	9	8
<u>Single Occupancy</u>			
yes		9 (56)	23 (89)
no	18 (100)	7 (44)	3 (11)
<u>Months In Housing [mean]</u>	22	26	28
<u>Primary Income Source</u>			
AISH	14 (78)	13 (81)	20 (77)
social assistance	2 (11)	2 (13)	1 (4)
disability pension	2 (11)		
other		1 (6)	5 (19)
<u>Marital Situation</u>			
never married	11 (61)	11 (70)	18 (69)
widowed		1 (6)	
divorced	5 (28)	2 (12)	7 (27)
separated		2 (12)	1 (4)
married	2 (11)		
<u>Employment</u>			
not employed	17 (94)	15 (94)	20 (76)
irregular [<17 hours weekly]			2 (8)
part-time [17-34 hours weekly]		1 (6)	2 (8)
full-time [35+ hours weekly]	1 (6)		2 (8)

Note: Percentages appear in brackets (%) and total 100 for applicable variables within the housing categories.

participants, the supervised apartment sub-sample included more males than females.

The mean ages for the three sub-samples were similar, with the average age of group home participants being slightly older and the ILS participants slightly younger than the supervised apartment participants. While the range in ages was similar for the group home (21 to 61 years) and the ILS sub-samples (24 to 58 years), there was less range in the ages of the supervised apartment participants (32 to 49 years).

Schizophrenia was the most frequently reported diagnosis among the three housing sub-samples. Bi-polar illness was the second most frequently reported diagnosis in all three housing groups. Bi-polar illness was reported almost as often as schizophrenia among the supervised apartment and ILS sub-samples. There was greater variety of diagnoses reported in the ILS sub-sample, when compared with the other two housing sub-samples.

The mean elapsed time since diagnosis was similar among the supervised apartment (9 years) and ILS sub-samples (8 years), while the group home sub-sample's mean on this variable was the highest (12 years). The range of time since diagnosis was similar among the group home (1 to 39 years) and supervised apartment (1 to 35 years) participants, with less variability among the ILS participants (1 to 20 years). The two participants who

could not estimate how long it had been since they were diagnosed were among the ILS sub-sample.

Regarding the sharing of accommodation, by definition none of the group home sub-sample lived alone, while slightly more than half of the supervised apartment participants reported that they lived alone. Single occupancy was reported by 23 (89%) of the ILS participants, with only 3 (11%) participants living in shared accommodation.

The mean for time spent in current housing arrangement was similar among the supervised apartment (26 months) and ILS participants (28 months), and slightly less for the group home participants (22 months). However, there were differences with respect to the range reported by each sub-sample (group homes, 1 to 60 months; supervised apartments, 1 to 96 months; and ILS, 1 to 165 months).

The percentage of participants whose primary source of income was reported to be AISH was similar across the three sub-samples (approximately 80%). The ILS sub-sample differed for the group home and supervised apartment sub-samples in the number of participants who reported a source of income (19%) other than AISH, social assistance, or disability pensions.

Sixty to 70 percent of the participants in the three sub-samples had never been married. All but two of the participants who had been married reported that they were

now separated, divorced, or widowed. The two participants from the group home sub-sample who reported being married were not living with their spouses at the time of the interviews.

The data for the employment variable was garnered from the opening question on the adjustment to work life-domain scale. The group home and the supervised apartment sub-samples reported similar rates of unemployment (94%). The unemployment rate of the ILS sub-sample was appreciably less (76%), which explains why there were more other sources of income reported among this group on the variable, primary income source.

Regarding the variable, ethnic origin, which does not appear in Table 4.2, two black participants were part of the ILS sub-sample. All other participants in the three sub-samples were white.

The Three Housing Sub-Samples Compared

Table 4.3 summarizes the data for the group home, supervised apartment, ILS sub-samples, and the overall sample on twelve of the life-domain scales in the Quality of Life Questionnaire -- Respondent Self-Report Version (QLQ-RSR). Two other life-domain scales, spouse role and adjustment to work, were not analyzed due to the small numbers of study participants who reported being married or employed.

Table 4.3

Means (standard deviations) of QLQ-RSR Standard Scores
for Housing Situation and the Overall Sample

Life-Domain Scales	Group Homes	Supervised Apartments	ILS	Overall
Psychological distress	46 (9.2)	45 (12.3)	42 (14.7)	44 (12.6)
Psychological well-being	51 (5.4)	45 (11.6)	43 (13.0)	46 (11.2)
Stress tolerance	37 (12.4)	39 (14.2)	35 (11.8)	37 (12.5)
Satisfaction of basic needs-1,2	53 (8.5)	45 (8.0)	44 (9.9)	47 (9.6)
Independence	41 (11.2)	46 (11.6)	41 (11.1)	42 (11.2)
Interpersonal interactions-1	46 (9.3)	40 (11.0)	39 (7.4)	41 (9.4)
Social support	49 (7.5)	49 (12.4)	43 (8.9)	46 (10.0)
Adjustment to work at home-1,2	38 (5.4)	54 (6.9)	50 (8.3)	47 (9.6)
Employability	38 (9.3)	33 (9.4)	32 (13.1)	34 (11.2)
Meaningful use of leisure time	54 (11.2)	49 (11.9)	51 (13.4)	51 (12.3)
Negative consequences of alcohol use	48 (13.9)	46 (11.5)	51 (7.2)	48 (10.8)
Negative consequences of drug use	32 (24.1)	32 (34.5)	34 (25.9)	33 (27.5)

1. $p \leq .05$, group home vs. ILS.

2. $p \leq .05$, group home vs. supervised apartments.

Psychological Distress

The mean for psychological distress for the group home sub-sample was the highest, followed by the supervised

apartment and ILS sub-samples, respectively. Since higher scores indicate a better quality of life, the group home participants reported a better life quality on this life-domain scale. The differences between the means for the three sub-samples were not significant. The standard deviations reveal greater variability on this life-domain scale among the ILS and supervised apartment sub-samples, than for the group home sub-sample.

There was a missing score among the supervised apartment sub-sample on this life-domain scale due to a refusal to respond on one item (Olsen et al., 1991).

Psychological Well-Being

The group home sub-sample mean was higher on psychological well-being than the means for the other two sub-samples. The standard deviations of the three groups reveals greater variability among the ILS and supervised apartment sub-samples. There was little variance in the scores of the group home participants.

Stress Tolerance

The means for the scores on stress tolerance were similar for all three groups, with the supervised apartment participants reporting a slightly better quality of life on this life-domain scale, followed by the group home and ILS sub-samples. However, no significant differences were found between the means. The standard deviations for the three

sub-samples were also similar. The individual scores for all three sub-samples were widely dispersed.

One missing score was observed among the supervised apartment participants, while there were four missing scores each in the group home and ILS sub-samples. The missing scores resulted from participants responding that they felt no stress on three of the four items for this life-domain scale (Olsen et al., 1991).

Satisfaction of Basic Needs

An examination of the means for scores on this life-domain scale revealed that group home participants reported a better quality of life than did the supervised apartment and ILS sub-samples. A one way analysis of variance (ANOVA) test comparing the means showed the differences to be significant at the $p \leq .05$ level (Table 4.4). The Tukey HSD (Honestly Significant Difference) test was used post hoc, and found significant differences between the group home mean, and the means of both other sub-samples. The means for the supervised apartment and ILS sub-samples were similar. The standard deviations of all three sub-samples were similar, however, there was a wider range of scores observed among the ILS participants (19 to 61), in comparison to the other two sub-samples, with more low scores observed. The range of individual scores in the group home (32 to 65) and supervised apartment (32 to 58)

sub-samples were similar, but more high scores were observed among the group home participants.

Table 4.4

Summary Table for ANOVA for Satisfaction of Basic Needs
as a Function of Housing Type

Source of Variation	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between housing types	2	808.4	404.2	4.94	.0105
Within groups	57	4665.6	81.9		
Total	59	5474.0			

Independence

The supervised apartment sub-sample's mean for scores on independence was higher than both the ILS and group home sub-samples, however, these differences were not significant. The standard deviations for the three housing types were similar.

Interpersonal Interactions

The mean of the scores for the group home sub-sample on this life-domain scale was higher than the means of both the ILS and supervised apartment sub-samples. The one way ANOVA (Table 4.5), with Tukey HSD used post hoc, found that there was a significant difference between the group home and ILS means at the $p \leq .05$ level. An examination of standard deviations reveals greater variability in the scores of the supervised apartment participants on interpersonal interactions, when compared with the scores of the other two sub-samples.

Table 4.5

Summary Table for ANOVA for Interpersonal Interactions
as a Function of Housing Type

Source of Variation	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between housing types	2	572.9	286.5	3.51	.0365
Within groups	57	4650.0	81.6		
Total	59	5223.0			

Social Support

The means were similar for the group home and supervised apartment sub-samples, with both sub-samples recording a better quality of life on the social support life-domain scale than the ILS sub-sample. A one way ANOVA found that there were significant differences in the means of the three sub-samples at the $p \leq .05$ level (Table 4.6), however, Tukey HSD post hoc did not confirm that the differences were significant. The standard deviations indicate greater variability in the scores of the supervised apartment sub-sample on social support, than for the group home and ILS sub-samples.

Table 4.6

Summary Table for ANOVA for Social Support
as a Function of Housing Type

Source of Variation	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between housing types	2	616.2	308.1	3.35	.0421
Within groups	57	5241.4	92.0		
Total	59	5857.6			

Adjustment to Work at Home

The supervised apartment and ILS participants reported a better quality of life on this life-domain scale than did the group home sub-sample, with the supervised apartment sub-sample recording the highest mean of the three housing types. A one way ANOVA found significant differences, between the means at the $p \leq .05$ level (Table 4.7), while the Tukey HSD post hoc test identified that these differences occurred between the group homes and both other housing types. An examination of the standard deviations indicated similar amounts of variability for the three groups, with the ILS sub-sample showing the widest dispersion of scores. The range of individual scores for the three sub-samples were dissimilar. The scores ranged from 30 to 47 for the group home sub-sample, 44 to 68 for the supervised apartment sub-sample, and 30 to 65 for the ILS sub-sample.

Table 4.7

Summary Table for ANOVA for Work at Home
as a Function of Housing Type

Source of Variation	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between housing types	2	2456.0	1228.0	23.78	.0000
Within groups	57	2943.4	51.6		
Total	59	5399.4			

Employability

The means for the employability life-domain scale revealed a better quality of life among the group home

participants. The means for the ILS and supervised apartment sub-samples were similar. No significant differences were found between the means of the three housing types. The standard deviations for the group home and supervised apartments showed similar dispersion of scores. The greatest variability was observed among ILS participants. Individual scores ranged from 18 to 64 for the group home sub-sample, 15 to 51 for the supervised apartment sub-sample, and -3 to 65 for the ILS sub-sample.

Meaningful Use of Leisure Time

The means for the three housing sub-samples on meaningful use of leisure time were all similar, with no significant differences found. The standard deviations showed similar variability within each housing type. The ILS sub-sample recorded the widest dispersion of individual scores (15 to 72), among the sub-samples.

Negative Consequences of Alcohol Use

A comparison of the means for this life-domain scale suggested a better quality of life among the ILS participants, with the supervised apartment sub-sample experiencing the most negative consequences from using alcohol. However, there were no significant differences found between the three housing sub-samples. The standard deviations indicated that there was less variability among the ILS participants, when compared to the group home and supervised apartment sub-samples.

Participants who had not consumed alcohol in the month prior to being interviewed were excused from answering questions on this life-domain scale. The scores for these participants on this scale were recorded as missing values. In all 25 participants were among this missing values group, 8 participants in the group home sub-sample, 5 in the supervised apartment sub-sample, and 13 in the ILS sub-sample. The results must therefore be viewed within the context of the substantially reduced sub-samples sizes.

Negative Consequences of Drug Use

The means of the scores for negative consequences of alcohol use for the three housing types were similar, with the ILS sub-sample reporting a slightly better quality of life. There were no significant differences in the means for this life-domain scale. The standard deviations revealed great variability in all three sub-samples, with the supervised apartment sub-sample showing the widest dispersion of individual scores. The degree of dispersion is exemplified in an examination of the ranges of scores for all three sub-samples, with the supervised apartment sub-sample recording the widest range (-83 to 63), followed by the ILS (-54 to 53) and group home (-29 to 53) sub-samples. Despite the low means, it should be noted that one-third of the overall sample had scores of 53 or more on this life-domain scale.

A Community Sample and the Study Samples Compared

The study sample means can best be put into perspective when compared with the adjusted means of the randomly selected community sample of Oregonians, which were set at 50 for each life-domain scale. While average Calgarians or Albertans might not yield similar means if assessed using this quality of life instrument, the use of the Oregon community sample means does provide a reference point with which to compare the study samples and a general community sample.

The means of the ILS sub-sample were the same or higher than the means of the community sample for adjustment to work at home, meaningful use of leisure time, and negative consequences of alcohol. However, the ILS sub-sample means were well below those of the community sample for the other nine life-domain scales, including: psychological distress, psychological well-being, stress tolerance, satisfaction of basic needs, independence, interpersonal interactions, social support, employability, and negative consequences of drug use.

The supervised apartment sub-sample registered means for social support, adjustment to work at home, and meaningful use of leisure time, that were close to or above the means of the community sample. The supervised apartment sub-sample means for psychological distress, psychological well-being, satisfaction of basic needs, independence, and

negative consequences of alcohol were slightly below the community sample means. The means for stress tolerance, interpersonal interactions, employability and negative consequences of drug use were all well below the community sample means.

The group home sub-sample compared best of the three housing types with five life-domain scale means close to or above the means for the community sample, including: psychological well-being, satisfaction of basic needs, social support, meaningful use of leisure time, and negative consequences of drug use. The psychological distress and interpersonal interactions life-domain scale means were slightly below the community sample means, while stress tolerance, independence, adjustment to work at home, employability, and negative consequences of drug use were well below the community standard for quality of life.

The overall study sample generally had a poorer quality of life than the community sample. Meaningful use of leisure time was the only life-domain scale mean for the overall sample that equalled or surpassed the community sample mean. The overall sample means on the life-domain scales for psychological well-being, satisfaction of basic needs, social support, adjustment to work at home, and negative consequences of alcohol use were slightly below the means of the community sample. The overall sample means on the psychological distress, stress tolerance, independence,

interpersonal interactions, employability, and negative consequences of drug use life-domain scales were all well below the community sample means.

Subsidiary Analyses of Selected Demographic Variables

Age was tested to determine its influence on quality of life. The overall sample was divided into three age groupings with an adequate sample size to allow a one way ANOVA test to be performed. Group one ranged from 18 to 31 years ($n=15$), the second group ranged from 32 to 42 years ($n=29$), and the third group included participants 42 years of age and over ($n=16$). There were no significant differences found between the three age groupings on the twelve life-domain scales (Appendix G).

The influence of diagnosis on quality of life was also examined. Three diagnostic categories, including schizophrenia ($n=27$), bi-polar illness ($n=14$), and all other diagnoses ($n=19$), were tested using one-way ANOVA procedures. The means of both the schizophrenia (40) and the bi-polar illness (40) sub-samples were found to differ significantly from the all other diagnoses sub-sample at the $p \leq .05$ level, on the stress tolerance life-domain scale (Table 4.8), however, post hoc analysis using Tukey HSD could not confirm this finding. There were no other life-domain scales where significant differences were found (Appendix G).

Table 4.8

Summary Table for ANOVA for Stress Tolerance
as a Function of Diagnosis

Source of Variation	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between diagnoses	2	1067.3	533.7	3.77	.0302
Within groups	48	6795.9	141.6		
Total	50	7863.2			

The influence of time since diagnosis on quality of life was also examined. The overall sample was divided into three sub-samples of an adequate size to allow a one way ANOVA procedure to be performed. Group one had been diagnosed for 4 years or less ($n=20$), a second group had been diagnosed for from 5 to 12 years ($n=21$), and a third group of participants had been diagnosed for 13 years or more ($n=19$). Significant differences at the $p \leq .05$ level were found between the means of the second group (47) and the first group (38) on the life-domain scale for independence (Table 4.9). The mean of group three (41) on this life-domain scale fell between the means of the two other groups. There were no other significant findings for this variable for the other life-domain scales (Appendix G).

Table 4.9

Summary Table for ANOVA for Independence
as a Function of Time Since Diagnosis

Source of Variation	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	2	745.2	327.6	3.16	.0495
Within groups	57	6702.1	117.6		
Total	59	7447.3			

The length of time spent in current housing arrangement was tested to determine if that variable influenced the quality of life of the participants. The overall sample was divided into three groups that were distinct in terms of the length of time they had spent in their current housing arrangement. Group one had spent from 1 to 7 months ($n=22$) in current housing, group two from 8 to 29 months ($n=19$), and a third group had lived in current housing for 30 months or more ($n=19$). There were no significant differences found between the means of these groups on any of the life-domain scales (Appendix G).

The influence of gender on quality of life was tested using a t -test for independent samples and no significant differences were found in the mean scores (Appendix G).

The variable pertaining to shared occupancy versus single occupancy was also examined in relation to quality of life. Using a t -test for independent samples, with a two-tailed significance level of $p \leq .05$, significant differences were found between the means on four life-domain scales including, satisfaction of basic needs, social support, employability, and adjustment to work at home (Appendix G). For satisfaction of basic needs, social support, and employability, the highest means were recorded by the participants who lived in shared accommodations. For the adjustment to work at home scale, the highest mean was recorded by the single occupancy sub-sample.

CHAPTER FIVE

Discussion

This final chapter reviews the study and discusses the implications of the findings. The chapter begins with a summary of the study's results, in relation to the research questions, and offers possible explanations for these findings. The second section discusses the limitations of the study. The practical implications of the study's results for the target agency are then reviewed. In the fourth section, the theoretical implications of the results are addressed. Recommendations for future research are then considered, followed by a discussion of the implications for social work practice. The chapter ends with some concluding remarks concerning the challenges of meeting the service and quality of life needs of persons with chronic mental illness.

Summary of Results

The demographic profiles of the consumer participants indicated that the three housing sub-samples differed appreciably on the variables, diagnosis and single occupancy. The group home sub-sample had the least number

of diagnostic categories, while the Independent Living Support (ILS) sub-sample included the widest variety of diagnoses. The supervised apartment sub-sample fell between the two other sub-samples for the number of diagnostic categories. Most of the ILS sub-sample lived alone, while all of the group home participants lived in shared accommodation by virtue of that housing program's design. The participants in the supervised apartment sub-sample were almost evenly split between single occupancy units and shared accommodations.

The three sub-samples differed to a lesser degree on gender, time since being diagnosed, employment, and time spent in current housing arrangement. The sub-samples were similar on the variables, age, income source, and marital situation.

It can therefore be concluded that the three housing sub-samples varied somewhat from one another. The group home sub-sample was more homogeneous than the other two sub-samples, while the ILS sub-sample was the most diverse.

Research Question One

The first research question asked whether persons with chronic illness living independently in the community with outreach support (ILS) experienced a better quality of life when compared with persons in more structured housing (group homes and supervised apartments)? This question was premised on the consumer preference literature which has

indicated that most persons with chronic mental illness would prefer to live independently (Tanzman, 1993).

The study found that, of the twelve life-domain scales assessed for the independent variable (housing situation), using the QLQ-RSR, the group home sub-sample had the highest mean scores on six of the scales (psychological distress, psychological well-being, satisfaction of basic needs, interpersonal interactions, employability, and meaningful use of leisure time). The supervised apartment sub-sample scored highest on three life-domain scales (stress tolerance, independence, and adjustment to work at home), while the ILS sub-sample had higher means on only two life-domain scales (negative consequences of alcohol use, and negative consequences of drug use). The group home and the supervised apartment sub-samples were tied for the highest mean on the remaining life-domain scale (social support).

Regarding the four life-domain scale groupings, the group home sub-sample recorded the highest means for most of the life-domain scales in the personal adjustment, interpersonal adjustment, and adjustment to productivity groupings. The supervised apartment sub-sample had the highest means for the remaining life-domain scales in the three groupings mentioned above. The ILS sub-sample recorded the highest means for the two life-domain scales in the civic adjustment grouping.

Significant differences in the means, at the $p \leq .05$ level, were found between the group homes and the other two housing types for the life-domain scale, satisfaction of basic needs, and between the group home and ILS sub-samples for the interpersonal interactions scale. The supervised apartment and ILS sub-samples recorded significantly higher means than did the group home sub-sample for the life-domain scale, adjustment to work at home.

While acknowledging the lack of statistical significance on most of the life-domain scales, the trend in these results suggests that the quality of life of the consumer participants residing in the group homes was generally better than that experienced by participants in the supervised apartment and ILS programs. The ILS participants, generally reported the poorest life quality of the three housing types. Therefore, this study's findings do not support the supposition of the first research question, that persons with chronic mental illness living in independent housing have a better quality of life.

The findings of this study may, in part, be explained by the nature of the three housing programs, in conjunction with the characteristics of the consumers that the programs serve. Although the qualifying criteria for the three programs is essentially the same, the programs are designed to serve consumers with different supervision and support needs.

Group home residents generally have daily contact with CMHA/ASCR staff, particularly on-site staff, although frequency does vary somewhat from group home to group home. Group home residents are obliged to participate in the program related activities that form the essential structure of the group home experience (e.g., doing daily household chores, and attending compulsory weekly planning meetings). As well, the peer pressure and on-site staff influence on group home residents to participate in group activities and outings would be greater than for the ILS and supervised apartment programs.

For the supervised apartment consumers, staff contact occurs at a frequency more similar to the ILS program (about one hour per week) than to the group home program. While supervised apartment consumers can have more staff contact by attending the twice monthly community meetings, these meetings are not compulsory. Peer pressure has a limited effect for those consumers choosing not to have contact with other supervised apartment consumers in the building. The level of program involvement for supervised apartment consumers is individually motivated and therefore varies markedly.

The ILS consumers have the least CMHA/ASCR staff contact of the three programs. Because of the caseload size for each of the ILS workers (approximately 20), more than once a week contact is often impossible. Opportunities to

meet with peers in the ILS program is limited, although there are some opportunities for those who are motivated.

The more structured and intensive nature of the group home program would presumably have a far greater influence on the life quality of group home consumers than would be the case in either of the other two programs. The supervised apartment program, which offers a subsidized rent structure and furnished apartments, as well as flexible opportunities for support, may exert some positive influence on quality of life for that program's consumers. However, supervised apartment consumers would likely have more external influences on their life quality than group home consumers.

The ILS consumers are the most exposed of the three housing types to external influences on their quality of life. These influences would include the free market, in terms of the quality of their housing and furnishings, as well as the cost of rent. Other external influences would include the availability of non-program support, personal safety concerns, and the accessibility of services (e.g., grocery stores, banks, transportation, leisure and recreation facilities). Of the three programs, the consumers in the ILS program are more vulnerable to non-program influences on their quality of life.

Another related explanation for the higher mean scores among the group home participants could be associated with

the specialized nature of these group homes as residential treatment milieus. Successfully living with six to eight other people, whether one suffers from mental illness or not, takes a certain amount of cooperation, patience, sensitivity, and adherence to structure and rules. Group home consumers must be comfortable sharing responsibilities with others and also with being dependent on staff to ensure that medications are properly dispensed (when necessary), groceries and supplies are purchased, the household bills are paid, and personal safety is guaranteed.

The prospective group home residents who feel that they do not have the requisite personality requirements to live in a group home often self-select out of this housing option at intake or before. Individuals who decide to reside in a group home, but do not adapt well to the environment, tend to have a short tenure, by choice, or exhibit behaviours that result over time in their being given a notice to vacate by on-site staff. As there is little turnover among group home residents, partially because of the lack of available housing options in the Calgary community, the group homes tend to be fairly stable, with residents often developing strong attachments to on-site staff, their fellow residents, and to the home itself. The result is a fairly homogeneous group home population, as this sub-sample's demographic profile has demonstrated, that appears to be well matched to their group home environments.

Cournos (1987), and Downs and Fox (1993), have reported the importance of residential environmental variables on the treatment outcomes of persons with chronic mental illness. Perhaps the higher life-domain scale means for the group home sub-sample, reflect that the group home consumers, through a combination of self-selection and staff selection, are better matched with an environment that meets their needs than the consumers of the supervised apartment and ILS programs. Staff selection is more prevalent in the group home programs than the other two programs because of the desire among on-site staff to maintain a stable, relatively stress-free environment for residents who must live in such close proximity to one another.

Research Question Two

The second research question flows from the first, and simply invites exploration of the quality of life similarities and differences among the consumers of the three housing types. The purpose of this second question was to identify the life-domain areas where CMHA/ASCR program planners and staff could possibly focus their efforts to improve the life quality of the their program consumers.

There were minimal differences in the means across the three housing types on six life-domain scales: psychological distress, meaningful use of leisure time, negative consequences of alcohol use, stress tolerance, employ-

ability, and negative consequences of drug use. In the case of the latter three scales, the means were in the 30s, well below the community sample means (50), implying the need for particular attention to be paid to these life-domain areas.

The stress tolerance life-domain scale assesses an individual's coping skills in dealing with feeling upset, depressed, frustrated, or frightened (Bigelow et al., 1982). High stress levels have been found to play a significant role in increasing psychopathology among persons with mental illness (Segal and VanderVoort, 1993). Programming that focuses on the development of effective coping techniques could improve quality of life for those consumers who experience difficulties in this life-domain area.

The life-domain scale for negative consequences of drug use assesses the impact of drugs (both prescribed and illicit) on an individual's mood, health, behaviour, and role performance (Bigelow et al., 1982). Almost half of the participant sample recorded scores on this life-domain scale of less than 40, with six participants recording negative scores. The similarity of means across the three sub-samples indicated that all three groups had significant problems with their prescribed medications. None of the participant sample indicated any recent use of street drugs.

The life-domain scale for employability measures an individual's knowledge and skills that would enable them to locate and maintain an employment situation (Bigelow et al.,

1982). It is noteworthy that on employability, the group home sub-sample mean was considerably higher than the means of the two other sub-samples. This would imply that the group home participants feel more employable than the participants from the other two less structured programs. Perhaps the confidence the group home participants felt in terms of their knowledge and abilities was somewhat inflated, while the participants from the other programs were more realistic because they are more exposed to the community.

The meaningful use of leisure time life-domain scale examines how constructively an individual's discretionary time is spent, and how well this meets their needs (Bigelow et al., 1982). The mean scores for the three sub-samples, when compared to the community sample, would indicate that the majority of participants make reasonable use of their leisure time. However, the variability within each of the sub-samples indicates that some consumers may require assistance in this life-domain area.

Like the negative consequences of drug use life-domain scale, the negative consequences of alcohol use scale assesses the influence of alcohol on mood, health, etc. (Bigelow et al., 1982). The means were at or near that of the community sample mean for all three housing types. Almost half of the participants reported not drinking alcohol in the month prior to being interviewed. Only six

participants recorded scores below 40. Problems with alcohol use would appear to affect a very small percentage of the overall sample. However, given the potential dangers of mixing alcohol and psychotropic medications, the identification and treatment of these individuals should be a priority.

The psychological distress and psychological well-being life-domain scales should yield similar scores within each of the sub-samples, since one is intended to be the converse of the other (Bigelow et al., 1982). The means were consistent across these two life-domain scales for the supervised apartment and ILS sub-samples, however, for the group home sub-sample these means were different. The three sub-samples reported relatively similar amounts of psychological distress, in the form of anxiety, depression, hostility, alienation, gastric disturbances, and sleeping problems. However, the group home sub-sample indicated feeling optimism, pleasure, calmness, and contentment, at the level similar to that of the community sample. Perhaps the feelings of well-being in the group home sub-sample speaks to the comfort they feel in the environment, with its mixture of dependency on staff and interdependency among residents.

The life-domain scale for satisfaction of basic needs assesses an individual's satisfaction with respect to housing, finances, transportation, and access to medical

services (Bigelow et al., 1982). The means for this life-domain scale showed the needs of the group home sub-sample being met at a level above the community sample mean, while the other two sub-samples scored markedly lower than the group home sub-sample and community sample. The higher mean for the group home sub-sample may relate to how well their basic needs are satisfied by on-site staff and through shared responsibilities with other residents. The supervised apartment and ILS sub-samples meet more of their basic needs by themselves as there is less staff support and most of these participants live alone.

The life-domain scale, adjustment to work at home, measures an individual's ability to shop, prepare meals, do house cleaning and renovations, and to budget (Bigelow et al., 1982). The means for the adjustment to work at home scale showed the supervised apartment and ILS sub-samples were similar or above the community sample mean, while the group home sub-sample mean was well below that of the community sample. These results exemplify the degree to which group home participants share household activities or have specific activities, such as shopping and household budgeting, done for them by on-site staff.

The independence life-domain scale assesses an individual's capacity to live in the community, make decisions, and deal with the difficulties of everyday living (Bigelow et al., 1982). The results showed the supervised

apartment sub-sample to be the most independent of the three sub-samples, with a mean approaching that of the community sample. One would have expected a lower mean on independence for the group home participants because of the level of interdependency among residents and dependency on staff, but the low mean for the ILS sub-sample was surprising. Perhaps the lack of available supports (formal and informal) and resources (financial) have left a significant percentage of the ILS participants immobilized by their circumstances.

The life-domain scale for interpersonal interactions assess how often the individual interacts with people in general, the quality of those interactions, and the individual's comfort level (Bigelow, et al., 1991a). As would be expected, the group home sub-sample recorded the highest mean. The supervised apartment and ILS sub-samples had similar scores. Clearly, a lack of regular, casual contact with people was evident among the supervised apartment and ILS participants, where there is less staff and peer contact.

The social support life-domain scale assesses the level of support that an individual receives from friends, family, and the community (Bigelow et al., 1991a). The means for the social support scale were identical for the group home and supervised apartment sub-samples, and were close to the mean for the community sample. The mean for the ILS sub-

sample was appreciably lower than the means of the other sub-samples and the community sample mean. Adequate support systems would appear to be lacking among ILS consumers.

The Influence of Demographic Variables on Quality of Life

The subsidiary analyses of the selected demographic variables revealed that age, gender, time spent in current housing arrangement, and diagnosis did not significantly influence quality of life scores, at least not in isolation from other variables. It is noteworthy, however, that the age sub-sample that included participants over the age of 41 years tended to have higher means on most life-domains. On gender, males tended to have higher life-domain mean scores than females.

The time in current housing sub-sample that had been in their particular housing arrangement for between 8 and 29 months had generally higher life-domain scale means than did the sub-samples that had spent less than 8 months or more than 29 months.

Time since diagnosis significantly influenced the independence life-domain scale means, with the sub-sample that had been diagnosed for between 5 and 12 years scoring highest. The 5 to 12 year sub-sample scored higher on more of the life-domain scales than did the sub-sample that had been diagnosed for less than 5 years and the sub-sample that had been diagnosed for more than 12 years.

Whether a participant lived in shared occupancy or single occupancy significantly influenced quality of life on four life-domain scales. The higher means recorded by the shared occupancy sub-sample for the satisfaction of basic needs, employability, and social support life-domain scales seems to correspond with higher means on these scales for the group home sub-sample. The higher means scored by the single occupancy participants for the work at home life-domain scale seems to correspond with the high means of the supervised apartment and ILS sub-samples on this scale. These findings imply that both shared and single occupancy accommodation may influence certain quality of life domains for persons with chronic mental illness. However, the program effects, particularly for those participants in group homes, likely supersedes the influence of this variable.

In summary, this study's findings confirm that the quality of life of persons with chronic mental illness is subject to multiple influences, one of which is housing type or program. The trends evident in these results suggest that the influence of housing programming on the quality of life of the program consumers may diminish as support and supervision are reduced and the influences of the community become more prominent. The low quality of life scores among the ILS participants further suggests that living independently in the community, with the current levels of

program support and supervision, fails to yield a quality of life that compares favourably with the other housing types or the community sample.

The study also confirms that the quality of life instrument used for this study could discriminate between consumer sub-samples that were somewhat different demographically, and that had experienced differing levels of program support and supervision. The QLQ-RSR is therefore a potentially useful tool in comparing different community-based housing situations on the dependent variable, quality of life.

Limitations of the Study

There were several limitations in this study that must be considered when weighing the results and their implications. The limitations include: the sample selection procedure, the sample size, the selection of demographic variables, instrumentation, definitional issues, statistical procedures, and the nature of the chronically mentally ill as survey respondents. These limitations are discussed in this section.

Due to the target agency's conditions for conducting the study, the participant sample was essentially voluntary or self-selected. Self-selection bias is considered to be a serious threat to the internal validity of a study design, because volunteers are likely to differ from non-volunteers

(Keating, 1989). The use of this sampling procedure undermined the generalizability of the sub-sample results to the three program populations from which the participants volunteered. Self-selection bias is therefore a key limitation of this study.

The danger of self-selection bias is that it can inflate or deflate the effect of a program in terms of results (Keating, 1989). In this study, it is certainly possible that the participants who volunteered to take part may have been less symptomatic than non-participants. Overall, the quality of life scores could well have been lower for all three groups had there been randomization of the sample.

Self-selection bias was further compounded because CMHA/ASCR staff had to be relied upon to provide information about the study to their consumer caseloads in order to solicit volunteers. There was potential for these workers to act as gatekeepers, suggesting that only the healthy consumers participate, while selecting out the consumers they felt might not handle the stress of being interviewed, or might not reflect well on the program. It is therefore conceivable that the participants that did not volunteer for the study were not functioning as well as the volunteer participants. Since most of the ILS participants were acquired through their ILS workers, and not as a result of a presentation by the researcher, truly representative ILS

life-domain means may have been even lower than were recorded by the volunteer participants.

It would have been infinitely desirable to have interviewed a larger sampling of the consumers in the three housing programs. Larger sub-sample sizes would have also reduced the possibility of sampling error while increasing the statistical power of the one-way ANOVA and *t*-test results (Craft, 1990). Unfortunately, the difficulties in gathering the voluntary sample, and time constraints, forced sub-sample targets to be set at the minimum that would allow for the chosen statistical analysis to be performed. Diekhoff (1992) suggests a minimum group size of 15 cases for the one-way ANOVA procedure.

Another limitation concerns the selection of demographic variables for inclusion in the study. While many of the demographic variables selected were conventional (e.g., age, gender, ethnic origin, income source, and marital status), other variables (e.g., time since diagnosis, and time in current housing arrangement) were chosen intuitively. Three other variables that should have been included were: frequency of case manager contact, day program usage, and monthly rent. Collecting data on the frequency of case manager contact and day program usage could have identified the degree to which CMHA/ASCR programming was being augmented. By collecting data on monthly rent it may have been possible to discern the

influence of higher and lower rents, and rent subsidies, on quality of life. The inclusion of these variables could have shed considerable light on the results.

While it has been acknowledged that the QLQ-RSR effectively discriminated among the three sub-samples, the biases inherent in the instrument may have influenced the results. The QLQ-RSR was one of the instruments designed to measure the quality of life of individuals receiving services in U.S. Community Support Programs (Lehman et al., 1988). The items that were included in this instrument may be biased, as they may have been based on value-laden assumptions about what constitutes a good quality of life for a population of persons with mental illness in a community setting. As examples, items that comprise the work at home life-domain scale (Appendix E, Interview Page 20-21) give higher item scores for the amount of time spent preparing meals and fixing or changing things in your car or home. Higher item scores are also given for doing all your own shopping and budgeting. Clearly, the people in group homes, or other types of accommodation where responsibilities are shared, those who do not own cars, and those who do not control their own money, are disadvantaged on these items. The items are clearly biased toward people with a higher level of functioning and who live independently. Care must therefore be taken to recognize that quality of life questionnaires are often riddled with

biases related to their intended use and the values and beliefs of those who developed them.

The lack of consensus regarding the nominal and operational definitions for the target population, "persons with chronic mentally ill", and the dependent variable, "quality of life", were intrinsic to this study and are limiting factors in terms of the results. The problems in defining and operationalizing quality of life were highlighted in the quality of life instrumentation section in Chapter Two, and in the preceding paragraph concerning instrument bias. The definitional problems with respect to this study's target population, were brought into focus when the CMHA/ASCR recently decided to take the word "chronic" out of their organizational literature because it was thought to be stigmatizing. The heterogeneity of the chronically mentally ill population makes comparisons with other such studies very difficult.

Limitations also exist related to the usage of one-way ANOVA in the statistical analysis. The assumption of normal distribution of scores was clearly violated for comparisons of sub-sample means on some of the life-domain scales (e.g., the analysis of housing situation in relation to social support). The violation of this assumption resulted in the inability of the Tukey HSD post hoc test to identify which sub-samples were significantly different. The Kruskal-Wallis one-way analysis of variance procedure is a

distribution-free test that can accommodated nonnormal distributions (Howell, 1989). Ultimately, the one-way ANOVA test was chosen over the Kruskal-Wallis procedure to be consistent with the other studies that used the QLQ-RSR or similar instruments.

A final limitation concerns the reliability of subjective responses by persons with chronic mental illness. Dworkin (1992) speculated that respondent-generated error is more likely in this population than for non-psychiatric respondents. The heterogeneity of this population is a factor. Respondent errors could result from clinical symptoms, the effect of medications, and whether their illness is in an active phase at the time of the interview (Dworkin, 1992). In a snap-shot study such as this one, it can be assumed that there was respondent-generated error. However, these errors would likely be spread across the three groups and should not have significantly effected the means.

Practical Implications for CMHA/ASCR

The results of the study suggest that the quality of life of consumers could be improved in a number of life-domain areas. The low scores on the stress tolerance life-domain scale reflect a need for training in stress management in all three participant sub-samples. Low scores on the employability life-domain scale suggests that some

consumers in the three sub-samples need to development their employment and job search skills. Problems with medications were recorded by a large number of participants in each housing program. There is both an advocacy and a monitoring role here for the key workers. Workers need to be active in monitoring how well consumers are doing on their medications and, where necessary, be prepared to liaise with case managers and psychiatrists to advocate for adjustments to medication.

The most prominent quality of life deficit areas for ILS participants, in comparison with the other programs, was the lack of social support, that is, regular and meaningful contact with other human beings. A primary focus of service delivery must be the enhancement of the ILS consumers' support networks in order to end isolation, particularly among the consumers living alone. Perhaps the development of an ongoing, non-treatment oriented, visiting program (staffed by volunteers), and increased buddying between ILS consumers and other consumers in the system, could be a catalyst to building more effective individual support networks. Staff training may be required to develop expertise in helping consumers identify and cultivate their own support systems. ILS caseloads should also be reduced to permit workers to have more frequent and flexible contact arrangements with ILS consumers. CMHA/ASCR must continue to work at the community level to increase the availability of

affordable housing stock for ILS consumers. Improved housing, at affordable costs, would put ILS consumers into housing environments that could compare favourably with the other housing programs, and at the same time leave more of their monthly income for meeting other basic needs.

The quality of life deficits of the supervised apartment participants were similar to those found among ILS participants, and therefore could be addressed in similar ways. Renewed efforts at buddying could increase interpersonal interactions to end consumer isolation. Perhaps more effort also needs to be put into improved matching of consumers with this program. Consumers who are motivated to attend community meetings, take part in organized activities, and be willing to mix socially with other supervised apartment consumers, might make better use of this program than individuals who desire to keep to themselves. CMHA/ASCR might want to also consider making attendance at community meetings a program requirement, as it was in the past.

The two quality of life deficit areas that were most apparent among group home consumers, other than those shared with the other programs, concerned adjustment to work at home and independence. Group home programming works to build interdependence, but too often group home consumers become dependent on the program staff and their fellow residents to meet all their support needs. This should not

be of great concern to program planners as group homes are the first step on the continuum to independence. However, on-site group home staff need to be alert to excessive dependency among residents, and ensure that they work with the residents, not do for them. Similarly, low scores on adjustment to work at home should not be alarming, considering the instrument appears biased on this life-domain. What is important is that residents are trained in skills that enable them to do what is required, and that they actively do their share.

The CMHA/ASCR has expressed an interest in using the QLQ-RSR as a program evaluation tool, in part, to demonstrate the effectiveness of their housing programming to funders. It is prudent to caution the CMHA/ASCR on the use of this instrument, given the results of the study. Because of the relatively high level of support and supervision, and somewhat closed environments, the influence of group home living on quality of life may be far greater than for the supervised apartment and ILS programs. While this instrument may accurately measure the effect of group home programming on quality of life, when applied to the supervised apartments and ILS consumers there is a risk that CMHA/ASCR could find themselves measuring quality of life outcomes that are outside of their sphere of influence.

Before accepting or rejecting the QLQ-RSR as an evaluation tool, CMHA/ASCR should consider piloting the

instrument with a small number of new consumers at intake. Five trial consumers for each program would probably be sufficient. These same consumers could have their quality of life assessed after a year in their respective programs and the differences could be noted. If the results are promising wider use could begin. Doing a quality of life assessment at the time of intake would also be useful in identifying the needs of individual consumers, and thereby assist in the development of the casework plan.

It is certainly possible that the uniqueness of the three programs does not augur well for being evaluated with the same instrumentation. Perhaps the best suggestion is for CMHA/ASCR to develop a tool in-house, that is specific to the goals, objectives, activities, and expected outcomes of each of the programs.

The greatest strength of the QLQ-RSR, for CMHA/ASCR's purposes, may be its use as a social policy tool in the fulfilment of the agency's social reform and advocacy mandates. The instrument may be useful for determining whether the changes that are pending in the way mental health services are delivered in Alberta, positively or negatively influence the quality of the lives of CMHA/ASCR's constituency. Such data could be useful in lobbying efforts with the province and regional mental health planners.

Theoretical Implications

Before discussing the theoretical implications of the study, a caution must be given. The QLQ-RSR had not been applied in housing research prior to this study, and therefore, studies using this quality of life instrument are not available for comparisons. Comparing this study's results with findings from other studies that used different quality of life instrumentation is problematic, given that each instrument is unique in how quality of life is operationalized and measured. It is within this context that the following theoretical implications are discussed.

This study's findings would appear to run contrary to those of Lehman et al. (1986; 1991) and Simpson et al. (1989). Those studies reported the trend that, as structure and restrictiveness in community-based housing decreases, quality of life increases. Both these studies compared housing types that were significantly different in terms of size, program, and the demographic characteristics of the subjects. This current study compared programs and consumer populations that were more subtle in their differences, and generally had more exposure to the influences of the community. A closer look at the Lehman et al. (1991) results reveals that quality of life was poorer among Rochester's supervised apartment residents, than among the group home residents, on several objective indicators (e.g., family contact, social relations, leisure, and percent

currently employed) and subjective indicators (e.g., family, social relations, and safety), although global quality of life was rated higher by the apartment residents. These results lend some support to the results of this current study. Taken together, these results imply that quality of life increases when restrictiveness and structure decrease, but only to a point. Consumers living independently, without the necessary supports, may experience a poorer quality of life than consumers in settings with more structure.

On the issue of autonomy, or independence, Lehman et al. (1982) found that autonomy correlated highly with life satisfaction, however, the results of the current study found that this did not hold true for both the group home and supervised apartment sub-samples. The findings of the current study did seem to support the Lehman et al. (1982) finding, that frequent contact with one's support system correlates highly with life satisfaction or, in the case of the QLQ-RSR, psychological well-being.

Lehman et al. (1986) commented that quality of life increased, with time, in all of the living situations they studied. The subjects who had lived in their housing arrangements for more than six months had higher quality of life scores than subjects who had spent less than six months in their housing situations. The current study supported these findings. However, quality of life was also seen to

decline for participants who had been in the same housing arrangement for more than two and a half years, although not appreciably.

With respect to quality of life instrumentation, there may be a systematic bias inherent on these tools that does not take into account the benefits of choice among consumers, in terms of their lifestyles, where they reside, and the programs they utilize. Consumer choice has become an important element in the delivery of services to persons with chronic mental illness. For example, it is a key component of the Framework for Support and Supported Housing approaches. Instrumentation that does not incorporate choice as a variable of the quality of life construct may yield misleading results and could well promote false assumptions among program planners and evaluators as to the service requirements of consumers.

Assessments of the impact of different aspects of community care, such as housing, on the quality of life of persons with chronic mental illness, is a relatively new area of research. More studies and replications, as well as the refinement of instruments, will need to be done before there is a solid understanding of the interplay of variables that influence quality of life.

Recommendations for Future Research

In the course of completing this study, a number of areas for future quality of life research came to light. The following suggestions for future research are specific to community-based housing options in Calgary.

Perhaps the first and most important research that needs to be done in the Calgary community is a comprehensive consumer needs assessment to identify the kinds of housing that mental health service consumers would like. Consumers in many jurisdictions in the U.S. would prefer independent living. However, it is exceedingly presumptuous to suggest that the needs and preferences of mental health service consumers in Calgary are identical or even similar to their cohorts that live south of the 49th parallel.

Regarding more comparative housing studies, CMHA/ASCR has recently begun providing permanent housing for ILS consumers, in conjunction with the Horizon Housing Society, in small residential settings (see Albert House and Keith House in Table 2.1). These three-person group homes are akin to normal housing, as there are no on-site staff and the homes are devoid of the institutional feel of CMHA/ASCR's larger group homes. As ILS consumers, the residents receive regular ILS services, and also benefit from a generous rent subsidy. A study comparing the large and small group homes could offer CMHA/ASCR's program

planners insights as to which group home type is most desirable.

Lamda One and Two provide supervised apartments for persons with chronic mental illness in a congregated setting. A congregated housing approach sees all of the apartments in a building occupied by persons with mental illness. One of the arguments against congregated housing for the mentally ill is that it tends to ghettoize and thereby stigmatize the residents. A study comparing the quality of life of consumers in CMHA/ASCR's supervised apartments and the Lamda congregated apartments could illuminate the strengths and weaknesses in each of these approaches.

The supported independent living approach was a primary focus of this study. Two comparative studies of this type of programming in the Calgary community could be useful for refining ILS type programming. The first would be a comparative quality of life study of the three supported independent living programs currently being offered in Calgary by different agencies. The second would involve randomly dividing CMHA/ASCR's ILS program consumers into two groups. One group would receive the current service regime, while the other group would receive more intensive worker contact, and perhaps additional support through a visiting program, as was suggested in an earlier section. Pretests and posttests could be done using the QLQ-RSR at an interval

of one year, and the results compared. Such a study could yield invaluable information to program planners about the impact of intensive support on the quality of life of persons with chronic mental illness living independently.

As was suggested in an earlier section, the QLQ-RSR could be useful as a social policy tool. Mental health service consumers throughout the Calgary community could be assessed at regular intervals to monitor the effects of the upcoming changes to the mental health system. A random community sample, drawn from the general Calgary community, might also be useful for comparative purposes.

Finally, a replication of this study could have some merit, provided random sampling procedures and larger sub-sample sizes were part of the design strategy. These methodological changes would broaden the generalizability of the findings and thereby enhance the usefulness of the results.

Implications for Social Work Practice

The implications for social work practice that can be derived from this study have as much to do with the state of the social work profession in Alberta, in relation to the delivery of mental health services, as with the direct findings. Social workers have not been widely active in services to the chronically mentally ill in Alberta, in part, because of the prominence of the medical model in

treatment. For example, psychiatric nurses outnumber social workers by more than two to one in this province's community mental health clinics (Health and Welfare Canada, 1990). The CMHA office in Calgary currently employs only one social worker in direct services, out of a direct service staff compliment of thirteen workers.

The reorganization of mental health services in Alberta may provide the social work profession with an opportunity to increase its presence in this field. The Faculty of Social Work, at the University of Calgary, might consider enhancing the curriculum related to practice with persons with chronic mental illness beyond one elective at the undergraduate and graduate levels.

Rapp and Hanson (1988) have suggested a model curriculum in this area that merits closer examination by social work educators. They recommend a curriculum comprised of "foundation content" and "clinical knowledge" (p. 277). Foundation content would include background information on mental health and mental illness, including historical perspectives, the evolution of mental health service delivery, and the burning issues in contemporary care. Clinical content would encompass assessment and treatment and include a variety of models and approaches, for example the medical model and psychosocial rehabilitation. Rapp and Hanson also recommend social work management

education that is consistent with, and can enhance, the current client-centred approaches to service delivery.

Concerning this study's findings, the utility of quality of life instrumentation as an assessment and evaluation tool for social workers has been reinforced. With research, evaluation, and planning all falling within the practice realm of social workers, and the compatibility between quality of life and the person-in-environment orientation of the profession, the further development and use of quality of life instruments with this target population, and others, is recommended.

Other practice implications for social workers in the mental health field can be drawn from the previous section where the practical implications for CMHA/ASCR were discussed. The most important implications being the need for ongoing, flexible, aggressive outreach support services for persons with mental illness who live independently in the community. Such services should focus on the enhancement of informal supports for this population, in order to increase consumer contact with people, and reduce the isolation of living alone.

Conclusion

This study has merely scratched the surface in exploring the impact of community-based housing options on the quality of life of persons with chronic mental illness.

While the findings have been limited by several factors, they suggest that caution needs to be taken when designing supported independent living programming. The impending cutbacks in funding to community agencies, and the continued closures of acute psychiatric beds in local hospitals, have enhanced the attractiveness of the supported independent living option. The prominence of the "supported housing model" in contemporary mental health literature has also made the case for the expansion of ILS type programs more compelling.

Program providers must ensure that there are adequate levels of both staff and peer support, in all of their programs, and particularly when delivering supported independent living services. They cannot expect to offer a reduced level of service to persons living independently, because it is perhaps more cost effective, without there being an impact on the quality of life of those consumers.

Given the current political economy, and the overwhelming need for services, mental health agencies must become increasingly creative and innovative in their efforts to maintain and hopefully enhance the lives of persons with chronic mental illness. At the same time, they must continue to expand their efforts to incorporate consumer input into their programming decisions and ensure that the fundamental right of consumer choice is not compromised.

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APPENDICES

Appendix A

Letter Soliciting Volunteer Consumer Participants

November 2, 1992

Dear Consumer,

My name is Andy George and I am a graduate student in the Faculty of Social Work at the University of Calgary.

I am writing this letter to ask for your help in studying the influence of different types of community-based housing situations on the quality of life of persons who have been diagnosed with chronic mental illness. The three different types of housing situations that I wish to examine include: 1) group homes, 2) supervised apartments, and 3) independent housing with outreach worker support. These different types of community-based housing situations represent the Supported Housing and Independent Living Support (ILS) programming options as offered by the Calgary office of the Canadian Mental Health Association.

After discussing this proposed study with CMHA's Regional Director, as well as the Coordinators of Supported Housing Services and ILS Services, I was given permission to approach you to ask for your help, which I am now doing through this letter.

In order to provide you with a better sense of this study, so that you can make an informed choice as to whether you may want to become involved, I will pose some questions that you might have of me and answer them to the best of my ability.

CONSUMER QUESTION #1

What would be expected of me, as a consumer, if I agreed to participate in this study?

ANSWER

A participating consumer would be expected to meet with me for an interview that would last approximately one hour and fifteen minutes. The interview would involve a few simple background questions and the completion of a Quality of Life questionnaire. I would ask the questions on the questionnaire and fill in the consumer's answers in the spaces provided.

CONSUMER QUESTION #2

Would I be able to find out my quality of life score?

ANSWER

I will be able to give you your score either at the end of the interview, time permitting, or within a couple of days. Your score might not mean much on its own but the final results will be available to you at the end of the study, upon request, if you are interested. Requests for final results can be made at the time of the interview or any time thereafter.

CONSUMER QUESTION #3

What if I say that I want to become involved in the study but later decide not to participate?

ANSWER

This study is completely voluntary. In other words, you have the right to withdraw, without explanation, at any time without fear that it will harm your status in the CMHA program(s) in which you are involved.

CONSUMER QUESTION #4

Will my confidentiality be protected?

ANSWER

The results of your questionnaire will be protected by assigning a number rather than a name to your individual study file. In other words, no names or identifying addresses will appear in your study file. Consent forms (see attached), which must be signed by each participant before the interview takes place, will be the property of myself only and will not be included in your study file.

CONSUMER QUESTION #5

What will happen to the questionnaire results in my study file, and the study files of the other consumers who participate in the study?

ANSWER

The results will be my property, however, CMHA may request a copy of the completed questionnaires for their own reference so that they can use the information for planning or to repeat the study. No consumer names will appear on any of the CMHA's copies.

CONSUMER QUESTION #6

How will the information that is gathered in this study be used?

ANSWER

This answer has two parts.

1) I will be using the information that is gathered from the study to complete my Master's thesis in Social Work. The information will therefore be useful in increasing my knowledge about community-based housing which will hopefully put to use in my future career in the social work field. As well, other researchers may use the results for reference or in order to build a greater understanding of the place of community-based housing for persons with chronic mental illness.

2) CMHA may also wish to use the information that will be gathered in this study in order to assist them in their programming efforts that involve community-based housing. In this regard, your participation in this study represents consumer input into the potential improvement of the services offered by CMHA to consumers like yourself.

There may be other questions that do not appear above for which you would like some answers. If this is the case I would ask that you contact me by leaving a message at the CMHA office in person or by calling 297-1700. I will get back to you as soon as possible.

In the event that you decide that you would like to participate in the study you can do so by giving your name to your CMHA worker, or by leaving a message for me at the CMHA office. I will then contact you to set up an mutually agreed upon interview time and place.

I very much appreciate your consideration regarding participating in the study and hope that if you do decide to take part you will find it informative, interesting and rewarding.

Sincerely,

Andy George

Appendix B
Consent Form

CONSENT FORM

Code No. _____

I, _____, agree to participate in this study of community-based housing alternatives and quality of life, the nature of which is to explore how a consumer's quality of life may be affected by housing situation.

I fully understand that my participation in this study is voluntary and that I may withdraw from the study at any time without penalty.

I also fully understand that my participation in this study is a confidential matter between the researcher and me, and that the researcher has explained to me how my confidentiality will be ensured.

I further understand that a brief summary of the results of this study will be made available to me upon completion, and that the full results of the study will be made available if requested.

Signature

Date

Appendix C

Quality of Life Questionnaire - Answer Sheet

Code No. _____

QUALITY OF LIFE QUESTIONNAIRE - ANSWER SHEET

DD-1.____ DD-2.____ DD-3.____ DD-4.____ DD-5.____ DD-6.____
 DD-7.____ DD-8.____ DD-9.____

PD-1.____ PW-1.____ PD-2.____ PW-2.____ PD-3.____ PW-3.____
 PD-4.____ PW-4.____ PD-5.____ PW-5.____ PD-6.____ PW-6.____
 PD-7.____ PD-8.____ PW-7.____ PD-9.____ PW-8.____ PD-10.____
 PW-9.____ PD-11.____ PW-10.____ PD-12.____

TS-1.____ TS-2.____ TS-3.____ TS-4.____

TB-1.____ TB-2.____ TB-3.____ TB-4.____ TB-5.____ TB-6.____
 TB-7.____ TB-8.____ TB-9.____

IN-1.____ IN-2.____ IN-3.____ IN-4.____ IN-5.____ IN-6.____
 IN-7.____ IN-8.____

II-1.____ II-2.____ II-3.____ II-4.____ II-5.____ II-6.____

MAR.SIT.NOW. (DD-10)____ SR-1.____ SR-2.____ SR-3.____
 SR-4.____

SS-1.____ SS-2.____ SS-3.____ SS-4.____ SS-5.____

WH-1.____ WH-2.____ WH-3.____ WH-4.____ WH-5.____

EM-1.____ EM-2.____ EM-3.____ EM-4.____ EM-5.____ EM-6.____
 EM-7.____ EM-8.____

ARE.YOU.EMPLED. (DD-11)____ WJ-1.____ WJ-2.____ WJ-3.____
 WJ-4.____ WJ-5.____ WJ-6.____ WJ-7.____ WJ-8.____

MT-1.____ MT-2.____ MT-3.____ MT-4.____ MT-5.____ MT-6.____

ALCO.____ NA-1.____ NA-2.____ NA-3.____ NA-4.____ NA-5.____
 NA-6.____ NA-7.____ NA-8.____ NA-9.____ NA-10.____

DRUG.____ ND-1.____ ND-2.____ ND-3.____ ND-4.____ ND-5.____
 ND-6.____ ND-7.____ ND-8.____ ND-9.____ ND-10.____

Appendix D
Quality of Life - Demographic Profile

QUALITY OF LIFE - DEMOGRAPHIC PROFILE

1. Sex

Male	_____	1
Female	_____	2

2. Ethnic Origin

White	_____	1
Black	_____	2
Oriental/Asian	_____	3
Aboriginal	_____	4
Other	_____	5
Not applicable/unknown	_____	9

3. Age (years at last birthday) _____

4. Diagnosis

Schizophrenia	_____	1
Bi-polar Illness (Manic-Depression)	_____	2
Borderline Personality	_____	3
Multiple Personality	_____	4
Anxiety Disorder	_____	5
Other	_____	6
Not applicable/unknown	_____	9

5. Years Since Diagnosis _____

6. Psychotropic Medication (currently)

Yes	_____	1
No	_____	2

7. Housing Situation/Program

Group Home	_____	1
Supported Apartment	_____	2
ILS	_____	3

8. Single Occupancy

Yes	_____	1
No	_____	2

9. Time in Present Housing (in months) _____

Appendix E
Quality of Life Questionnaire
Respondent Self-Report Version

WESTERN
Mental Health
RESEARCH CENTER

Gaines Hall
Oregon Health Sciences University
Portland, Oregon
97201-2985
(503) 494-5668

QUALITY OF LIFE QUESTIONNAIRE

RESPONDENT SELF-REPORT VERSION

INTERVIEW SCHEDULE

Douglas A. Bigelow, Ph.D.
Madeline M. Olson
Susan Smoyer
Linda Stewart

A consortium of the:

Department of Psychiatry
School of Medicine
Oregon Health Sciences University

Center for Health Research
Kaiser Permanente

Oregon Mental Health and
Developmental Disability Services
Division

Supported by the:

National Institute of Mental Health
U.S. Department of Health and
Human Services

QLQ-RSR

Interview Page 2

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The Western Mental Health Research Center combines the scientific capabilities of the Oregon Health Sciences University Department of Psychiatry, the Kaiser Permanente Center for Health Research and the State of Oregon Mental Health and Developmental Disability Services Division. Established under a grant from the National Institute of Mental Health, the Center is dedicated to improving the lives of people with severe mental illnesses by conducting research on the organization, financing and delivery of mental health services. The Center provides an environment in which scientists can make use of research opportunities provided by Oregon's public and private mental health systems. In addition to the founding grant from the National Institute of Mental Health, sources of support for the Center's research include the State of Oregon as well as the Milbank Memorial Fund and other private contributors.

Relevant Articles:

- Bigelow, D.A., Brodsky, G., Stewart, L., & Olson, M. (1982). The concept and measurement of quality of life as a dependent variable in evaluation of mental health services. In W. Tash & G. Stahler (Eds.). *Innovative approaches to mental health evaluation*. New York: Academic Press. (Reliability of the Quality of Life Questionnaire--Respondent Self-Report version).
- McPheeters, H.L., (1984). Statewide mental health outcome evaluation: a perspective of two Southern states. *Community Mental Health Journal*, 20, 44-55. (Application of the Quality of Life Questionnaire--Respondent Self-Report version).
- Bigelow, D.A., Gareau, M.J., & Young, D.J. (1990). A quality of life interview for chronically disabled people. *Psychosocial Rehabilitation Journal*, 14, 94-98. (Reliability of the Quality of Life Questionnaire--Interviewer Rating version).
- Bigelow, D.A., McFarland, B.H., & Olson, M. (1991). Quality of life of community mental health program clients: validating a measure. *Community Mental Health Journal*, 27, 43-55. (Validity of the Quality of Life Questionnaire--Respondent Self-Report Version).
- Bigelow, D.A., McFarland, B.H., Gareau, M.J., & Young, D.J. (1991). Implementation and effectiveness of a bed reduction project. *Community Mental Health Journal*, 27, 125-133. (Validity of the Quality of Life Questionnaire--Interviewer Rating version).
- Bigelow, D.A., & Young, D.J. (1991). Effectiveness of a case management program. *Community Mental Health Journal*, 27, 115-123. (Validation and application of the Quality of Life Questionnaire--Respondent Self-Report version).

QLQ-RSR

Interview Page 4

Single copies of the Quality of Life Questionnaire--Respondent Self-Report version (Interview Schedule and Guidelines) as well as the Quality of Life Questionnaire--Interviewer Rating Version are available at no cost from the Western Mental Health Research Center.

The Quality of Life Questionnaire is available in two versions -- the Respondent Self-Report version and the Interviewer Rating version. The Respondent Self-Report version is a fixed-response questionnaire which is designed to be administered in a structured interview following the Respondent Self-Report Guidelines. The Interviewer Rating version is a semi-structured interview which allows for a great deal of interviewer discretion. The user is advised to examine both versions of the Quality of Life Questionnaire and to review the pertinent journal articles before selecting the version of the instrument to be used in a specific project.

A 200 page manual, "Program Impact Monitoring System," which describes a comprehensive approach using the Quality of Life Questionnaire to evaluate community mental health programs may be purchased for \$30.00 from:

Western Mental Health Research Center
Gaines Hall
Oregon Health Sciences University
Portland, Oregon 97201
(503) 494-5668

Please make check payable to:

"OHSU Account Number 70 262 4695"

QLQ-RSR

Interview Page 5

These questions ask about how you have been feeling in the past week. Pleasant and unpleasant feelings of several different kinds are covered.

PD-1. In the past week, how often have you felt very restless, unable to sit still, or fidgety?

All the time 4
Often 3
Several times 2
None of the time 1

PW-1. In the past week, how often have you enjoyed your leisure hours (evenings, days off, etc.)?

All the time 4
Often 3
Several times 2
None of the time 1

PD-2. In the past week, how often have you felt preoccupied with your problems (can't think of anything else)?

All the time 4
Often 3
Several times 2
None of the time 1

PW-2. In the past week, how often have you been pleased with something you did?

All the time 4
Often 3
Several times 2
None of the time 1

QLQ-RSR

Interview Page 6

PD-3. In the past week, how often have you felt unpleasantly different from everyone and everything around you?

All the time 4
Often 3
Several times 2
None of the time 1

PW-3. In the past week, how often have you felt proud because you were complimented?

All the time 4
Often 3
Several times 2
None of the time 1

PD-4. In the past week, how often have you felt fearful or afraid?

All the time 4
Often 3
Several times 2
None of the time 1

PW-4. In the past week, how often have you felt that things were "going your way"?

All the time 4
Often 3
Several times 2
None of the time 1

PD-5. In the past week, how often have you felt sad or depressed?

All the time 4
Often 3
Several times 2
None of the time 1

QLQ-RSR

Interview Page 7

PW-5. In the past week, how often have you felt excited about or interested in something?

All the time 4
Often 3
Several times 2
None of the time 1

PD-6. In the past week, how often have you felt angry?

All the time 4
Often 3
Several times 2
None of the time 1

PW-6. In the past week, how often have you felt that life was going just about right for you?

All the time 4
Often 3
Several times 2
None of the time 1

PD-7. In the past week, how often have you felt mixed-up or confused?

All the time 4
Often 3
Several times 2
None of the time 1

PD-8. In the past week, how often have you felt tense (uptight)?

All the time 4
Often 3
Several times 2
None of the time 1

QLQ-RSR

Interview Page 8

PW-7. In the past week, how often have you felt good about decisions you've made?

All the time 4
Often 3
Several times 2
None of the time 1

PD-9. In the past week, how often have you had trouble sleeping?

All the time 4
Often 3
Several times 2
None of the time 1

PW-8. In the past week, how often have you felt like you've spent a worthwhile day?

All the time 4
Often 3
Several times 2
None of the time 1

PD-10. In the past week, how often have you had trouble with poor appetite, or inability to eat?

All the time 4
Often 3
Several times 2
None of the time 1

PW-9. In the past week, how often have you felt serene and calm?

All the time 4
Often 3
Several times 2
None of the time 1

QLQ-RSR

Interview Page 9

PD-11. In the past week, how often have you had trouble with indigestion?

All the time 4
Often 3
Several times 2
None of the time 1

PW-10. In the past week, how often have you found yourself really looking forward to things?

All the time 4
Often 3
Several times 2
None of the time 1

PD-12. In the past week, how often have you had trouble with fatigue?

All the time 4
Often 3
Several times 2
None of the time 1

QLQ-RSR.

Interview Page 10

Everybody has unpleasant feelings sometimes: we wake up depressed, get upset or frustrated or frightened. These questions ask how much difficulty you have had recently in handling these unpleasant feelings.

TS-1. How much difficulty have you had handling feelings of depression recently?

Great difficulty ___3
 Some difficulty ___2
 No difficulty ___1
 NA ___0

TS-2. How much difficulty have you had handling being upset recently?

Great difficulty ___3
 Some difficulty ___2
 No difficulty ___1
 NA ___0

TS-3. How much difficulty have you had handling frustration recently?

Great difficulty ___3
 Some difficulty ___2
 No difficulty ___1
 NA ___0

TS-4. How much difficulty have you had handling being frightened or shaken up recently?

Great difficulty ___3
 Some difficulty ___2
 No difficulty ___1
 NA ___0

QLQ-RSR

Interview Page 11

These questions ask about your living situation, eating, income, transportation, and medical care. The purpose is to see if these are met to at least a minimum level of satisfaction.

TB-1. How satisfied are you with your home -- its state of repair, amount of room, furnishing, warmth, lighting, etc.?

Very satisfied 4
Satisfied 3
Dissatisfied 2
Very dissatisfied 1

TB-2. How satisfied are you with your home, considering the amount of privacy, your neighbors, security, etc.?

Very satisfied 4
Satisfied 3
Dissatisfied 2
Very dissatisfied 1

TB-3. *This question asks about how well your income covers things you must have-- food, medicine, clothing, etc.* How adequate is your present income for your present needs?

Very adequate 4
Adequate 3
Inadequate 2
Very inadequate 1

TB-4. Are you worried about your future income covering the things you must have?

Terribly worried 4
Quite worried 3
Slightly worried 2
Not at all worried 1

QLQ-RSR

Interview Page 12

TB-5. Can you get around town as you need for work, shopping, medical appointments, visiting, etc.?

Can't get around at all 4
With much difficulty 3
With little difficulty 2
With no difficulty 1

TB-6. In the last month, have you needed medical care? No=0 (N/A) If yes, did you have difficulty getting medical care?

Yes 2
No 1
N/A 0

TB-7. Do you have a regular or family doctor?

Yes 2
No 1

TB-8. Do you have medical insurance?

Yes 2
No 1

TB-9. Do you know where to get emergency medical help?

Yes 2
No 1

QLQ-RSR

Interview Page 13

These questions ask how you handle making decisions, dealing with conflict, asserting yourself, etc.

IN-1. In the last week, how did you find shopping, paying bills, preparing meals, and generally looking after your basic necessities?

Very easy 4
Fairly easy 3
Rather difficult 2
Very difficult 1

IN-2. ... and how enjoyable was it?

Very enjoyable 4
Fairly enjoyable 3
Fairly unpleasant 2
Very unpleasant 1

IN-3. In the last week, how often did you go out socially?

More than 3 times 4
2 or 3 times 3
Once 2
Never 1

IN-4. When you receive broken merchandise, poor service, or are overcharged, how hard is it for you to complain to the store, dealer or company?

Can't do it at all 4
Very hard 3
A little hard 2
Not hard at all 1

QLQ-RSR

Interview Page 14

IN-5. When you want to join a conversation (e.g., at a party) how hesitant do you feel about doing so?

Can't do it at all 4
Very hesitant 3
Slightly hesitant 2
Not at all hesitant 1

IN-6. When you are treated unfairly by someone you know well, a family member or close friend, how difficult is it for you to tell them so?

Can't do it at all 4
Very difficult 3
Slightly difficult 2
Not difficult 1

IN-7. How confident are you in the decisions you make for yourself (what to buy, where to live, what to do, etc.)?

Quite confident 4
Some confidence 3
Little confidence 2
No confidence 1

IN-8. How often do you put off making important decisions until it is too late?

Always 4
Often 3
Occasionally 2
Never 1

QLQ-RSR

Interview Page 15

These questions ask how you have been getting along with people in the last week.

II-1. In the past week, how many times have you spoken with neighbors?

More than 3 times 4
2 or 3 times 3
Once 2
Never 1

II-2. In the last week, how often have you spoken with people you saw at work or school or other daily activities?

More than 3 times 4
2 or 3 times 3
Once 2
Never 1

II-3. Do you feel that people avoid you?

All the time 4
Often 3
Occasionally 2
Never 1

II-4. Do you feel that people are unkind to you?

All the time 4
Often 3
Occasionally 2
Never 1

II-5. How comfortable do you feel being around people in general?

Very uncomfortable 4
Uncomfortable 3
Comfortable 2
Very comfortable 1

QLQ-RSR

Interview Page 16

II-6. Last week, how often did you get to places where you could meet new people?

<i>Every day</i>	<u> 4 </u>
<i>Several times</i>	<u> 3 </u>
<i>Once</i>	<u> 2 </u>
<i>Not at all</i>	<u> 1 </u>

QLQ-RSR

Interview Page 17

These questions ask how you have been getting along with your family recently.

What is your marital situation now?

Living together as married 6
 Married 5
 Separated 4
 Divorced 3
 Widowed 2
 Never married 1

(If married or living as married)

SR-1. In the last week, how often have you gotten very angry with your spouse?

Every day 4
 Often 3
 Once or twice 2
 Never 1

SR-2. In the last week, how often did you go out of your way to be nice to your spouse?

All the time 4
 Often 3
 Several times 2
 Never 1

SR-3. In the last month, how much have you enjoyed your spouse's company?

A great deal 4
 Quite a bit 3
 A little 2
 Not at all 1

SR-4. How well have you been getting along with your spouse recently?

Very well 4
 Well 3
 Poorly 2
 Very poorly 1

QLQ-RSR

Interview Page 18

There are some things we share with family and friends; some things we can count on them for. These questions ask about your family and friends, as you see them now.

SS-1. When something nice happens to you, do you want to share the experience with your family?

Always 4
Often 3
Sometimes 2
Never 1

SS-2. When something nice happens to you, do you want to share the experience with your friends?

Always 4
Often 3
Sometimes 2
Never 1

SS-3. How much would your family be of help and support if you were sick, or moving, or having any other kind of problem?

A great deal 4
A lot 3
A little 2
None 1

SS-4. How much would your friends be of help and support to you if you were sick, or moving, or having any other kind of problem?

A great deal 4
A lot 3
A little 2
None 1

QLQ-RSR

Interview Page 19

SS-5. How much would anyone in the community, other than family and friends, be of help and support to you if you were sick, or moving, or having any other kind of problem?

<i>A great deal</i>	<u> </u> 4
<i>A lot</i>	<u> </u> 3
<i>A little</i>	<u> </u> 2
<i>None</i>	<u> </u> 1

QLQ-RSR

Interview Page 20

These questions are about your experience with work at home.

WH-1. In the last week, how well have you kept up with your share of the housework (cleaning, laundry, errands)?

Completely done 4
Quite well 3
Fairly well 2
Not at all 1

WH-2. How much of the household money management (paying the bills, budgeting) do you do?

All 4
Most 3
A little 2
None 1

WH-3. How much of the shopping for the household do you do (groceries, furnishings, supplies)?

All 4
Most 3
A little 2
None 1

WH-4. In the last month, how much time did you spend fixing or changing things connected with your car or home (repairs, redecorating, remodeling, yard work)?

Several days 4
A day or so 3
An hour or so 2
None 1

QLQ-RSR

Interview Page 21

WH-5. About how many hours per day do you usually spend preparing meals?

<i>More than 3</i>	<u> 4 </u>
<i>1 to 3 hours</i>	<u> 3 </u>
<i>An hour or less</i>	<u> 2 </u>
<i>None</i>	<u> 1 </u>

QLQ-RSR

Interview Page 22

These questions concern looking for a job. Even if you are not looking for a job, the questions ask about how you would feel.

EM-1. How good an impression do you feel you would make in a job interview?

Very good 4
Good 3
Poor 2
Very poor 1

EM-2. How serious are any emotional problems you may have which would make it hard for you to find work?

Very serious 4
Pretty serious 3
Slightly serious 2
Not at all serious 1
 0
 NA

EM-3. How comfortable do you feel going out to look for a job?

Completely 4
Quite 3
Fairly 2
Not at all 1

EM-4. How hard is it for you to stick to a job when it becomes unpleasant or boring or stressful?

Can't do it at all 4
Very hard 3
A little hard 2
Not at all hard 1

QLQ-RSR

Interview Page 23

EM-5. If you had a chance to get more job training, how willing would you be to get it?

Not interested 4
Slightly willing 3
Fairly willing 2
Very willing 1

EM-6. How comfortable do you feel working with co-workers?

Not at all comfortable 4
Fairly 3
Quite 2
Completely 1

EM-7. The next two questions are a bit different. I'm going to ask you to list some things. Please name some of your hobbies and special interests.

More than 3 4
2 or 3 3
One 2
None 1

EM-8. Please name some of the ways you know for finding a job.

More than 3 4
2 or 3 3
One 2
None 1

QLQ-RSR.

Interview Page 24

These questions ask about your work on the job.

Are you employed?

Full-time (35+hours) 4
Part-time (17-34 hours) 3
Irregularly (≤ 16 hours) 2
Not employed 1

(If employed)

WJ-1. In the last month, how much time did you miss from work?

Several days 4
A day or two 3
A little 2
None 1

WJ-2. In the last month, how much difficulty did you have in doing your work?

A great deal 4
Quite a bit 3
An hour or so 2
None 1

WJ-3. How did you feel about the quality of work you did recently?

Very good 4
Good 3
Bad 2
Very bad 1

WJ-4. How much conflict have you had with people while you were working recently?

A great deal 4
Quite a bit 3
A little 2
None 1

QLQ-RSR

Interview Page 25

WJ-5. How interesting is your work?

Very interesting 4
Moderately interesting 3
Slightly interesting 2
It's boring 1

WJ-6. In general, how much do you like your job?

Really like it 4
Like it 3
Don't like it 2
Hate it 1

WJ-7. In the last month, how many times did people complain about your work?

More than 3 times 4
2 or 3 times 3
Once 2
Not at all 1

WJ-8. In the past month, how many times did people say good things about your work?

More than 3 times 4
2 or 3 times 3
Once 2
Not at all 1

QLQ-RSR

Interview Page 26

These questions ask about some of the ways you spend your time when you are not working at home, on the job, or in school.

MT-1. In the last week, how much time did you spend actively participating in recreation or sports?

20+ hours 4
 8-20 hours 3
 1-7 hours 2
 None 1

MT-2. In the last week, how much time did you spend on your hobbies, creative pursuits, or games?

20+ hours 4
 8-20 hours 3
 1-7 hours 2
 None 1

MT-3. Of the TV watching you did last week, how much time did you spend on really interesting programs?

20+ hours 4
 8-20 hours 3
 1-7 hours 2
 None 1
 N/A 0

MT-4. In the last week, how much time did you spend window shopping?

20+ hours 4
 8-20 hours 3
 1-7 hours 2
 None 1

QLQ-RSR

Interview Page 27

MT-5. In the last week, how much time did you spend on volunteer work?

20+ hours 4
8-20 hours 3
1-7 hours 2
None 1

MT-6. Not counting any time for which you were paid, how much time did you spend last week which you felt was boring and useless?

20+ hours 4
8-20 hours 3
1-7 hours 2
None 1

QLQ-RSR

Interview Page 28

These questions are about drinking alcoholic beverages.

In the last month, have you had any alcohol to drink like beer, wine or anything else?

Yes 2
No 1

(If "yes")

People sometimes have problems with using alcohol. The following questions ask about problems you may have had with alcohol in the last month.

NA-1. Have you had problems controlling your drinking?

Very severe 4
A lot 3
A few 2
None 1

NA-2. Problems controlling your behavior because of drinking?

Very severe 4
A lot 3
A few 2
None 1

NA-3. Problems with feelings like guilt, anger or depression because of drinking?

Very severe 4
A lot 3
A few 2
None 1

QLQ-RSR

Interview Page 29

NA-4. Problems with your health because of drinking?

Very severe 4
A lot 3
A few 2
None 1

NA-5. Problems with your parents because of your drinking?

Very severe 4
A lot 3
A few 2
None 1
(No contact with parents) N/A 0

NA-6. Problems with your friends because of your drinking?

Very severe 4
A lot 3
A few 2
None 1
N/A 0

NA-7. Problems with your spouse because of your drinking?

Very severe 4
A lot 3
A few 2
None 1
N/A 0

NA-8. Problems with your children because of your drinking?

Very severe 4
A lot 3
A few 2
None 1
N/A 0

QLQ-RSR

Interview Page 30

NA-9. Problems with your job or school because of drinking?

<i>Very severe</i>	<u> </u> 4
<i>A lot</i>	<u> </u> 3
<i>A few</i>	<u> </u> 2
<i>None</i>	<u> </u> 1
<i>N/A</i>	<u> </u> 0

NA-10. Problems with any other activities because of drinking?

<i>Very severe</i>	<u> </u> 4
<i>A lot</i>	<u> </u> 3
<i>A few</i>	<u> </u> 2
<i>None</i>	<u> </u> 1

QLQ-RSR

Interview Page 31

These questions are about drugs.

In the last month, have you used drugs or medications of any kind, including prescription, over-the-counter, or street drugs?

Yes 2
No 1

(IF "yes")

People sometimes have problems with the use of drugs or medications. The following questions ask about problems you may have had with drugs in the last month.

ND-1. Have you had problems controlling your use of drugs?

Very severe 4
A lot 3
A few 2
None 1

ND-2. Problems controlling your behavior because of drug use?

Very severe 4
A lot 3
A few 2
None 1

ND-3. Problems with feelings like guilt, anger or depression because of drugs?

Very severe 4
A lot 3
A few 2
None 1

QLQ-RSR

Interview Page 32

ND-4. Problems with your health because of drug use?

Very severe 4
A lot 3
A few 2
None 1

ND-5. Problems with your parents because of your drug use?

Very severe 4
A lot 3
A few 2
None 1
(No contact with parents) N/A 0

ND-6. Problems with your friends because of your drug use?

Very severe 4
A lot 3
A few 2
None 1
N/A 0

ND-7. Problems with your spouse because of your drug use?

Very severe 4
A lot 3
A few 2
None 1
N/A 0

ND-8. Problems with your children because of your drug use?

Very severe 4
A lot 3
A few 2
None 1
N/A 0

QLQ-RSR

Interview Page 33

ND-9. Problems with your job or school because of drug use?

<i>Very severe</i>	<u> </u> 4
<i>A lot</i>	<u> </u> 3
<i>A few</i>	<u> </u> 2
<i>None</i>	<u> </u> 1
<i>N/A</i>	<u> </u> 0

ND-10. Problems with any other activities because of drug use?

<i>Very severe</i>	<u> </u> 4
<i>A lot</i>	<u> </u> 3
<i>A few</i>	<u> </u> 2
<i>None</i>	<u> </u> 1

Appendix F
Scoring Worksheets
(Source: Olsen et al., 1991)

SCORING WORKSHEETS--PART I
COMPUTING RAW SCALE SCORES

ITEM #	CODE	SCORE (Enter NA in place of 0's)	SCALES	
			Scale 14	Scale 15
			Psychological Distress	Psychological Well Being
17	5 -	_____ = _____	_____	
18		_____		_____
19	5 -	_____ = _____	_____	
20		_____		_____
21	5 -	_____ = _____	_____	
22		_____		_____
23	5 -	_____ = _____	_____	
24		_____		_____
25	5 -	_____ = _____	_____	
26		_____		_____
27	5 -	_____ = _____	_____	
28		_____		_____
29	5 -	_____ = _____	_____	
30	5 -	_____ = _____	_____	
31		_____		_____
32	5 -	_____ = _____	_____	
33		_____		_____
34	5 -	_____ = _____	_____	
35		_____		_____
36	5 -	_____ = _____	_____	
37		_____		_____
38	5 -	_____ = _____	_____	

(If more than one R or blank, do not calculate) TOTAL = RAW SCORE Psy. Dis.--Scale 14	(If more than one R or blank, do not calculate) TOTAL = RAW SCORE Psy. Well Being--Scale 15
---	---

Scale 17
TOLERANCE OF STRESS

<u>ITEM #</u>	<u>CODE</u>	<u>SCORE</u>
(Enter NA in place of 0's)		
40	4 - _____	= _____
41	4 - _____	= _____
42	4 - _____	= _____
43	4 - _____	= _____
Total		= _____

SCALE 17
RAW SCORE

If any R or blank,
do not calculate.

Scale 23
TOTAL BASIC NEED SATISFACTION

<u>ITEM #</u>	<u>CODE</u>	<u>SCORE</u>
(Enter NA in place of 0's)		
46		_____
47		_____
	* * * * *	_____
49		_____
50	5 - _____	= _____
	* * * * *	_____
52	5 - _____	= _____
	* * * * *	_____
54	3 - _____	= _____
55		_____
56		_____
57		_____
Total		= _____

SCALE 23
RAW SCORE

If any R or blank,
do not calculate.

Scale 24
INDEPENDENCE

<u>ITEM #</u>	<u>CODE</u>	<u>SCORE</u>
(Enter NA in place of 0's)		
59		_____
60		_____
61		_____
62	5 - _____	= _____
63	5 - _____	= _____
64	5 - _____	= _____
65		_____
66	5 - _____	= _____
Total		= _____

SCALE 24
RAW SCORE

If any R or blank,
do not calculate.

Scale 25
INTERPERSONAL INTERACTION

<u>ITEM #</u>	<u>CODE</u>	<u>SCORE</u>
(Enter NA in place of 0's)		
68		_____
69		_____
70	5 - _____	= _____
71	5 - _____	= _____
72	5 - _____	= _____
73		_____
Total		= _____

SCALE 25
RAW SCORE

If any R or blank,
do not calculate.

Scale 29
SPOUSE ROLE

<u>ITEM #</u>	<u>CODE</u>	<u>SCORE</u>
<u>ITEM #</u> (Enter NA in place of 0's)		
90	5 - _____	= _____
91	_____	_____
92	_____	_____
93	_____	_____
		SCALE 29
Total		= _____ RAW SCORE

If any R or blank, do not calculate.

Scale 31
SOCIAL SUPPORT

<u>ITEM #</u>	<u>CODE</u>	<u>SCORE</u>
<u>ITEM #</u> (Enter NA in place of 0's)		
101	_____	_____
102	_____	_____
103	_____	_____
104	_____	_____
105	_____	_____
		SCALE 31
Total		= _____ RAW SCORE

If any R or blank, do not calculate.

Scale 32
ADJUSTMENT TO WORK AT HOME

<u>ITEM #</u>	<u>CODE</u>	<u>SCORE</u>
<u>ITEM #</u> (Enter NA in place of 0's)		
107	_____	_____
108	_____	_____
109	_____	_____
110	_____	_____
111	_____	_____
		SCALE 32
Total		= _____ RAW SCORE

If any R or blank, do not calculate.

Scale 34
EMPLOYABILITY

<u>ITEM #</u>	<u>CODE</u>	<u>SCORE</u>
<u>ITEM #</u> (Enter NA in place of 0's)		
114		_____
115	5 - _____	= _____
116		_____
117	5 - _____	= _____
118	5 - _____	= _____
119	5 - _____	= _____
120		_____
121		_____
		SCALE 34
Total		= _____ RAW SCORE

If any R or blank, do not calculate.

Scale 36
JOB ADJUSTMENT

<u>ITEM #</u>	<u>CODE</u>	<u>SCORE</u>
<u>ITEM #</u> (Enter NA in place of 0's)		
124	5 - _____	= _____
125	5 - _____	= _____
126		_____
127	5 - _____	= _____
128		_____
129		_____
130	5 - _____	= _____
131		_____
		SCALE 36
Total		= _____ RAW SCORE

If any R or blank, do not calculate.

Scale 40
MEANINGFUL USE OF LEISURE TIME

<u>ITEM #</u> (Enter NA in place of 0's)	<u>CODE</u>	<u>SCORE</u>
--	-------------	--------------

145		_____
146		_____
147		_____
148		_____
149		_____
150	5 -	_____ = _____

Total = _____ SCALE 40
RAW SCORE

*If any R or blank,
do not calculate.*

Scale 50
NEGATIVE CONSEQUENCES OF ALCOHOL USE

<u>ITEM #</u> (Enter NA in place of 0's)	<u>CODE</u>	<u>SCORE</u>
--	-------------	--------------

162	5 -	_____ = _____
163	5 -	_____ = _____
164	5 -	_____ = _____
165	5 -	_____ = _____
166	5 -	_____ = _____
167	5 -	_____ = _____
168	5 -	_____ = _____
169	5 -	_____ = _____
170	5 -	_____ = _____
171	5 -	_____ = _____

Total = _____ SCALE 50
RAW SCORE

*If more than 1 R or blank,
do not calculate.*

Scale 52
NEGATIVE CONSEQUENCES OF DRUG USE

<u>ITEM #</u> (Enter NA in place of 0's)	<u>CODE</u>	<u>SCORE</u>
--	-------------	--------------

174	5 -	_____ = _____
175	5 -	_____ = _____
176	5 -	_____ = _____
177	5 -	_____ = _____
178	5 -	_____ = _____
179	5 -	_____ = _____
180	5 -	_____ = _____
181	5 -	_____ = _____
182	5 -	_____ = _____
183	5 -	_____ = _____

Total = _____ SCALE 52
RAW SCORE

*If more than 1 R or blank,
do not calculate.*

SCORING WORKSHEETS--PART II
COMPUTING INTERMEDIATE AND STANDARD SCALE SCORES

Psychological Distress--Scale 14

$$\left[\left(\frac{\text{Raw Score}}{\text{Scale 14}} - \frac{\text{Total \#}}{\text{Answered (12)}} \right) + \left[\frac{\text{Total \#}}{\text{Answered (12)}} \times 3 \right] \right] \times 100 = \frac{\text{Scale 14}}{\text{Intermediate Score}}$$

If total # answered <6, do not calculate.

$$\left[\left(\frac{\text{Intermediate Score}}{\text{Scale 14}} - \frac{78}{\text{Scale Mean Community Sample}} \right) + \frac{13.84}{\text{Standard Deviation of Community Sample}} \right] \times 10 + 50 = \frac{\text{Scale 14}}{\text{Standard Score}}$$

Psychological Well Being--Scale 15

$$\left[\left(\frac{\text{Raw Score}}{\text{Scale 15}} - \frac{\text{Total \#}}{\text{Answered (10)}} \right) + \left[\frac{\text{Total \#}}{\text{Answered (10)}} \times 3 \right] \right] \times 100 = \frac{\text{Scale 15}}{\text{Intermediate Score}}$$

If total # answered <5, do not calculate.

$$\left[\left(\frac{\text{Intermediate Score}}{\text{Scale 15}} - \frac{52}{\text{Scale Mean Community Sample}} \right) + \frac{18.54}{\text{Standard Deviation of Community Sample}} \right] \times 10 + 50 = \frac{\text{Scale 15}}{\text{Standard Score}}$$

Tolerance of Stress--Scale 17

$$\left[\left[\frac{\text{Raw Score}}{\text{Scale 17}} - \frac{\text{Total \#}}{\text{Answered (4)}} \right] + \left[\frac{\text{Total \#}}{\text{Answered (4)}} \times 2 \right] \right] \times 100 = \frac{\text{Scale 17}}{\text{Intermediate Score}}$$

If total # answered <2, do not calculate.

$$\left[\left(\frac{\text{Intermediate Score}}{\text{Scale 17}} - \frac{78}{\text{Scale Mean Community Sample}} \right) + \frac{20.79}{\text{Standard Deviation of Community Sample}} \right] \times 10 + 50 = \frac{\text{Scale 17}}{\text{Standard Score}}$$

Total Basic Need Satisfaction--Scale 23

$$\left[\left(\frac{\text{Raw Score}}{\text{Scale 23}} - \frac{\text{Total \#}}{\text{Answered--(9)}} \right) + \left[\left(\frac{\text{Total \#}}{\text{\# answered of 46,47,49,50,52}} \times 3 \right) + \left(\frac{\text{Total \#}}{\text{\# answered of 54,55,56,57}} \times 1 \right) \right] \right] \times 100 = \frac{\text{Scale 23}}{\text{Intermediate Score}}$$

If total # answered <5, do not calculate.

$$\left[\left(\frac{\text{Intermediate Score}}{\text{Scale 23}} - \frac{76}{\text{Scale Mean Community Sample}} \right) + \frac{15.88}{\text{Standard Deviation of Community Sample}} \right] \times 10 + 50 = \frac{\text{Scale 23}}{\text{Standard Score}}$$

Independence--Scale 24

$$\left[\left[\frac{\text{Raw Score}}{\text{Scale 24}} - \frac{\text{Total \#}}{\text{Answered (8)}} \right] + \left[\frac{\text{Total \#}}{\text{Answered (8)}} \times 3 \right] \right] \times 100 = \frac{\text{Scale 24}}{\text{Intermediate Score}}$$

If total # answered <4, do not calculate.

$$\left[\left(\frac{\text{Intermediate Score}}{\text{Scale 24}} - \frac{70}{\text{Scale Mean Community Sample}} \right) + \frac{14.52}{\text{Standard Deviation of Community Sample}} \right] \times 10 + 50 = \frac{\text{Scale 24}}{\text{Standard Score}}$$

Interpersonal Interaction--Scale 25

$$\left[\left[\frac{\text{Raw Score Scale 25}}{\text{Total \# Answered (6)}} - \frac{\text{Total \# Answered (6)}}{\text{Total \# Answered (6)}} \right] + \left[\frac{\text{Total \# Answered (6)}}{\text{Total \# Answered (6)}} \times 3 \right] \right] \times 100 = \frac{\text{Scale 25 Intermediate Score}}{\text{Scale 25 Intermediate Score}}$$

If total # answered <3, do not calculate.

$$\left[\left(\frac{\text{Intermediate Score Scale 25}}{\text{Scale Mean Community Sample}} - \frac{76}{\text{Scale Mean Community Sample}} \right) + \frac{16.69}{\text{Standard Deviation of Community Sample}} \right] \times 10 + 50 = \frac{\text{Scale 25 Standard Score}}{\text{Scale 25 Standard Score}}$$

Spouse Role--Scale 29

$$\left[\left[\frac{\text{Raw Score Scale 29}}{\text{Total \# Answered (4)}} - \frac{\text{Total \# Answered (4)}}{\text{Total \# Answered (4)}} \right] + \left[\frac{\text{Total \# Answered (4)}}{\text{Total \# Answered (4)}} \times 3 \right] \right] \times 100 = \frac{\text{Scale 29 Intermediate Score}}{\text{Scale 29 Intermediate Score}}$$

If total # answered <2, do not calculate.

$$\left[\left(\frac{\text{Intermediate Score Scale 29}}{\text{Scale Mean Community Sample}} - \frac{74}{\text{Scale Mean Community Sample}} \right) + \frac{19.17}{\text{Standard Deviation of Community Sample}} \right] \times 10 + 50 = \frac{\text{Scale 29 Standard Score}}{\text{Scale 29 Standard Score}}$$

Social Support--Scale 31

$$\left[\left[\frac{\text{Raw Score Scale 31}}{\text{Total \# Answered (5)}} - \frac{\text{Total \# Answered (5)}}{\text{Total \# Answered (5)}} \right] + \left[\frac{\text{Total \# Answered (5)}}{\text{Total \# Answered (5)}} \times 3 \right] \right] \times 100 = \frac{\text{Scale 31 Intermediate Score}}{\text{Scale 31 Intermediate Score}}$$

If total # answered <3, do not calculate.

$$\left[\left(\frac{\text{Intermediate Score Scale 31}}{\text{Scale Mean Community Sample}} - \frac{68}{\text{Scale Mean Community Sample}} \right) + \frac{19.35}{\text{Standard Deviation of Community Sample}} \right] \times 10 + 50 = \frac{\text{Scale 31 Standard Score}}{\text{Scale 31 Standard Score}}$$

Adjustment to Work-at-Home--Scale 32

$$\left[\left[\frac{\text{Raw Score}}{\text{Scale 32}} - \frac{\text{Total \#}}{\text{Answered (5)}} \right] + \left[\frac{\text{Total \#}}{\text{Answered (5)}} \times 3 \right] \right] \times 100 = \frac{\text{Scale 32}}{\text{Intermediate Score}}$$

If total # answered <3, do not calculate.

$$\left[\left(\frac{\text{Intermediate Score}}{\text{Scale 32}} - \frac{59}{\text{Scale Mean Community Sample}} \right) + \frac{19.19}{\text{Standard Deviation of Community Sample}} \right] \times 10 + 50 = \frac{\text{Scale 32}}{\text{Standard Score}}$$

Employability--Scale 34

$$\left[\left[\frac{\text{Raw Score}}{\text{Scale 34}} - \frac{\text{Total \#}}{\text{Answered (8)}} \right] + \left[\frac{\text{Total \#}}{\text{Answered (8)}} \times 3 \right] \right] \times 100 = \frac{\text{Scale 34}}{\text{Intermediate Score}}$$

If total # answered <4, do not calculate.

$$\left[\left(\frac{\text{Intermediate Score}}{\text{Scale 34}} - \frac{73}{\text{Scale Mean Community Sample}} \right) + \frac{13.67}{\text{Standard Deviation of Community Sample}} \right] \times 10 + 50 = \frac{\text{Scale 34}}{\text{Standard Score}}$$

Job Adjustment--Scale 36

$$\left[\left[\frac{\text{Raw Score}}{\text{Scale 36}} - \frac{\text{Total \#}}{\text{Answered (8)}} \right] + \left[\frac{\text{Total \#}}{\text{Answered (8)}} \times 3 \right] \right] \times 100 = \frac{\text{Scale 36}}{\text{Intermediate Score}}$$

If total # answered <4, do not calculate.

$$\left[\left(\frac{\text{Intermediate Score}}{\text{Scale 36}} - \frac{76}{\text{Scale Mean Community Sample}} \right) + \frac{13.62}{\text{Standard Deviation of Community Sample}} \right] \times 10 + 50 = \frac{\text{Scale 36}}{\text{Standard Score}}$$

Meaningful Use of Leisure Time--Scale 40

$$\left[\left[\frac{\text{Raw Score}}{\text{Scale 40}} - \frac{\text{Total \#}}{\text{Answered (6)}} \right] + \left[\frac{\text{Total \#}}{\text{Answered (6)}} \times 3 \right] \right] \times 100 = \frac{\text{Scale 40}}{\text{Intermediate Score}}$$

If total # answered <3, do not calculate.

$$\left[\left(\frac{\text{Intermediate Score}}{\text{Scale 40}} - \frac{32}{\text{Scale Mean Community Sample}} \right) + \frac{10.82}{\text{Standard Deviation of Community Sample}} \right] \times 10 + 50 = \frac{\text{Scale 40}}{\text{Standard Score}}$$

Negative Consequences of Alcohol Use--Scale 50

$$\left[\left[\frac{\text{Raw Score}}{\text{Scale 50}} - \frac{\text{Total \#}}{\text{Answered (10)}} \right] + \left[\frac{\text{Total \#}}{\text{Answered (10)}} \times 3 \right] \right] \times 100 = \frac{\text{Scale 50}}{\text{Intermediate Score}}$$

If total # answered <5, do not calculate.

$$\left[\left(\frac{\text{Intermediate Score}}{\text{Scale 50}} - \frac{96}{\text{Scale Mean Community Sample}} \right) + \frac{8.05}{\text{Standard Deviation of Community Sample}} \right] \times 10 + 50 = \frac{\text{Scale 50}}{\text{Standard Score}}$$

Negative Consequences of Drug Use--Scale 52

$$\left[\left[\frac{\text{Raw Score}}{\text{Scale 52}} - \frac{\text{Total \#}}{\text{Answered (10)}} \right] + \left[\frac{\text{Total \#}}{\text{Answered (10)}} \times 3 \right] \right] \times 100 = \frac{\text{Scale 52}}{\text{Intermediate Score}}$$

If total # answered <5, do not calculate.

$$\left[\left(\frac{\text{Intermediate Score}}{\text{Scale 52}} - \frac{98}{\text{Scale Mean Community Sample}} \right) + \frac{6.62}{\text{Standard Deviation of Community Sample}} \right] \times 10 + 50 = \frac{\text{Scale 52}}{\text{Standard Score}}$$

Appendix G

Subsidiary Analysis Tables

1. Means (standard deviations) of QLQ-RSR Standard Scores for Age.
2. Means (standard deviations) of QLQ-RSR Standard Scores for Diagnosis.
3. Means (standard deviations) of QLQ-RSR Standard Scores for Years Since Diagnosis.
4. Means (standard deviations) of QLQ-RSR Standard Scores for Months in Housing.
5. Means (standard deviations) of QLQ-RSR Standard Scores for Gender.
6. Means (standard deviations) of QLQ-RSR Standard Scores for Single Occupancy.

Table G.1

Means (standard deviations) of QLQ-RSR
Standard Scores for Age

Life-Domain Scales	Years		
	18 to 31 n=15	32 to 41 n=29	42 and over n=16
Psychological distress	39 (12.5)	44 (12.6)	49 (11.6)
Psychological well-being	46 (10.9)	44 (10.8)	50 (12.1)
Stress tolerance	35 (9.3)	39 (13.7)	34 (12.8)
Satisfaction of basic needs	49 (8.1)	45 (9.6)	49 (10.7)
Independence	37 (12.6)	44 (10.8)	45 (9.7)
Interpersonal interactions	40 (7.0)	41 (10.3)	43 (10.0)
Social support	44 (7.6)	46 (10.9)	48 (10.4)
Adjustment to work at home	48 (8.8)	48 (9.5)	44 (10.3)
Employability	38 (9.0)	33 (11.7)	33 (12.2)
Meaningful use of leisure time	53 (11.0)	49 (12.7)	54 (12.6)
Negative consequences of alcohol use	45 (14.1)	47 (10.6)	54 (1.8)
Negative consequences of drug use	32 (26.5)	31 (28.1)	38 (28.4)

Table G.2

Means (standard deviations) of QLQ-RSR
Standard Scores for Diagnosis

Life-Domain Scales	Schizophrenia <i>n</i> =27	Bi-Polar Illness <i>n</i> =14	Other <i>n</i> =19
Psychological distress	47 (10.2)	45 (13.6)	39 (14.1)
Psychological well-being	48 (9.9)	44 (11.9)	45 (12.7)
Stress tolerance	40 (12.1)	40 (13.3)	30 (10.4)
Satisfaction of basic needs	50 (10.2)	44 (8.4)	45 (8.7)
Independence	42 (9.9)	45 (13.4)	40 (11.4)
Interpersonal interactions	43 (10.0)	42 (8.6)	39 (9.2)
Social support	47 (8.7)	45 (11.5)	46 (10.9)
Adjustment to work at home	44 (10.8)	50 (10.0)	49 (5.8)
Employability	36 (8.7)	32 (15.8)	33 (10.6)
Meaningful use of leisure time	51 (10.3)	49 (15.9)	54 (12.2)
Negative consequences of alcohol use	45 (12.5)	50 (10.4)	53 (2.9)
Negative consequences of drug use	30 (31.4)	35 (19.5)	36 (27.3)

Table G.3

Means (standard deviation) of QLQ-RSR Standard Scores
for Years Since Diagnosis

Life-Domain Scales	1 to 7 n=20	8 to 14 n=21	15 and over n=19
Psychological distress	41 (13.1)	47 (10.4)	43 (14.2)
Psychological well-being	43 (9.1)	47 (12.3)	47 (12.1)
Stress tolerance	35 (9.8)	40 (13.8)	34 (13.2)
Satisfaction of basic needs	47 (7.9)	48 (9.6)	46 (11.5)
Independence-1	38 (11.9)	48 (8.8)	42 (11.7)
Interpersonal interactions	41 (7.6)	42 (10.3)	40 (10.5)
Social support	44 (10.7)	47 (9.8)	47 (9.5)
Adjustment to work at home	47 (8.2)	51 (10.8)	44 (8.6)
Employability	36 (12.4)	36 (8.5)	31 (12.4)
Meaningful use of leisure time	50 (12.2)	55 (9.3)	49 (15.0)
Negative consequences of alcohol use	44 (14.3)	49 (8.3)	51 (10.6)
Negative consequences of drug use	33 (25.8)	35 (29.4)	29 (28.2)

1. $p \leq .05$, 1 to 7 vs. 8 to 14.

Table G.4

Means (standard deviations) of QLQ-RSR Standard Scores
for Months in Housing

Life-Domain Scales	1 to 7 n=22	8 to 29 n=21	30 and over n=19
Psychological distress	41 (12.7)	46 (11.8)	45 (13.2)
Psychological well-being	45 (10.4)	48 (10.5)	45 (13.1)
Stress tolerance	40 (12.6)	37 (13.0)	33 (11.8)
Satisfaction of basic needs	46 (10.8)	49 (8.0)	46 (9.9)
Independence	41 (12.7)	43 (11.5)	44 (9.2)
Interpersonal interactions	41 (9.6)	43 (8.0)	39 (10.5)
Social support	46 (11.5)	48 (9.1)	45 (9.1)
Adjustment to work at home	48 (10.7)	47 (9.4)	46 (8.5)
Employability	33 (11.4)	38 (9.7)	33 (12.0)
Meaningful use of leisure time	51 (12.4)	52 (12.1)	52 (13.1)
Negative consequences of alcohol use	50 (10.8)	45 (10.7)	49 (11.3)
Negative consequences of drug use	34 (20.4)	38 (21.0)	27 (38.6)

Table G.5

Means (standard deviations) of QLQ-RSR Standard Scores
for Gender

Life-Domain Scales	Male n=28	Female n=32
Psychological distress	47 (11.5)	41 (13.1)
Psychological well-being	46 (10.4)	46 (12.1)
Stress tolerance	40 (13.8)	34 (11.0)
Satisfaction of basic needs	48 (10.1)	46 (9.3)
Independence	45 (8.9)	40 (12.7)
Interpersonal interactions	42 (10.3)	40 (8.6)
Social support	46 (9.8)	46 (10.3)
Adjustment to work at home	47 (11.1)	47 (8.2)
Employability	35 (9.1)	34 (13.0)
Meaningful use of leisure time	50 (11.5)	52 (13.2)
Negative consequences of alcohol use	46 (10.8)	51 (10.5)
Negative consequences of drug use	35 (27.4)	31 (28.0)

Table G.6

Means (standard deviations) of QLQ-RSR Standard Scores
for Single Occupancy

Life-Domain Scales	Yes n=32	No n=28
Psychological distress	43 (13.6)	45 (11.5)
Psychological well-being	45 (12.6)	47 (9.6)
Stress tolerance	37 (11.8)	36 (13.6)
Satisfaction of basic needs*	44 (9.2)	50 (9.4)
Independence	44 (11.7)	41 (10.7)
Interpersonal interactions	39 (9.3)	43 (9.2)
Social support*	44 (10.3)	49 (8.9)
Adjustment to work at home*	52 (7.6)	41 (8.4)
Employability*	31 (12.4)	38 (8.5)
Meaningful use of leisure time	50 (12.4)	53 (12.1)
Negative consequences of alcohol use	50 (8.3)	46 (12.5)
Negative consequences of drug use	31 (31.9)	35 (21.8)

* $p \leq .05$

Appendix H

Quality of Life Study - Variable Key

Demographic Profile Data and QLQ-RSR
Life-Domain Scale Standard Scores

Quality of Life Study - Variable Key

Demographic Variables and Scoring Codes

v1	Gender -	Male = 1 Female = 2
v2	Ethnic Origin -	White = 1 Black = 2 Oriental/Asian = 3 Aboriginal = 4 Other = 5 Unknown = 9
v3	Age (in years)	
v4	Diagnosis -	Schizophrenia = 1 Bi-Polar Illness = 2 Borderline Personality = 3 Multiple Personality = 4 Anxiety Disorder = 5 Other = 6 Unknown = 9
v5	Years Since Diagnosis	
v6	Medication -	Yes = 1 No = 2
v7	Housing Situation -	Group Home = 1 Supported Apartment = 2 ILS = 3
v8	Single Occupancy -	Yes = 1 No = 2
v9	Time in Present Housing (in months)	
v10	Funding Source -	AISH = 1 Social Assistance = 2 Disability Pension = 3 Other = 4
v11	Marital Situation -	Never Married = 1 Widowed = 2 Divorced = 3 Separated = 4 Married = 5 Common Law = 6

v12 Employment - No = 1
 Irregular = 2
 Part Time = 3
 Full Time = 4

Quality of Life Variables

The QLQ-RSR version that was utilized consists of 14 domains represented by fourteen life-domain scales. Each of these scales are dependent variables which make up the construct "quality of life".

Life-Domain Scales

v14 Psychological Distress
v15 Psychological Well-Being
v17 Stress Tolerance
v23 Satisfaction of Basic Needs
v24 Independence
v25 Interpersonal Interactions
v29 Spouse Role
v31 Social Support
v32 Adjustment to Work at Home
v34 Employability
v36 Adjustment to Work on the Job
v40 Meaningful Use of Leisure Time
v50 Negative Consequences of Alcohol Use
v52 Negative Consequences of Drug Use

Table H.1 - Demographic Profile Data and QLQ-RSR Life-Domain Scale Standard Scores

Code No.	v1	v2	v3	v4	v5	v6	v7	v8	v9	v10	v11	v12	v14	v15	v17	v23	v24	v25	v29	v31	v32	v34	v36	v40	v50	v52
1	1	1	29	1	2	1	1	2	18	1	1	1	42	45	99	55	31	41	99	46	36	33	99	41	31	45
2	1	1	32	1	8	1	1	2	24	1	1	1	48	53	61	58	42	51	99	56	33	46	99	46	43	45
3	2	1	45	1	2	1	1	2	4	1	3	1	50	54	99	54	39	41	99	39	33	45	99	51	55	53
4	2	1	38	1	20	1	1	2	1	1	3	1	52	54	49	55	57	51	99	56	30	36	99	57	99	27
5	1	1	38	1	20	1	1	2	20	1	1	1	42	54	37	45	39	51	99	42	40	43	99	56	99	3
6	2	1	21	1	2	1	1	2	14	2	1	4	28	44	19	32	16	34	99	42	36	43	25	36	99	-29
7	2	1	33	6	3	1	1	2	10	2	1	1	50	51	43	55	48	51	99	60	47	36	99	51	55	32
8	1	1	42	1	13	1	1	2	1	3	5	1	46	54	37	65	39	41	46	53	30	18	99	41	55	47
9	2	1	33	1	1	1	1	2	60	1	1	1	54	56	37	58	56	54	99	53	40	64	99	72	99	-3
10	1	1	29	1	9	1	1	2	18	1	1	1	43	53	37	62	42	54	99	56	36	36	99	56	55	53
11	2	1	42	6	39	1	1	2	36	1	1	1	28	54	19	49	33	21	99	53	40	33	99	76	99	6
12	1	1	57	6	10	1	1	2	36	1	1	1	46	54	16	51	51	49	99	36	40	33	99	45	99	45
13	2	1	58	2	20	1	1	2	54	1	3	1	56	45	99	36	31	38	99	46	33	39	99	46	99	17
14	1	1	61	6	4	1	1	2	26	3	3	1	54	60	99	49	53	54	99	60	47	30	99	67	99	32
15	2	1	27	1	1	1	1	2	6	1	3	1	34	44	37	51	31	41	99	46	40	36	99	57	14	47
16	2	1	46	2	28	1	1	2	54	1	5	1	56	56	37	51	59	54	64	53	36	46	99	67	55	53
17	2	1	21	1	5	1	1	2	1	1	1	1	42	42	37	58	36	41	99	49	47	36	99	51	49	53
18	1	1	52	1	25	1	1	2	7	1	1	1	60	44	49	62	42	58	99	39	33	36	99	61	55	53
19	1	1	40	2	3	1	2	2	4	1	1	1	42	34	37	41	33	41	99	46	54	27	99	36	48	32
20	2	1	46	2	5	1	2	1	48	1	2	1	52	26	37	51	45	45	99	32	61	15	99	51	55	53

Note: Inability to choose an answer or non-applicable responses = 99; and refusal to answer = RR

Demographic Profile Data and QLQ-RSR Life-Domain Scale Standard Scores, continued

Code No.	v1	v2	v3	v4	v5	v6	v7	v8	v9	v10	v11	v12	v14	v15	v17	v23	v24	v25	v29	v31	v32	v34	v36	v40	v50	v52
21	1	1	33	6	1	1	2	2	4	2	4	1	R	34	25	32	48	48	99	63	57	33	99	67	49	63
22	1	1	37	1	10	1	2	1	92	1	1	1	52	60	45	58	59	54	99	49	54	39	99	51	55	53
23	1	1	35	2	35	1	2	2	31	1	1	1	17	37	19	49	33	34	99	53	44	36	99	36	25	3
24	1	1	39	1	5	1	2	2	4	1	1	1	58	51	61	58	42	31	99	32	44	33	99	51	55	27
25	1	1	39	2	2	1	2	1	3	2	3	3	50	44	45	41	48	34	99	25	51	46	55	41	99	24
26	1	1	34	1	5	1	2	2	8	1	1	1	25	31	12	41	36	34	99	42	54	33	99	31	31	32
27	2	1	40	2	5	1	2	2	5	1	4	1	50	63	49	52	62	51	99	63	44	51	99	69	55	53
28	1	1	34	1	8	1	2	1	96	1	1	1	52	54	37	42	42	21	99	53	61	24	99	56	31	-83
29	2	1	33	5	6	1	2	1	39	1	1	1	32	40	25	39	42	31	99	49	54	27	99	46	49	32
30	2	1	32	6	2	1	2	2	7	1	1	1	34	40	49	39	25	31	99	56	47	39	99	46	99	53
31	2	1	41	1	22	1	2	1	23	1	1	1	46	58	99	49	48	45	99	49	51	27	99	64	99	20
32	1	1	36	1	15	1	2	1	30	1	1	1	56	38	45	34	39	28	99	39	51	24	99	31	99	45
33	2	1	49	1	15	1	2	1	19	1	3	1	54	60	37	55	62	54	99	67	61	46	99	51	99	47
34	1	1	39	2	6	1	2	1	1	4	1	1	54	47	61	45	65	58	99	63	68	33	99	56	55	53
35	2	1	26	4	1	1	3	1	11	1	1	1	42	49	25	45	25	41	99	42	54	27	99	56	55	53
36	1	1	33	1	8	1	3	1	1	2	4	1	52	56	45	25	51	58	99	53	65	33	99	57	45	21
37	2	1	49	1	15	1	3	1	31	1	3	1	50	65	99	52	39	51	99	53	47	36	99	56	55	53
38	2	1	38	6	17	1	3	1	48	1	3	1	52	34	37	41	42	38	99	39	47	33	99	46	55	45
39	2	1	40	2	1	1	3	1	3	1	1	1	42	42	37	47	42	48	99	36	57	21	99	56	99	32
40	2	1	44	2	12	1	3	2	28	1	3	1	54	47	37	42	48	41	99	46	61	49	99	67	50	47

Note: Inability to choose and answer or non-applicable responses = 99; and refusal to answer = RR

Demographic Profile Data and QLQ-RSR Life-Domain Scale Standard Scores, continued

Code No.	v1	v2	v3	v4	v5	v6	v7	v8	v9	v10	v11	v12	v14	v15	v17	v23	v24	v25	v29	v31	v32	v34	v36	v40	v50	v52
41	1	1	40	1	1	1	3	1	9	1	3	1	54	40	49	44	48	38	99	46	33	33	99	36	31	53
42	2	1	25	2	8	1	3	1	6	4	1	3	40	65	45	37	48	34	99	56	57	46	22	67	99	17
43	2	1	51	9	99	1	3	1	30	1	1	1	52	45	37	49	48	38	99	53	44	21	99	41	99	53
44	2	1	39	2	18	1	3	1	1	1	3	1	17	26	12	25	16	28	99	36	44	-3	99	15	99	3
45	1	1	39	6	20	1	3	1	3	1	1	2	30	49	25	45	33	32	99	39	54	21	49	46	99	32
46	1	1	32	2	13	1	3	1	9	1	1	1	43	37	52	39	53	38	99	36	51	30	99	41	55	53
47	1	1	39	1	11	1	3	2	165	4	1	4	36	24	25	36	39	41	99	29	30	34	28	61	55	41
48	2	1	31	6	8	1	3	1	31	4	1	4	40	38	43	52	39	48	99	39	51	33	40	51	99	41
49	2	1	51	2	1	1	3	1	72	1	3	1	62	40	52	58	51	38	99	42	44	15	99	36	99	53
50	2	2	25	6	3	1	3	1	4	4	1	3	16	37	25	39	19	38	99	32	51	30	28	41	55	-3
51	1	1	30	1	12	1	3	1	18	1	1	1	58	40	45	44	45	34	99	42	54	39	99	56	43	32
52	1	1	24	1	6	1	3	1	3	1	1	1	30	42	49	52	51	34	99	53	61	33	99	56	55	32
53	2	1	58	9	99	1	3	1	144	1	1	1	42	65	99	47	51	34	99	60	51	49	99	41	55	53
54	1	1	25	5	3	1	3	1	14	1	1	1	54	58	37	55	51	51	99	46	61	65	99	67	99	45
55	2	1	36	4	1	1	3	1	12	1	1	1	20	31	31	45	38	34	99	29	47	24	99	41	99	53
56	2	1	27	6	4	1	3	1	7	1	1	1	24	26	31	49	33	28	99	36	51	36	99	56	50	47
57	2	1	51	9	14	1	3	1	54	1	3	1	17	24	12	19	28	31	99	32	44	21	99	72	99	-54
58	2	1	29	1	2	1	3	1	2	1	1	1	32	40	25	49	31	38	99	32	47	33	99	36	99	-13
59	1	1	40	1	8	1	3	2	19	1	1	1	62	34	99	61	36	31	99	53	47	42	99	51	99	45
60	1	2	31	3	10	1	3	1	15	4	1	2	62	67	99	51	61	41	99	46	40	43	65	72	99	53

Note: Inability to choose an answer or non-applicable responses = 99; and refusal to answer = RR