

An Evaluation of the Bridges Program  
As an Alternative to Institutional Care

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## **Dedication**

This project is dedicated to the elderly clients and their families who participated in the project; the staff who worked hard to help create the Program and make it a success and to the Board of the Chinook Health Region who had the courage to bring the dream to life.

## Abstract

“The Government of Alberta’s vision for health is healthy Albertans living in a healthy Alberta. It’s a broad and long term vision that includes not only the quality of health services, but also the importance of promoting and protecting good health for individuals and for Alberta as a whole (Alberta Health, 1998, p. 6)”. Health restructuring has created much change in the delivery of care to Alberta’s citizens. The expectation for change has resulted in the need to be innovative in the delivery of care while remaining accountable to the people.

This philosophy, in part, has led to the development of the Bridges Program. The purpose of the evaluation is to appraise the worth of the newly introduced Bridges Program. The study examines the success of the program in its ability to keep clients identified as requiring institutional care in the community for as long as possible. The study examines the ability of the program to maintain the client’s functionality in terms of mobility and activities of daily living.

The evaluation examines:

- The caregiver’s involvement and support provided by the staff of the program.
- The client’s utilization of acute care services while attending the program.
- The cost of the program based on comparison of costs in institutions and costs provided in similar programs.
- The impact the program has had on other community services.
- The impact of the program on quality of life issues for the client and the caregiver.

The pilot utilized a mixed method approach, which employs both quantitative and qualitative strategies for data gathering and interpretation. It is both an improvement and effectiveness evaluation.

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Data was analyzed using a case design strategy. Clients and caregivers have been assessed both at the beginning and at the end of the pilot. The test scores and information were then measured and compared.

Results of the pilot:

- Supported the belief that the program could maintain clients assessed as institutional level of care in the community.
- Indicated that the client's functionality and mobility were improved or maintained.
- Supported that the quality of life of the clients and their caregivers was improved.
- Showed a reduced cost of services to functionally dependent clients.
- Appears to have reduced the use of acute care services such as the emergency department.
- Has allowed for monitoring and early intervention for high-risk clients who live in the community.

The evaluation of the program provided the Chinook Health Region the opportunity to examine the worth of a community-based service versus institutional care with the hope of initiating similar programs in rural settings.

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## Chapter One

### Introduction

#### Demographics, Social and Political History

Demographers like David Baxter, Andrew Ramlo and Jim Smerdon (1999), project Alberta's seniors population to increase by 135% over the next thirty years compared to the population increase for the whole province predicted to increase by only 37%. In their paper, Housing Alberta's Seniors in the Next 30 Years, Baxter, Ramlo and Mayo (1999) elaborated on their statistics by stating.

Today, 1 in 8 people in Alberta are 65 years of age or older: in thirty years, they will account for 1 in 5 (and in 2036, 1 in 4). 30 years ago, there were 104,000 people in Alberta 65 plus, today there are 273,000, and by 2028, there will be 684,000... The number of people 85 plus in Alberta more than tripled from 1966's 6,900 to 1996's 27,000: the number will more than double to 57,400 by 2026. (p. 3)

Although their findings are staggering, we are not without alternatives; we have time to change the way we deliver health care and services to an ever-aging population of Baby Boomers. Many people suggest that the Baby Boomers will bankrupt the health care system. Some like, epidemiologist, Dr. Michael Rachlis (1999) suggest that in his analysis of trends in Canadian health care costs over the past 25 years, that there has been little effect on health care costs compared with the increasing intensity of servicing the elderly. He suggests that the increase in costs lie in patient utilization, in physician costs and in inappropriate or questionably appropriate services. This was supported by Ottawa geriatrician, Dr. William Dalziel (1996), who wrote: "It is not the aging of the population that threatens to precipitate



a financial crisis in health care, but failure to examine and make appropriate changes to our health care system, especially patterns of utilization” (p. 155). Those who argue that the aging population will bankrupt the health care system base their argument on the fact that people usually require more care as they age. Researchers such as Dr. James Fries (1980) of Stanford University proposed some 25 years ago that if people lived healthier lives they would live longer and they would live a higher proportion of their lives in good health and function. Although Canada has limited data on the topic there has been several studies done in the United States, Finland, Britain, Holland and Denmark to support this claim (Rachlis, 1999).

According to Dr. Rachlis (1999), health care costs are influenced by the pattern of practice by physicians. He states that the Canadian health care system was designed to provide acute medical and hospital care at a time in the first half of the twentieth century when most people died of acute infectious diseases. There was little focus on primary health care such as prevention. Today relatively few people are treated with acute life threatening medical emergencies. Most patients admitted to hospitals are elderly with chronic illnesses. Rachlis suggests that cost-effective management of chronically ill patients requires an organized, systematic, methodical approach, which includes:

- The identification of patients with specific chronic illnesses.
- Systems for monitoring which include mechanisms for recall if patients do not attend.
- Targeted health promotion and disease prevention activities.
- Education of patients on self and family care.
- The appropriate use of medications including the integration of patient preferences.

- Coordination and integration of care (including medical specialists, hospitals, and social service agencies).
- Quick response if the patient de-stabilizes.

Based on this practice of providing care, traditional remuneration of physicians provides a significant disincentive to the all-inclusive approach. According to Rachlis, most physicians are not reimbursed or are inadequately compensated to deliver preventive care. Rachlis quotes McWilliam (1994) from her research on home care services that:

...family physicians need better incentives for hospital and home visits, for telephone management of care, and for interdisciplinary conferences to plan care. With the exception of home visits (which are reimbursed at a low rate in comparison to similar time in office visits), the fee-for-services structure for physician reimbursement in Ontario provides no remuneration for these essential components of well-coordinated care (p. 6).

Her statement also applies to Alberta physicians, where reimbursement for preventative care is possible on a limited schedule. Consequently, home care programs and programs like Bridges provide care to clients with limited support by family physicians. In 1995, the Federal/Provincial/Territorial Advisory Committee on Health Human Resources (Church, 1995) reported on Community Health Services and noted:

The literature on community-based health services models reviewed for this component indicated that, in general, integrated, multi-service, multi-disciplinary models are less costly, and more cost-effective, than comparable services provided by single-service providers and institutional providers. This is particularly evident when

comparing the community health center organization model with solo fee-for-service physician practice. The major cost saving appears to occur through the reduction in the use of hospital outpatient and inpatient services by populations receiving services from community health centers (p. 9).

It would appear that an integrated preventative model of health care could improve the health of the elderly and at the same time reduce utilization of expensive parts of the health care system.

This report was supported in the mid 1980's when provincial governments came to believe that the fee-for-service payments to physicians increased the overall costs of health care. Not surprisingly the report was not accepted by some in the health policy community especially physician organizations. In 1997, the Calgary Herald published a statement made by the Alberta provincial auditor (R. Walker), who criticized the fee-for-service payment in his annual report noting that, "Some believe that a volume-driven payment system poses the risk of encouraging the provision of unnecessary services" (Rachlis, 1999, p. 10).

It is clear that we in Alberta can no longer continue to deliver cost-effective health care without significant change. It would appear, according to Dr. Rachlis (1999), that we should reform the health care system around the provision of care in a community setting utilizing integrated primary health care centers. In his document, Rachlis acknowledges the American PACE and Edmonton CHOICE models as providing better care at no greater cost than that of conventional care. His philosophical position is well stated as:

Alberta is in a good position to renew its health care programs for the elderly.

Alberta's population is younger than the national average and the province has been in the forefront of developing new models of care for the frail elderly. The aging of the population will not have the dire consequences for the health system as some forecast. Nonetheless, it is important that the province increase the pace of innovation to ensure that primary health care is strengthened. Without a proper system of primary health care, the province's elderly will suffer needless health problems and there will be increasing pressure on the province's institutional system. One can never build a big enough hospital at the bottom of the cliff without first putting a fence around the top. A network of integrated primary health centers and PACE programs would prevent many elderly from falling off the edge.

It was with the same philosophical approach that the Chinook Health Region embarked upon the development of an adapted PACE-like program of its own. The program would be called Bridges.

#### PACE (Program for All Inclusive Care of the Elderly)

The American PACE programs have been successful because they are fully integrated to include the seven essential tactics for managing the chronically ill which were mentioned earlier on page three. Unlike traditional Home Care where services are delivered to the client's home, the PACE programs bring clients to the services. PACE programs assume full risk for all types of health services, including prevention, acute care, and continuing care facility placement at a capitated rate. That is the program is totally responsible for the care of the individual based on an agreed upon rate set between the insurers and the service

providers. Agreements such as these are known capitation models. Clients in these programs are treated for all their medical, psychological and social needs and health promotion is central at the day health centers. Clients must attend at least weekly but most attend three times a week. The PACE staff consist of: physicians, nurse practitioners, nurses, dietitians, physiotherapists, audiologists, podiatrists, speech therapists, social workers, recreation therapists, and a dentist. All services are coordinated and integrated using a case management style of care delivery. Frequent assessment of health needs of the clients allows for early intervention and treatment of acute flare-ups of chronic illness.

One such PACE program known as On Lok Health Services was opened in 1973 in San Francisco. This program was the inspiration behind the CHOICES program in Edmonton. “On Lok Geui” is Cantonese for abode of peace and happiness and was chosen to reflect the philosophy of the program. The initiators of the CHOICE Program were impressed by the success of the California program. The fact that the California Government pays On Lok 94% of what it would pay a nursing home for each client it serves indicated that there was an opportunity to save money as well as provide an innovative service. Clients attending the On Lok program are high-risk seniors whose average age is 84 years. The fact that three quarters of the clients attending the program are incontinent and over 60% have some type of chronic mental illness including Alzheimer’s Disease was also reflective of the nature of the client population being addressed in Edmonton. Many of the clients are at special risk because of poverty and isolation. Sixty percent live alone and 40% receive a supplemental income. The task of introducing a Canadian model was conceived.

### CHOICE (Comprehensive Home Options of Integrated Care for the Elderly)

The first Canadian replication of PACE was introduced as a pilot in Edmonton in 1996 (before regionalization) with three demonstration sites.

Unlike the capitation model used by the PACE model, the CHOICE program is funded by the Capital Health Authority using a block grant, which is adjusted for volume. Funding for institutional services is not incorporated into the CHOICE budget. Some of the physician costs are attained through a fee-for-services mechanism negotiated with Alberta Health.

The CHOICE Program was evaluated in November 1998. Overall, the evaluation was very positive (Pinnell Beauline Associates Ltd.) reported:

- Program development and implementation occurred in a six-month period compared with the American norm of two years for PACE implementation.
- Clients and their families verbalized a high level of satisfaction with the services provided by the program.
- The program has been successful in maintaining health status or slowing decline for a significant proportion of its clientele over a 10 week period following admission as evidenced by the participants' self reported ratings of their general health.
- There has been a significant improvement in indicators of quality of life.
- There has been reduced utilization of ambulatory care services (25%), inpatient services (30%), ambulance (10.6%) and inappropriate medication utilization (86%).
- Provider utilization has increased by 12.5%.
- The evaluation identified the cost per client space per day as \$59.84 to \$66.49. Currently the CHOICE program services in excess of 600 clients.

### Bridges: the Lethbridge Alternative

In the fall of 1997, the Chinook Health Region (CHR) established a task force made up of representatives from the Acute Geriatrics, Continuing Care, Community Care, and Acute Care programs. The purpose of the group was to plan for future integrated health services for

the elderly in the region. The challenge was to develop new services while maintaining the current quality of care within the available resources of the CHR. Much work was undertaken which considered alternatives to institutionalizing the elderly of the future. One such proposal was to develop a program which supported the client's desire to remain in the community with the support of family, Community Care (Home Care) and Acute Geriatrics (essentially the Geriatric Day Hospital). This program was called Bridges.

Historically this was not a new concept but one based on the American PACE model and the Canadian model, adapted by the Capital Health Authority in Edmonton and named the Comprehensive Home Option of Integrated Care for the Elderly (CHOICE). Following a visit to the CHOICE Program it became evident that the concept was one the CHR wished to explore. However, the administration of the Chinook Health Region needed to make changes to accommodate a smaller population in a more rural community setting with less financial resources.

The Bridges Program was conceived out of a vision to provide a comprehensive integrated community service which would enable seniors who have been assessed as needing Continuing Care (institutional care) to receive their care in an outpatient setting. This was envisioned as being provided collaboratively by the family community caregiver, Home Care (now known as Community Care) and the Geriatric Day Hospital (outpatient service).

The main thrust of the new service was directed at the need in this region for an additional 30+ institutional care beds for the long-term care client. Planning began with meetings with the Community Care Program and the Acute Geriatric Program in order to identify and establish the foundation for the program. The new program was named Bridges based on two concepts. The program would represent a bridge for the clients between home

and the risk of institutional care and of course, the fact that it fit with the symbol of Lethbridge itself.

For the pilot, each client was selected according to the ability and desire of the caregiver to support the client's wish to remain in the community. All clients were assessed as eligible for long-term care (institutional) placement. Consents were signed and each patient was made aware that this was a pilot program, which would be evaluated in approximately three months. Each client and their caregiver were involved in a contract, which outlined the responsibilities of all three partners.

Statistics were gathered monthly to provide information in order to evaluate the pilot. Baseline testing was done on all clients accepted to the program, using recognized tests for mobility, activities of daily living (ADL), instruments of daily living (IADL), cognition, cost and caregiver stress. Each client was assessed using the Alberta Assessment and Placement Instrument (APPI), a government of Alberta assessment tool, which measured levels of care in ascending order of need using an "A" to "G" scoring system. That is "A" represented the lowest level of need and "G" indicated the highest level of need. The Home Care Classification Score (HCCS) was also used to assess the client as this tool was familiar to the Home Care providers. The HCCS measures client needs on a 1-9 scale with one representing the least service required and nine the most service required. The client was also assessed using a tool developed by the CHR, which was developed in an attempt to identify care in terms of levels. The CHR attempted to classify care in terms of three levels. Level one requiring community support services, level two requiring 24 hour care provided by non-professional providers and level three which requires 24 hour professional care. The scores from these tools would allow the staff to measure the care needs of the clients with a degree



of consistency. The program evolved as we attempted to identify clients and means we would use to provide this new service. The service included medical, rehabilitation, social and supportive services for the client in addition to caregiver support for the informal caregiver who was usually the family.

In January 1999, six weeks into the three-month pilot, the Seniors Health Committee recognized the demand and value of the new program and a full proposal for service was requested. The goals of the program were:

- To improve the quality of life and client satisfaction for frail elders who wish to remain at home.
- To reduce health care costs by reducing institutionalization.
- To reduce inappropriate uses of the emergency room services and of acute care beds.
- To reduce the need for traditional continuing care beds.
- To improve and promote healthy lifestyles for seniors.
- To monitor and treat health problems early.
- To monitor medication utilization and ensure compliance.
- To improve effective use of existing resources and improve accountability to consumers through the provision of an integrated and comprehensive service.

Although the services of Bridges, CHOICE and PACE are similar, the differences have been addressed in Appendix A.

#### Rationale for the Evaluation

The rationale for the evaluation was to confirm that the program was able:

- To assess the success of the program in keeping clients assessed as meeting the criteria for institutional care in the community.
- To assess the effectiveness of the program related to providing care and support to the caregiver.

- To assess the ability of the program to improve or sustain the functionality of the clients in the pilot.
- To compare the cost of program services to institutional care costs and costs of like programs.
- To assess the utilization of emergency room and acute care services as they relate to clients in the pilot.
- To assess the value of the service and examine the potential for improvement of the service.
- To identify internal and external factors which influenced the program's development and support.

#### Purpose of the Evaluation

The purpose of this evaluation was to appraise the value of the newly introduced Bridges Program. The purpose focused on the ability of the program:

- To examine the effectiveness of the program in keeping clients assessed as meeting the criteria for institutional care in the community.
- To examine the program's ability to improve or sustain the client's functionality.
- To examine the client's utilization of acute care services while in the program.
- To costs of the program based on comparison of costs in institutions and like- services
- To address the impact of the program on quality of life issues for the client and the caregiver.
- To examine the programs ability to provide support to the caregiver.
- To improve the program delivery process.

## Chapter Two

### Methodology, Design and Strategy

In an edited excerpt from: *The Evolution of Evaluation Methodology* by Jennifer Greene and Charles McClintock (1991), the authors state that evaluation is no longer exclusively centered around the experimental model of focussing only on meeting program goals but can also be framed around utilization, phases of development or the quality of interconnectedness of multiple program components. There is now a “recognition that politics and science are both integral aspects of evaluation” (Cronbach, Ambron, Dornbusch, Hess, Hornik, Phillips, Walker & Weiner, 1980, p. 35). The evaluation of the Bridges Program reflects this philosophy. Although the evaluation will address the program goals, the evaluation is not exclusive to the goals.

The transformation of the evaluation purpose and methodology can be attributed to the challenges to conventional scientific wisdom raised by philosophers of science and theorists of methodology and the proliferation of frames for evaluation (Greene & McClintock, 1991). Philosophers of science generally agree that all observations are imbued with the theoretical and value predisposition of the observer. Therefore data cannot be completely objective and findings cannot unequivocally settle the claims of rival theories (Phillips, 1987). The emergence of alternative paradigms has tended to legitimize inquiry traditions in social science and has contributed to the expansion of evaluators’ methodological repertoire (Greene & McClintock, 1991).

Among the alternatives for program evaluation are (Guba, 1990) postpositivism, interpretivism and critical theory. Briefly, postpositivism represents “old certainties unthroned, but not abolished” (Cook, 1985, p. 37) evaluations which retains a preference for

quantitative methodology. An emphasis on casual explanation with a recognition that social casual explanation combined with the recognition that program evaluation is inherently complex in fact “more like convoluted multivariate statistical interactions than simple main effects” (Cook, 1985, p. 25). Program evaluation is knowable only tentatively and probabilistically (Greene & McClintock, 1991).

Cook in 1985 stated that postpositivists have extended aspects of the inquiry advocating, multiple analysis of the same data set as a means to enhance validity. He also established that postpositivists seek to increase confidence in their findings by inviting criticism from alternative value frameworks (Cook, 1983). The Bridges evaluation will also attempt to employ this approach.

System analysis and a refined quasi-experimental design (such as time series) are examples of core postpositivist evaluation approaches (Trochin, 1989). The combined use of survey and observational data and of regression and cluster analysis, which illustrates postpositivism and preferences for multiple methods, will be employed. The Bridges evaluation invites open critique as a basis for validity, which is secured in the invitation for interpretation of evaluation by program beneficiaries and decision-makers.

Interpretivism maintains that human phenomena can best be understood as social constructions of meaning that is inherently time and place bound. That is, that one individual’s perception of meaning in a given setting is likely to differ from another’s, and representing both is needed for an understanding of the whole (Greene & McClintock, 1991). This method relies heavily on qualitative methods like interviews and observation, which often puts the investigator in direct interaction with the phenomena being studied (Guba & Lincoln, 1981). Such methods are intrinsically subjective and value-laden. Interpretivists

maintain that “social inquiry is meaningful only because it does involve values” (Smith, 1983, p. 47). The Bridges evaluation also fits the model as an interpretivist evaluation, which is framed as a case study of a single program format in which the evaluator develops a detailed description of essential features of that program. The evaluator develops an emergent understanding of how different participants’ view their experiences based on ongoing interplay of data collection and analysis. The goal of the Bridges evaluation is to produce an integral portrayal of diverse experiences, meanings, and values and their connection to the specific program context.

Critical theory is an ideological approach to inquiry, which catalyzes political and social change. The intent of this approach is to work toward the more equitable distribution of societal power and resources. Critical theory according to Greene and McClintock (1991) might well include and integrate a mix of qualitative and quantitative methods, historical analysis and critique. According to the authors, at the root of paradigm discussions are debates involving the interplay of science and politics and evaluation’s role in social problem solving.

These approaches exemplify the movement toward multiplism in contemporary evaluation theory that is newly encouraged by post-positivists (Cook, 1985; Mark & Shortland, 1987) and long valued by interpretivists (Denzin, 1978; Lincoln & Guba, 1985). In its most general sense, multiplism means that deliberate use of more than one method, theoretical framework, and/or paradigm to overcome the technical and political limitations of a single strategy.

In 1978, Fink & Kosecoff stated that there were two kinds of evaluations: one to improve a program and the other to determine the effectiveness of a program. The

improvement evaluation is to determine how well a program can be refined and the creators of a still developing program typically request it. This type of evaluation explains the causes of the program's strengths and weaknesses and identifies where correction should occur. The evaluation identifies the progress, which is being made toward meeting the program objectives.

The purpose of the effectiveness evaluation is to appraise an overall impact of a program and to determine the consistency of the outcomes. The effectiveness evaluation is usually requested by the program's sponsor, potential participants, and by legislators. The evaluation focuses on comparable programs and services. The Bridges evaluation is both an improvement and an effectiveness evaluation.

The Bridges evaluation can also be described as an accountability and monitoring evaluation (sometimes called an audit) in that, it is being done to determine if the program is doing what it is mandated to do. The program is a regional program funded by government and answers to government via the administration of the Chinook Health Region. This type of evaluation usually is centered on program delivery, resource allocation, and quality assurance with minimal focus on client satisfaction. The writer will attempt to provide available consumer input as it applies to the evaluation.

For the pilot, data was analyzed using a case design strategy. The client and caregiver test scores and information were measured on admission and compared to scores completed at the end of the pilot.

### Functional Tests

In order to identify the profile of the clients that could be managed by the program it was necessary to measure the level of client impairment on their admission as a baseline to

establish admission criteria. Several assessment tools were used in order to examine functional abilities. The functional assessments would also act as a baseline on which to measure success.

Recognizing that functional ability can not be judged in isolation as physical function is not exclusive to a client being able to remain in the community; a cognitive screening tool and a balance screen were also utilized. The intertwining of physical, mental, psychological and social elements make the measuring of independent functioning in the community difficult.

#### The Functional Autonomy Measurement System (SMAF).

The Functional Autonomy Measurement System (SMAF) was developed in Quebec and hence the acronym is from the French translation. It measures seven items related to activities of daily living (ADL), eight items related to instrumental activities of daily living (IADL), six items related to mobility, three items related to communication and five items related to mental function. Activities of daily living are those actions, which one performs each day such as bathing, dressing, grooming, eating, use of the toilet, and bladder and bowel continence. Instrumental activities of daily living encompass actions, which relate to housekeeping, meal preparation, shopping, laundry, telephone use, budgeting, medication use and transportation. The mobility subsection addresses the client's ability to transfer from bed to chair and vice versa, walking outside, walking inside, donning prosthesis or orthosis, propelling a wheelchair and negotiating stairs. The communication subsection addresses the client's vision, hearing and ability to speak. The subsection on mental function is concerned with memory, orientation, comprehension, judgment and behavior. The SMAF is designed to assess disability related to all 29 functions using a four-point scale (from 0, independence to minus 3, dependent). A minus 0.5 level indicates an activity accomplished independently but with

difficulty. A total score and five subscores can be obtained from the instrument. Reliability studies done by Desrosiers, Bravo, Hebert and Dubuc (1995) indicated that intra-class correlation coefficients (ICC) of 0.95 and 0.96 for the total scores on test retest and inter-rater reliability, respectively. The ICC were over 0.74 for all subscores for both types of reliability. The instrument is extremely comprehensive and the data gathered was substantial and could essentially represent a study in itself.

#### The Folstein or Mini- Mental State Examination (MMSE).

The Folstein or Mini- Mental State Examination (MMSE) was used to screen all clients for cognitive impairment. The tool measures global cognitive performance and is frequently used as a screening test for dementia. The total score possible for the MMSE is 30. Scores < 24 indicate cognitive impairment and those scoring <18 indicate severe impairment.

#### The Berg Balance Scale.

The Berg Balance Scale is an objective measure used to indicate balance ability and is used to predict falls (Cole, Finch, Gowland & Mayo, 1994). The scale consists of 14 tasks common in everyday life. The items test the client's ability to maintain positions or movements of increasing difficulty by diminishing the base of support from sitting to standing to single leg stance. It also assesses the client's ability to change position. The maximum score for the test is 56. Each item is scored on a scale of 0 to 4. A score of 4 indicates that the movement was performed independently and within a set time frame. A score of 0 indicates that the client is unable to perform the movement independently. A Berg Balance Score of <45 is predictive of falls. Intra-rater and inter-rater reliability were excellent with the ICC for the total score being 0.99 for both. The responsiveness in validating the tool proved to be highest for those clients at home versus those in hospital.



### “Timed Up and Go” Test.

The “Timed Up and Go” test is a quick and practical method of testing basic mobility. It was designed for the frail elderly with a wide variety of medical conditions such as stroke, Parkinson’s disease, rheumatoid arthritis, osteoarthritis, hip fractures and general deconditioning. The test focuses on one multiphase task. The test consists of a client’s ability to rise from an arm chair, stand momentarily, walk to a line on the floor three meters away, turn, return, turn around and sit down again. The scoring is recorded in the number of seconds it takes to complete the task. The client’s risk of falling is rated on a 5 point ordinal scale, which ranges from 1 (normal) to 5 (severely abnormal). Test retest reliability and inter-rater reliability was extremely high with the ICC 0.99 (Cole, et al., 1994).

### The Clinical Outcomes Measurement Score (COVS).

The Clinical Outcomes Measurement Score or COVS was used by the Bridges physiotherapist to identify goals and treatment plans and measure effectiveness of the plan. The test consists of 13 mobility items rated by a 7-point scale for a maximum score of 91. The test examines bed mobility i.e., getting to a sitting position from a lying position, sitting balance, horizontal transfer, vertical transfer, ambulation, endurance, velocity, wheelchair mobility and arm functions. Inter-rater reliability for total scores as measured by Searby and Torrence (1989) indicated an ICC of 0.97 an internal consistency of Cronbach’s alpha of 0.92

### Other Sources of Clinical Information

Information was also obtained through the Alberta Assessment and Placement Instrument (AAPI) and the Home Care Classification Tool which are provincial assessment tools currently used by the government to assess the complexity and hours of care required to provide care to an identified individual in an institutional care setting.

The Chinook Health Region also developed a means of measuring care. The new tool was not validated nor was it tested for reliability. The tool attempted to measure the Levels of Care using a three point system where level one requires minimal unscheduled service, level two requires 24 hour non-professional care and level three requires 24 hour professional nursing care.

#### The Caregiver Burden Interview.

The Caregiver Burden Interview was developed by Zarit, Reever and Bach-Peterson in 1990 and consisted of 29 statements (see Appendix C). The statements reflect how caregivers may feel concerning their relationships with the care receivers and the impact of caregiving on their health, finances, social life and interpersonal relations. Each statement indicates the frequency of the caregiver's feelings. The interview uses a five-point scale to measure the responses. The responses vary from "never" to "rarely" to "sometimes" to "quite frequently" to "nearly always". The scoring ranges from one (never) to five (nearly always). Scoring is unidimensional with no subscale scores. The Burden Index has demonstrated a satisfactory internal consistency (Cronbach's alpha = 0.91) and a test retest reliability ( $r = 0.71$ ) according to Vitaliano, Young & Russo (1991). In addition, the Burden Interview may have adequate content validity as the items were taken from clinical and research experiences of caregivers of individuals with dementia (Vitaliano, et al., 1991).

The Burden Interview used in the pilot was reduced to 22 from the original 29 statements by the V.A. Dementia Clinic and has previously been used by the Acute Geriatric Program at the Geriatric Day Hospital. An assumption has been made that the validity and reliability of the questions remain unchanged.

## Chapter Three

### Outcome Evaluations

The pilot consisted of seven clients: six males and one female. All seven were married and living with their spouses. In six of the seven cases the spouse represented the primary caregiver. One client lived with his elderly ill wife but was supported by his son who lived nearby. Five of the seven clients lived in their own single dwelling homes and two resided in apartments. The clients ranged in age from 62 years to 81 years with the average age of 75 years. All clients received Home Care services as part of the pilot. Two of the five received minimal services at their request. Four of the seven were classified as level two care, requiring 24-hour non-professional care and supervision. The remaining three clients were classified as level three, requiring 24 hour professional care. All seven clients were classified under the Home Care Classifications System as seven (out of a possible nine) or above. Five of the clients scored nine, one scored eight, and one scored seven. The high needs of the clients were reflected in the scores not only from the HCCS but also from the APPI scores. Two clients scored “D,” two scored “F,” and one scored “G.” The remaining two clients scored “B” and “C”. The clients attended the outpatient program from two to five days a week, which was decided by the client and his or her caregiver. On average clients attended the program 3.5 days a week. The clients all had multiple medical problems with each client having an average of 5.57 medical diagnosis identified. As a result of the complex medical histories the clients were taking an average of 11.7 medication daily when they were admitted to the program. It was also noted that at the end of the study the clients’ daily medications had increased to 12.7 medications. This increase should be further evaluated to assess the reason for the increase in daily medication and to establish if the nature of the medications

had also been changed. The fact that the clients attending the program were taking substantial numbers of medication was seen as a reliable indicator that all clients attending the program were at high risk for falls.

#### Evaluations Related to Functional Tests

##### The Functional Autonomy Measurement System (SMAF).

Scores utilized for the purpose of the pilot focused on mobility with a maximum disability score of minus 18. The client's scores on admission ranged from minus 2 to minus 18 with an average score of minus 9.6. The fact that the number of minus scores was so high is indicative of a high level of physical impairment. The level of impairment increased the responsibility for the caregivers who themselves were elderly with health risks.

At the end of the three-month pilot three of the seven clients showed improvement in their mobility scores. The range at the end of the pilot was from 0 to minus 15. One of the seven client's score changed from minus 18 to minus 0.5. The improvement was primarily a result of a missed diagnosis of a thyroid disorder. The support from the rehabilitation staff showed slow progress and excellent maintenance of all participants.

##### The Berg Balance Scores

The Berg Balance Scores ranged from 4 to 52 on admission with four of the seven below 45. This range indicated a high risk for falls among the clients. The average of 27.57 out of the possible 56 (on admission) was representative of the high level of impairment of these clients. It also reflected the high level of disability the caregivers were supporting in the community. At the end of the three month pilot, three of the clients showed no improvement while the remaining four improved in their balance scores (scores ranging from 4 to 56). The

average score at the end of the pilot was 30.6, an overall three point gain. The average improvement in four of the seven clients showed a gain from 34 to 39.3, a gain of five points. Although all clients continue to fit the category of high risk for falls, improvement was documented.

#### “Timed Up and Go” Test.

The “Timed Up and Go” scores on admission ranged from two clients not being able to complete the tasks to 106 seconds. Of the five that completed the test, the average was 36.4 seconds. Three of the five clients who completed the test scored less than 17 seconds. At the end of the pilot, two of the clients showed improvement and three showed declining scores. The client scores ranged from 10.6 seconds to 106 seconds with the average at 36.3 seconds, only slightly better than the admission average. Only client D showed significant improvement from 17 to 10.6 seconds.

#### The Folstein or Mini Mental Status Examination Scores (MMSE).

The MMSE scores on admission ranged from 0 to 29. Three of the clients were unable to complete the test due to severe cognitive impairment, aphasia (inability to speak) and language barriers. Of the four that completed the test on admission, the scores ranged from 18 to 29 out of a possible 30. The average score on admission was 25. The fact that three of the clients could not participate in the testing indicates the degree of impairment of the client. The lack of ability to communicate one’s needs adds to the frustration of both the client and the caregiver. Cognitive impairment in the aging population is a leading reason for institutionalization of the elderly and represents a growing need for care.

At the end of the pilot, the scores ranged were 24 to 29 with an average of 27.25. Client F showed significant improvement with the treatment of his thyroid problem. His score went from 18 (severely impaired) to 29 (normal). Two of the clients showed a one-point decline.

#### Clinical Outcome Measurement Scores (COVS)

The results of the COVS scores on admission to the pilot ranged from 28 to 90, with an average of 63.14. At the completion of the pilot, the range remained unchanged at 28 to 90 but the average increased to 64.6. Four clients of the seven clients showed no change in their scores. Three of the seven clients showed a five point or less increase in their scores. A summary of all the test scores can be found in Appendix B.

#### The Caregiver Burden Interview.

Six of the seven client caregivers completed the Burden Interview on admission. One caregiver declined. Five of the six caregivers were wives and one was a husband. All caregivers felt that the client nearly always felt dependent on them and half felt the client nearly always requested more help than they needed. When asked about their health one-third of the caregivers felt that their health was unaffected, another third felt that it was affected sometimes and one-third felt it was nearly always affected. The Burden Interview revealed that two-thirds of the respondents were never uncomfortable having their friends over and the remaining one-third were uncomfortable only sometimes. Two-thirds of the respondents felt that the client nearly always seemed to expect the caregiver to care for them as if they were the only ones he could depend on. Five of the six caregivers felt that they did not have enough money to care for the client in addition to the rest of their expenses. Two-thirds of the respondents felt that they sometimes lost control of their lives since the client's

illness. When asked if they could do a better job in caring five of six responded, never. Two-thirds of the respondents felt some degree of depression. Only one-third quite frequently felt burdened in caring for their family members. Half of those interviewed felt they could never leave their family member's care to anyone else. A breakdown of the data for the Burden Interview can be found in Appendix C.

On admission to the pilot, Burden Interview scores ranged from 8/90 to 75/90. The average score of the six respondents at the time of admission was 44/90. At the completion of the pilot the average score was 40.6/90 (based on five repeated scores), and the scores ranged from 8/90 to 90/90. At the end of the pilot, scores for the Burden Interview remained the same for clients B, C and G. Client E's physical condition had improved from being wheelchair ambulatory to assisted walking. Client E had improved from requiring the assistance of two people to mobilize to requiring only minimal assistance. The increase in mobility had in turn reduced the care needs and was reflected in the improved Burden Interview score from 36/90 to 17/90. On admission, client F's caregiver was overwhelmed with the level of care required to maintain client F at home and was considering institutional placement. At the end of the pilot the interdisciplinary notes indicated that since client F's physical and emotional health had improved the caregiver felt less burdened. The Burden Interview was not available, as it had not been repeated. The caregiver for Client A was showing significant strain at the time of admission to the pilot scoring 75/90. The caregiver continued to show increasing levels of stress at four weeks scoring 80/90 and requested placement for client A. Client A's breathing problems worsened and his depression increased as he was aware of his impending admission to an institution. His caregiver's support declined until she scored 90/90. His frequency of anxiety attacks and utilization of Emergency Room

services were forerunners of his admission to Acute Care with pneumonia. Following his acute care admission client A was admitted to long term care where he died.

Caregiver stress affects the ability of this program to continue to serve the client. On admission, three caregivers scored above fifty out of a possible 90 and one caregiver declined to take the test. The caregiver who declined to be tested demonstrated many signs of stress, which included anger, denial, frustration and verbally lashing out at the client and at the staff of the Bridges program.

Three of the client caregivers scored thirty-six or less on admission and appeared to be coping well. One of the caregivers who scored thirty-six on the admission test scored seventeen at the completion of the pilot. The scores of the other two caregivers were unchanged.

It was evident that the caregivers of these clients were looking for solutions, which would assist in their desire to keep their family members in the community. It is the opinion of the writer that earlier intervention would have prevented the “burnout” of the three caregivers who scored fifty or more on the Burden Interview. At the present time, two of the three clients (of the caregivers who scored over fifty) have died and one continues in the program. The caregiver who refused to take the test has since resolved some issues with the client and the client has returned to the community with his wife with the support of family. He is functioning well.



### Length of Time in Bridges.

Of the seven clients in the pilot, six continued in the program following the pilot and one (Client A) died in January 1999 following his admission to Acute Care with bilateral pneumonia and subsequent admission to Continuing Care. Client A remained in the pilot for 10 weeks of the 12-week pilot. In total, the client died five weeks following discharge from the Bridges Program.

### Evaluation related to Cost.

In order to visualize the cost of a client attending the Bridges program the writer attempted to cost the services of the Bridges program by identifying the unit cost per client space per day to enable a more inclusive costing. Based on 30 Bridges clients attending the Program each day, the number of available client spaces per year would be (30 clients x 5 days/week x 52 weeks/year) 7800 spaces each year. If the Bridges clients increased by five additional spaces (these would be called swing beds) the number of spaces would increase accordingly (35 clients x 5 days/week x 52 weeks/year) to 9100 spaces each year.

Rental cost was estimated at approximately \$88,000.00/ year, which includes housekeeping and utilities. The space would also be occupied by 15 Geriatric Day Hospital (GDH) clients, as this program was also required to relocate due to the sharing of staff between the two programs. The rental cost per space would therefore include the additional GDH spaces:

$$30 \text{ (Bridges)} + 15 \text{ (GDH)} \times 5 \text{ days/wk} \times 52 \text{ wk/year} = 11,700 \text{ total spaces}$$

$$30 \text{ (Bridges)} + 15 \text{ (GDH)} \times 5 \text{ (swing)} \times 5 \text{ days/wk} \times 52 \text{ wk/year} = 13,000 \text{ spaces/year}$$

The rental cost would be \$7.52 per space per day or \$338.40 per day for a program including 45 clients. The rental cost with 50 clients attending daily (13,000 spaces) would be \$6.77 per space per day or \$338.50 per day for a program of 50 clients. The rental cost of operating the program in retail space increased our costs and made it difficult to compare costs to similar programs. These programs operate within hospital settings where cost of space was not an issue.

The cost of meals was billed to the client at the cost of \$6.00 per meal. The current cost to the clients for a round trip to and from the Program is \$6.00 using the Lethbridge Handibus or Handitaxi.

The cost of staffing was difficult to estimate as the Bridges Program was developed “on the back” of the Geriatric Day Hospital. Professional staff who serviced the GDH were asked to provide initial assessment and develop the programming for the Bridges clients as an added part of their current roles. Additional staff, which was required to serve the Bridges clients, was essentially therapy and nursing assistants. The additional staffing costs accounted for an increase to the current program of approximately \$200,000.00. The new staff worked under the direction of the professional staff at the GDH.

Based on 7,800 spaces for 30 Bridges clients the staffing cost would be \$25.64 per space per day. Based on 9,100 spaces for 35 Bridges clients the staffing cost would be \$21.98 per space per day. These costs did not include the professional staff who currently worked in the Geriatric Day Hospital although they also assessed and worked with the Bridges Clients.

The cost of the program to the clients was minimal and substantially less than the monthly cost they would be required to pay in the institution. Clients were required to pay for their meals, transportation, and a small incidental charge of three dollars. The clients also

provide their own medication and medical supplies. Cost to the client currently is \$15.00 per day. The number of days each client attended was dependent on the needs of the client and the cost reflected client attendance. No client was refused services based on lack of funds.

Figure Example 1. Total Projected Cost of Bridges per Unit (Exclusive of Home Care Costs)

<u>Projected cost for:</u>	<u>30 Bridges clients</u>	<u>35 Bridges clients</u>
*Rent	7.52	6.77
Food	6.00	6.00
Transportation	6.00	6.00
Staffing	25.64	21.98
Daily cost per unit	48.16	43.75
Yearly unit cost	\$12,521.60	\$11,375.75

If the client attended 5 days a week 52 weeks per year the client would pay \$3,900.00 which represents between 31 and 34% of the actual cost as identified above. The health region would be responsible for \$7,475.00 to 8,622.00, which represents 66 and 69% of the cost. The ratio is similar to the cost share of institutional care available in the Chinook Health Region.

In comparing the Bridges service costs to like costs with the CHOICE program the costs are approximately one-third less for similar services with the Bridges Program. A cost of \$52.54 per client per day for the CHOICE program (Pinnell Beauline, 1998) compared to \$37.64 for Bridges services (this cost includes cost of staffing, transportation, and food services). The cost difference may be as a result of the physician cost not being included with the staffing costs at the Bridges Program and the omission of costing the Home Care services

into the Bridges cost. The calculated unit cost for Bridges, which included the cost of rented space, brought the cost to \$43.75 to 48.16. This cost continued to be competitive with data from the Pinnell Beauline (1998) evaluation.

According to Pinnell Beauline Associate's (1998) evaluation summary of the CHOICE Program dated November 26, 1998 salary and benefit costs were \$39.94 per day per client based on a client census of 270 clients this compares to Bridges cost of \$25.64 per day per client with a census of 30 clients. Comparing the costs of the two programs creates a challenge, as the Bridges program costs can not be extracted completely from the already present services of the Geriatric Day Hospital (from which the Bridges Program shares staff). Even with the inability to break the cost down further it would appear that the services provided by the Bridges Program would be less than the cost of institutional care.

The current cost of an institutional care bed is in excess of \$100.00 per day. The cost to the client depends on the accommodation but the base rates would be \$26 to 28.50 per day. The institutional cost would be more than \$36,400.00 per year and the client's share would be an additional \$9,490.00 to 10,402.50 per year. This would total \$45,890.00 to 46,802.50 per year. Although the services at the Bridges program are less comprehensive than that of institutional care Bridges provides a viable alternative for client and their families to continue to assist the client to remain at home at a reasonable cost to both the region and the client.

The costs quoted are unaudited and are not all inclusive of the operation of the program. Costs related to supplies, administration and physician costs have not been included as these costs were combined with the pre-existing Geriatric Day Hospital Program and were difficult to isolate. Minimal increases in medical supplies were noted.

Home Care costs have been reduced to half of the admission costs as clients receive care while they are attending the program. For the study group the average number of hours of Home Care on admission was 71 hours per client per month. At the time of completion of the pilot the Home Care service was 30 hours per month. Hours of service varied widely between clients. As the clients participating in the Bridges pilot were all Home Care clients and because a substantial reduction in their service was noted cost savings were reflected in that program area also.

In summary, the cost of operating the Bridges Program appears to be less than the cost of care delivered in the institution in the CHR. While the evaluation supports a more cost effective way of providing similar services it was not possible to make definitive statements comparing cost effective outcomes based on current data. Overall, the cost of Bridges and Home Care services continued to decline throughout the pilot.

#### Utilisation of Acute Care Services.

Utilization of acute care services was not as big an issue as the writer had expected. The ability of the clients to access twenty-four hour assistance through the nurse on call and the ability to see the doctor while they attended the program appeared to be beneficial and deterred client need to access these services. On two occasions caregivers called the program staff to say they were going to take their family members to the emergency room. On questioning the caregivers, it was assessed that the program physician could successfully manage the matter, as the problems were not serious. One caregiver used the ER on three occasions in three days (through the New Year holiday period) before the client's admission to acute care for pneumonia.

### Quality of Life.

The issue of quality of life is subjective. At the completion of the pilot, the caregivers all wrote letters of support for the continuation of the service. The question of the quality of the life of the caregiver was addressed in those letters. Families expressed gratitude for improving their ability to manage their family members in the community.

Comments such as:

“This program has given life back to my step-father. I strongly feel that without this program my step- father would have passed away before now. ...This program has given (the patient) the zest for life again. Before he could not walk without a walker now he uses a cane and sometimes around the house he does not use anything.”

“Physical therapy is wonderful! We can always tell when he has made progress. He is exuberant! Sometimes to the point he thinks he can do it all on his own.”

“The time that (the patient) is at the program allows my daughter and myself time to do many things that would not get done if he were home. When we go together it is great- it’s a carefree “normal” mother – daughter time and refreshes us so that we both can function better in (the patient’s) care.”

“...despite initial resistances from him in attending the Program, he now expects, and I would even suggest looks forward to, his daily attendance.... A sense of low key and constant stability has returned to our family life...”

The clients also expressed pleasure in being able to continue to remain at home.

## Chapter Four

### Social and Political Implications

An introduction of a new delivery system for health care services often inadvertently affects other services, which are attempting to address similar needs in the community. This was the case in the introduction of the new Bridges Program. Historically the Victorian Order of Nurses (VON) had established a Day Program which provided respite services to the elderly in the community. This service also focused on supporting caregivers that were attempting to keep their family members at home. The profile of the VON clients was similar, but VON clients required neither active medical treatment nor ongoing rehabilitation services. Often these individuals were the elderly dementing Alzheimer patients.

In anticipation of the concerns of the administration of the VON Day Program, a meeting was held to explain the purpose of the new program to discuss the profile of the clients, which the Bridges program would be targeting. It was apparent that there was some apprehension over the establishment of the new service as the CHR provides a large grant to the VON for the services they deliver and competing services could jeopardize the funding of that program. The Bridges staff remained aware of the concerns and was sensitive to the issue. Following the success of the three-month pilot, the VON Day Program reported a decreased utilization and the cause was seen as the result of the introduction of the CHR Bridges Program. Subsequently a meeting was called to address what was seen as the issues potentially affecting the utilization of the VON Day Program.

It appeared that the program patient profiles and services were confusing the referral sources and the care providers. The creation of a comparison chart (which was noted earlier as Appendix A) was established and a plan to inservice community providers, hospital staff, and physicians was instituted. By identifying the characteristics of the clients being serviced by each program all care providers would be able to differentiate clients who were appropriate for each program.

The original cost of the Bridges service (which was \$10.00 per day) was half the cost of the VON services (which was \$20.00 per day). It was suggested that the Bridges Program had a more comprehensive service for less cost and was more attractive to the client. It was decided that the Bridges Program should bring the cost of service closer in line with the VON service. The cost for the Bridges Program was therefore increased to \$15.00 per day, which included the cost of meals, transportation and incidentals.

The Home Care Coordinators (who were also collaborators of the new Bridges service) did not feel a part of the new program. Information to the coordinators regarding the development of the services had been minimal and referrals from this group were less than expected. The perceived risk of losing the VON Day Program was driving referrals to that program to ensure its viability. In an attempt to remedy the problem and assure the appropriate services to all clients, the Home Care Coordinators were also targeted for inservice. Support from the community was high. The program received coverage in the local newspapers, on local television and radio, which increased the pressure for the program to be successful. The increased visibility of the program also had an impact on the Board of the Chinook Health Region and their support for the new program.



### Limitations of the Pilot

The results of the evaluation must be interpreted cautiously concerning its inherent limitations. Because the program continues to evolve, it may be premature to reflect on the data from this pilot.

The evaluation of the Bridges Program has occurred simultaneously with its development. This occurred as the urgency for such a program was born in a time of extreme need.

The progress and early success of the program has caused the writer to be concerned for a Hawthorne Effect. With staff, clients, and caregivers showing strong support for the program throughout the pilot, the potential for such an effect was strong.

Recognising that the time for the pilot was too short in order to support what appeared to be a decline in the cost of services caused the writer to focus on extending the data gathering beyond the time set for the pilot. Future data will be needed to support the hypothesis that the cost is less than for a similar community service. Costing data also needs to be inclusive of the costs of Home Care, the shared professional rehabilitation staff, physician and supply costs.

Further study of costing requires examining the ability of separating the Bridges Program from the Geriatric Day Hospital Program or assessing the ability of including the cost of both services as a single cost. This process would allow for a more accurate statement of cost.

## Chapter Five

### Conclusions

The success of the program in keeping clients (who would otherwise have been institutionalized) in the community is evident. The high level of dependency of the pilot group indicated that services provided assisted in keeping clients in the community until the last months of their life. The ability to keep clients in the community may or may not be a positive outcome as it was noted that before Client A's death the caregiver was showing extremely high Burden Interview Scores. One could speculate that the outcome might have been different if the caregiver had received interventions from the program earlier. This fact is yet to be seen.

Based on the testing instrumentation, the program appears to have succeeded in maintaining the health status of the clients in the pilot. In two of the seven clients in the pilot significant improvement was seen (one being discharged back to the community without services from the Bridges Program).

From the perspective of the caregiver, the comments have been positive. Quality of life for both the client and the caregiver had improved. This was apparent in verbal reports as well as the letters of support provided by the caregivers at the completion of the pilot.

In general, there has been a high level of satisfaction reported by the clients and their caregivers. The need for early intervention and admission before caregiver "burnout" occurs is essential. Recognizing that the caregiver is pivotal to the success of this program, the addition of a caregiver support worker has been introduced on a contracted basis.

Although not conclusive, the early indication is that the cost of the program reflects cost savings. However, this area of evaluation requires more study. Inclusion of all service providers into the costing should be undertaken. The fact that the Geriatric Day Hospital is somewhat incorporated with the Bridges cost may require that the overall service of both programs be addressed together.

From the perspective of utilization of acute care services, both emergency room and admissions to acute care; the report appears to be positive. Only one client in the study used these services and the use of the services was appropriate as the client was suffering from an acute stage of pneumonia and was admitted to a medical unit for treatment. The length of time of the pilot did not allow for a comprehensive examination of the use of these services by the identified client population. The limited number of clients involved in the study also had an impact on the validity of this observation. In order to adequately report on the utilization of these services it would be necessary to increase the sample size and extend the period of assessment.

Social and political issues related to the development and implementation of the program have and will continue to evolve. The need for education of all care providers both community and hospital was evident. The need for communication within the system and within the community is imperative for without it misunderstandings and conflict ensues.

Providing Health Care in a retail location was a unique idea and resulted in building ties to the community. These ties could not have happened in an institutional setting. The results of this experience have been extremely positive. The new location has allowed the elderly to see their care as more normalized because it is based in a community location. The location

has also assisted the community to view the elderly in a different light potentially breaking down myths on aging. In the future, it would be valuable to survey the mall merchants and customers to validate these beliefs.

Overall, the outcomes of the program evaluation of the Bridges pilot have been positive. The services of the Bridges program appear to have become a viable alternative to institutional placement for seniors with complex health care needs in the Chinook Health Region.

## References

- Alberta Health. (1998). *Achieving accountability in Alberta's health system-accountability: an action on health initiative*, p. 6. Government of Alberta, Edmonton. Alberta: Author.
- Baxter, D., Ramlo, A., & Smerdon, J. (1999, March). Housing Alberta's seniors in the next 30 years. *The Urban Futures Institute Report*, p. 33.
- Cole, C., Finch, E., Gowland, C., & Mayo, N., (1994). *Physical rehabilitation outcome measures*. The Canadian Physiotherapy Association in cooperation with Health and Welfare Canada and the Canada Communications Group – Publishing, Supply & Services Canada, p. 38-39, 50-51.
- Cook, T. D. (1983). Quasi-experimentation: Its ontology, epistemology, and methodology. In G. Morgan (Ed.), *Beyond method: Strategies for social research*, p. 74 –94. Beverly Hills. CA: Sage.
- Cook, T. D. (1985). Postpositivist critical multiplism. In R. L. Shotland & M.M. Mark (Eds.) *Social science and social policy*, p. 21-62. Beverly Hills, CA: Sage.
- Cronbach, L.J., Ambron, S. R., Dornbusch, S. M., Hess, R. D., Hornik, R.C., Phillips, D.C., Walker, D. F., & Weiner, S. S. (1980). *Toward reform of program evaluation*, p. 35. San Francisco: Jossey-Bass.
- Church, W. J. B. *Organizational models in community-based health care: A review of the literature (1995)*. A report prepared for the Federal / Provincial / Territorial Conference of Deputy Ministers of Health through the Advisory Committee on Health Human Resources. Health Canada.
- Dalziel, W. B. (1996). Demographics, aging and health care: Is there a crisis?

*Canadian Medical Association Journal*, 155, p. 1584-1586.

Denzin, N. K. (1978). *The research act: An introduction to sociological methods*. New York: McGraw Hill.

Desrosiers, J., Bravo, G., Hebert, R., & Dubuc, N. (1995). Reliability of the revised functional measurement system (SMAF) for epidemiological research. *Age and Ageing*, 24, p. 402-406.

Fink, A., & Kosecoff, J. (1978). *An evaluation primer*. Beverly Hills, CA: Sage Publications Inc. p. 1-11.

Fries, J.F. (1980). Aging, natural death, and the compression of morbidity. *New England Journal of Medicine*, 303, p. 130-135.

Greene, J.C., & McClintock, C. (1991, Winter). *The evolution of evaluation methodology theory into practice*, XXX, (1).

Guba, E. G. (Ed.), (1990). *The paradigm dialogue*. Newbury Park, CA: Sage.

Guba, E. G., & Lincoln, Y.S. (1981). *Effective evaluation*. San Francisco: Jossey-Bass.

Harada, N., Chiu, V., Damron-Rodriguez, J., Fowler, E., Sui, A., & Reuben, D. B. (1995, June). Screening for balance and mobility impairment in elderly individuals living in residential care facilities. *Physical Therapy*, 75, p. 6.

Mark, M. M., & Shotland, R. L. (Eds.). (1987). *Multiple methods in program evaluation: New directions for program evaluation* (No. 35) San Francisco: Jossey-Bass.

McWilliams, C. L., & Sangster, J. F., (1994). Managing patient discharge to home: the challenges of achieving quality of care. *International Journal for Quality in Health Care*, 6, p. 147-161.

- Phillips, D. C. (1987). *Philosophy, science, and social inquiry*. Oxford, U.K.: Pergamon Press.
- Pinnell Beauline Associates Ltd. (1998, November). *CHOICE: Evaluation project*. Unpublished.
- Rachlis, M. M. (1999, January). *Providing primary health care to an aging population*. Paper presented to the Alberta Long Term Care Policy Advisory Committee, Edmonton, Alberta.
- Searby, L., & Torrence, G., (1989). Reliability of physiotherapy functional assessment used in rehabilitation settings. *Physiotherapy Canada*, 41, p. 264 -271.
- Smith, J. K. (1983). Qualitative versus interpretive: the problem of conducting social inquiry. In E. R. House (Ed.), *Philosophy of evaluation: New directions for program evaluation*, 19, p. 27-51. San Francisco: Jossey-Bass.
- Tibbitts, G. M. (1996, September). Patients who fall: How to predict and prevent injuries. *Geriatrics*, 51, p. 9.
- Trochim, W. M. K. (Ed.), (1986). *Advances in quasi-experimental design and analysis: New directions for program evaluation*. San Francisco: Jossey-Bass.
- Vitaliano, P., Young, H. M., & Russo, J. (1991). Burden: a review of measures used among caregivers of individuals with dementia. *Gerontologist*, 31, p. 67-75.
- Walker, R. & Chase, S. *Doctors' fees blamed for health-care costs*. (1997, September 26). Calgary Herald.
- Zarit, S. H., Reever, K.E., Bach-Peterson, J. (1990). Relatives of the impaired elderly: correlates of feelings of burden. *Gerontologist*, 20, p. 649-655.

## Appendix A

### Differences Between Bridges, CHOICE and PACE Programs

<b><u>Program</u></b>	<b><u>Bridges</u></b>	<b><u>CHOICE</u></b>	<b><u>PACE</u></b>
<b><u>Client Profile</u></b>	Functionally Frail	Same	Same
	Medically Complex or Fragile	Same	Same
	Chronic Mental Health Problems	Same	Same
	poor coping & social skills	Same	Same
	Cognitive Impairment	Same	Same
<b><u>Program Profile</u></b>	Day Program interdisciplinary	Same	Same
	Health Clinic for medical needs	Same	Same
	Home Support through Home Care	Home support through Program	Home Support through Progra
	Transportation as purchased service	Transportation provided	Transportation provided
	Sub-Acute Care not available	Sub-Acute Care -has designated beds for Program	Available
	Emergency Response- On-call Home Care RN for nights & weekends	Program RN on-call for clients in The Program	Same as CHOICE
<b><u>Funding</u></b>	Program Funding through the CHR Flat rate. Cost of community support Limited. There is no institutional care Budget for these patients.	Block Grant with adjustments for Volumes of patients services mechanism with AHC Assumes risk for acute care needs But not institutional services.	Managed Care Capitation syst 94% actual cost Assumes full risk for all health care needs & continuing care facility placement.



## Appendix A

### Differences Between Bridges, CHOICE and PACE Programs

	<u><b>Bridges</b></u>	<u><b>CHOICE</b></u>	<u><b>PACE</b></u>
<u><b>Availability</b></u>	Same as CHOICE	Available for clients who meet the criteria for the program	Available for Medicare Clients Those purchasing services.
<b>Provision of Acute Episodic services</b>	No designated beds for the service Patients would require acute care Admission at the Lethbridge Regional Hospital--outside the program.	Designated beds available within the program. These are staffed within the program.	Care is contracted with single acute care providers
<b>Referrals</b>	Through the Acute Geriatric Program And Home Care Programs via MD, Family, service providers and others	Through the single point of entry system. Generally through the Home Care system	no formal process
<b>Physicians</b>	Patients retain their own family MD While in the program. However, they May be seen by the program MD in Case of illness while attending the Program. Physician communication Occurs.	Patients are admitted to the program MD's	Same as CHOICE
<b>Cost of Services to the patient</b>	\$15.00 per day. This includes: Meals, Transportation and Misc.	No Cost for services, transportation Medication, meals or supplies	Same as CHOICE.
<b>Location of Service</b>	The program operates in a retail mall.	Health Care Facility	Community Care setting

## Appendix B

Summary of Client Data- Clients are identified using an A-G Identifier

	A	B	C	D	E	F	G
Sex	M	M	M	M	M	M/F	
Age	62	79	75	80	77	81	73
Caregiver W/H/D/S/DI/O	W	W	W	S	W	W	H
M/W/S/D	M	M	M	M	M	M	M
Level of Care	2	2	3	3	3	2	2
HC Class	7	9	9	8	9	9	9
APPI Class	B	D	G	C	F	D	F
Days Attending	4	2	5	5	3	4	2
# medical problems	7	7	8	6	4	5	2
# Meds on Adm	16	10	6	9	8	12	21
# Meds on Discharge	15	10	8	13	9	13	21
Caregiver Stress Adm - 90	75	20	68	Refused	36	57	8
Caregiver Stress Discharge	90	20	68	Refused	17	48	8
Berg Score Adm	52	4	16	45	23	48	5
Berg Scores Discharge	56	4	17	54	30	48	5
COVS Score Adm	78	43	66	90	59	78	28
COVS Score Discharge	80	43	69	90	59	83	28
Timed Up & Go Adm /sec.	11	Unable	33	17	106	15	unable
Timed Up & Go Discharge	18.74	Unable	34	10.6	106	12	unable
SMAF Adm. Mobility	-3	-12	-6.5	-2	-11	-18	-15
SMAF D/C Mobility	-2	-12	-4.5	0	-11	-0.5	-15
MMSE Admission	25	Unable	Unable	29	Aphasia	18	28
Clock Admission I/U	U	Unable	Unable		Aphasia		
MMSE Discharge	24	Unable	Unable	28	Aphasia	29	28
Clock Discharge I/U	U	Unable	Unable		Aphasia		
ER visits	4	0	0	0	0	0	0
Acute Care Adms.	1	0	1	0	0	0	0
Length of Stay in Months	2.75	Continues	7	7	continues	continues	Continues
GDS Admission	7	Unable	Unable	0	Aphasia	0	0
GDS Discharge	11	Unable	Unable	0	Aphasia	0	0

## Appendix C

Cumulative Burden Interview Scores Based on a 5-point Score (zero represents no effect and five represents extreme effect). Numbers in the columns represent caregiver responses.

Scores	0	1	2	3	4
Do you feel that this person asks for more help than he/she needs?	1	1	1	0	3
Do you feel that because of time you spend will him/her that you don't have enough time for yourself?	1	1	3	0	1
Do you feel that because of time you spend will him/her that you do not get enough rest?	1	2	2	0	1
Do you feel stressed between providing care and trying to meet other responsibilities for your family or work?	1	1	2	2	0
Do you feel embarrassed over his/her behavior?	3	0	2	1	0
Do you feel angry when you are around him/her?	2	0	2	1	1
Do you feel like you are experiencing conflict with him/her?	2	1	2	0	1
Do you feel that he/she currently affects your relationship with other family members or friends in a negative way?	3	0	1	1	1
Are you afraid what the future holds for him/her?	2	0	2	0	2
Do you feel he/she is dependent upon you?	0	0	0	0	6
Do you feel strained when you are around him/her?	2	0	2	0	2
Do you feel your health has suffered because of your involvement with him/her?	2	0	2	0	2
Do you feel that you don't have as much privacy as you would like because of him/her?	3	1	1	1	0
Do you feel that your social life has suffered because you are caring for him/her?	1	1	1	1	2
Do you feel uncomfortable about having friends over because of him?	4	0	2	0	0

**Cumulative Burden Interview Scores Based on a 5-point Score (zero represents no effect and five represents extreme effect). Numbers in the columns represent caregiver responses.**

Scores	0	1	2	3	4
Do you feel that he/she seems to expect you to take care of him/her as if you were the only one he /she could depend on?	1	0	1	0	4
Do you feel that you don't have enough money to care for him/her in addition to the rest of your expenses?	1	0	0	0	5
Do you feel that you are unable to care for him/her much longer?	3	1	1	1	0
Do you feel you have lost control of your life since his/her illness?	2	0	4	0	0
Do you wish you could leave his/her care to someone else?	3	0	2	1	0
Do you feel uncertain about what to do about him/her?	3	0	2	0	1
Do you feel you should be doing more for him/her?	3	1	1	1	0
Do you feel you could be doing a better job in caring for him/her?	5	1	0	0	0
Do you feel guilty about your situation?	4	1	1	0	0
Do you feel depressed about caring for him/her?	2	0	2	1	1
Overall, how burdened do you feel in caring for him/her?	3	0	1	2	0