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**CHARACTERISTICS OF PHAS WHO
USE CBAOS' SUPPORTIVE CARE
SERVICES IN ONTARIO:
LESSONS FROM FOUR STUDIES**

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ABSTRACT

Background:

One of the first steps in evaluating supportive care services is to identify who with what characteristics and needs are Community-based AIDS Service Organizations (CBAOs) reaching and do CBAOs in rural/urban areas serve the same types of people. Such was the purpose of this paper summarizing lessons learned from four such evaluations.

Objective:

The purpose of this synthesis of findings from four studies is to identify the similarities and differences in the characteristics of persons most intensely served by urban, rural, ambulatory and inpatient CBAOs.

Design:

All four studies were historic cohort analytic studies of the characteristics, health, depression and expenditures for use of all other health and social services by PHAs who never or rarely used CBAOs' services compared to PHAs who more intensely used the CBAO service. This intensity of use of service was defined somewhat differently across studies:

- Peterborough (small/urban/rural) High User = 24 contacts per year
- Ottawa (large/urban) High User \geq 1 contact per week
- OAN (provincial) Ever versus Never User
- Casey House (inpatient) Longer \geq 1 year; Shorter \leq 1 year

Measures:

In all four studies, information was gathered on their current (after using CBAO services) sociodemographic and economic status, CD₄% count, Centre for Epidemiological Studies of Depression (CES-D) score, MOS-HIV measures of physical and mental functioning and the Browne expenditures for Health and Social Service Utilization.

Results:

In all four studies, the trend was similar. Ambulatory PHAs who used CBAOs most intensely are similar in most sociodemographic and CD₄% characteristics. They had significantly poorer current physical and mental function, more current depression, were the most poor and generated greater total per person per annum expenditures for the use of direct health services. PHAs in hospice or on home care for greater than one year are equivalent in most characteristics to those on home care less than one year but are poorer in physical and mental health function yet consume a 33% reduction in expenditures for health and social services.

Conclusion:

CBAOs have access to the most ill, poor and expensive of PHAs. For ambulatory PHAs, interventions through local service strategic alliances, especially with mental health and social assistance, would enhance CBAO capacity to serve the social and emotional needs of a growing population of surviving PHAs without increases in their own budget.

More enduring hospice and home care for this population, associated with lower expenditures for use of other services, could pay for itself within one to two years.

INTRODUCTION

With the introduction of antiretroviral therapies, there are a growing number of people with HIV/AIDS (PHAs) surviving. In addition, increases in HIV infection rates continue to affect the gay population but are expanding rapidly in Ontario to marginalized, less advantaged groups such as injection drug users, persons from Subsaharian African nations and mother-child transmissions (Remis et al., 1999).

High rates of depression (58%) are observed among PHAs in Ontario (Williams, 2003), an underestimate because the most impaired or marginalized persons generally do not respond to surveys (Gifford et al., 2002). This rate is similar to a 52% prevalence observed in a United States inner city HIV medical service (Lyketsos et al., 1996). Depression, as it interferes with problem solving may contribute to the high rates of multiple and complex needs among PHAs and their poor quality of life (Sherbourne et al., 2000). Depression is not associated with the severity of HIV illness (Knowlton et al., 2001). Depression among PHAs is associated with poor adherence to HIV medication regimes, HIV disease progression even among PHAs who adhere to medication regimes (Leserman, 2003), poorer social support, less disclosure of HIV status (Kalichman et al., 2003), poor quality of life (Tostes et al., 2004; Cook et al., 2002) and the tendency to use more expensive crisis and emergency services (Sambamoorthi et al., 2000).

There is beginning United States evidence that treatment for depression among PHAs is associated with the adherence to the use of antiretroviral medication and a significant (24%) reduction in total expenditures for use of services (Sambamoorthi et al., 2000). Social support is related to disclosure of HIV status (Kalichman et al., 2003).

Community-based AIDS Service Organizations (CBAOs) were introduced to augment publically-funded services in Canada and to provide among other things, support to people infected

and affected by HIV/AIDS. While need and unmet need for supportive services is high (Burnam, 2001), relatively little is known about the effectiveness and efficiency of the mix of human services by people with HIV/AIDS and its impact on their depression, quality of life and use of all other services (Katz, 2000).

The majority of this utilization literature has to do with the description and prediction of use of 1) specific services such as the hospital or emergency department or primary care; 2) use of antiretroviral therapy; and 3) gender/ethnic disparities in the use of HIV/AIDS services. Very little research exists from the perspective of CBAOs. That which is available describes the nature of specific outreach and prevention programs.

By 2002, eight studies featured in a special supplement to *AIDS Care* documented in cross-sectional studies that receipt of support or ancillary services such as case management, mental health, substance abuse treatment, and housing assistance correlated with early entry into and retention in HIV care (Conviser & Pounds 2002a; Conviser & Pounds 2002b; Ashman, Conviser & Pounds 2002; Sherer, Stieglitz, Narra, Jasek, Green, Moore et al., 2002). Using a longitudinal design to study a representative sample of 577 HIV-positive adults in New York City, Messeri, Abramson, Aidala, Lee & Lee (2002) documented that supportive services such as drug treatment, case management, housing assistance, mental health treatment, and transportation was significantly associated with entering and maintaining appropriate medical care use. No study could be located in Canada that described the characteristics of people with HIV/AIDS who use community-based support and services in comparison to those who do not. As a result we were unable to determine whether these services in Canada were being accessed by those most vulnerable as well as the association between CBAO-use and the nature of use of the remaining formal health and social services. Such was the purpose of this study.

OBJECTIVES

Across four studies to compare:

1. the characteristics of PHAs who frequently or rarely use CBAO services in Ontario, Canada.
2. the impact of higher use of CBAOs on PHA depression, quality of life and expenditures for health and social service utilization.
3. the impact of depression on quality of life, adherence to antiretroviral and depression medication, and expenditures for use of health and social services.

PRESENT STATE OF THE KNOWLEDGE

i) Supportive Care

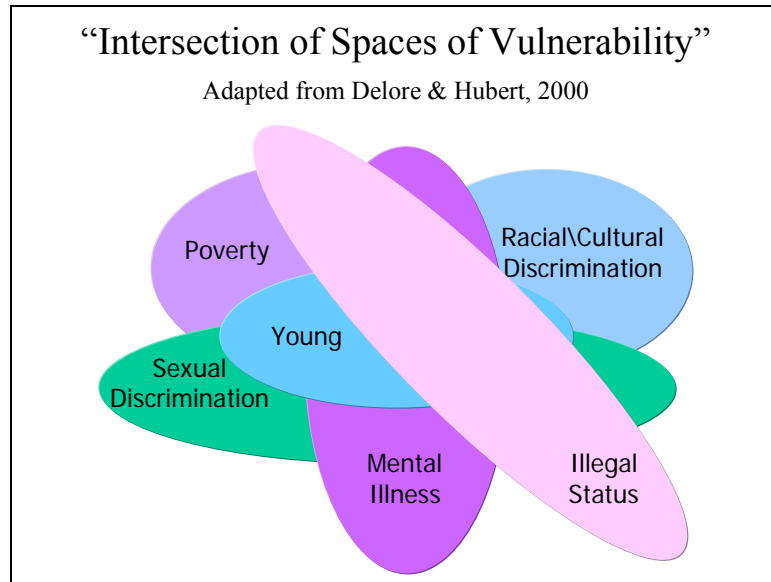
Supportive care is defined as the provision of necessary services determined by those living with or affected by an illness to meet their physical, social, emotional, informational, psychological, spiritual and practical needs throughout the spectrum of the illness experience. Services must be available during diagnostic treatment and follow-up phases and encompass issues of survivorship, palliative care and bereavement (Doll, 2000). Supportive care is a continuum and consists of services aimed at all things that determine health. Canadian evidence documents supportive care for vulnerable populations pays for itself during the same year of receipt (Browne et al., 1995, 1999, 2001).

ii) Vulnerability

To be vulnerable in the context of HIV/AIDS means to have little or no control over one's risk of acquiring HIV infection or, for those already infected with or affected by HIV, to have little or no access to appropriate care or support. Vulnerability is the net result of the interplay among

many factors, both personal (including biological) and societal; it can be increased by a range of cultural, demographic, legal, economic and political factors as in Figure 1.

Figure 1



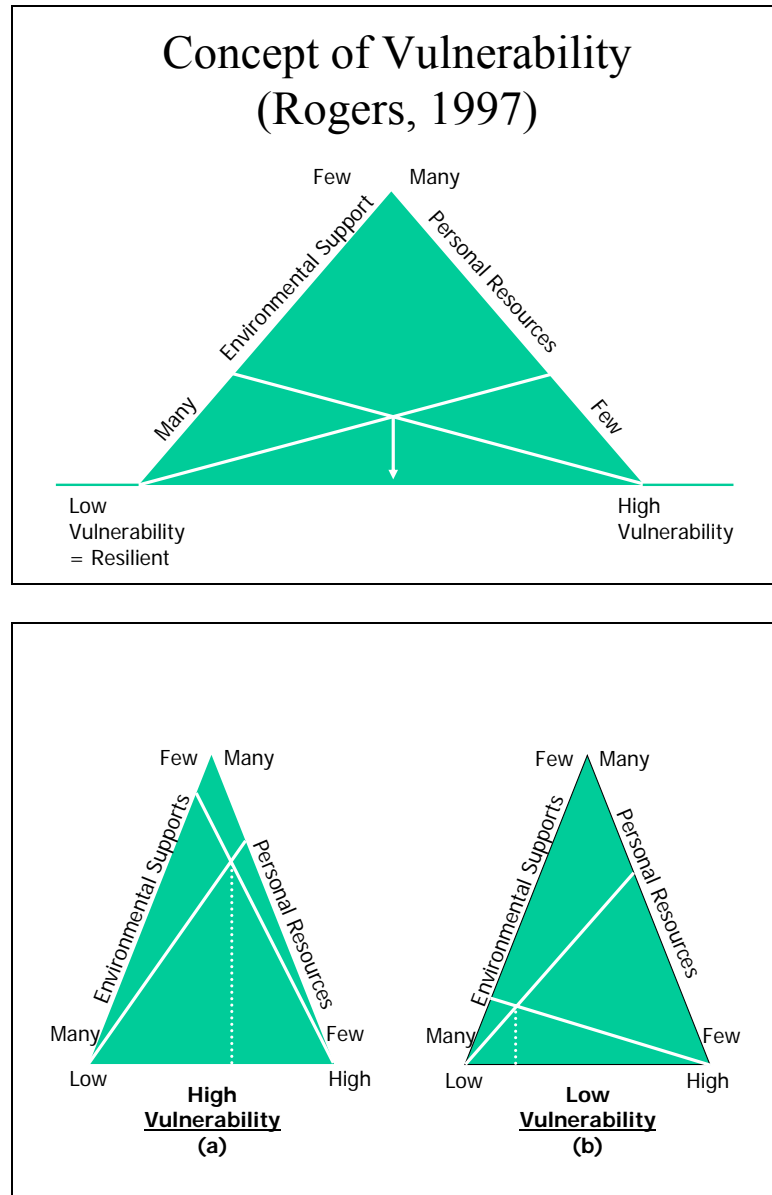
An accumulation of vulnerable factors can exponentiate risk as in the case of an illegally immigrated, young, gay, Asian with depression and homelessness.

iii) Determinants of Vulnerability

A majority of people, with one and/or more of these types of vulnerability and with or without the presence of an illness such as HIV/AIDS, adjust to their illness and/or circumstance with little reliance on the formal service system (Cassileth, 1984). Others with none of these circumstances can be highly vulnerable. Figure 2 outlines the interplay between one's environmental supports with one's personal resources and how this intersection can result in more or less vulnerability irrespective of disease status. As in Figure 2, moderate levels of environmental and personal resources give rise to a moderate level of vulnerability. Holding either environmental or personal resources constant and increasing environmental or personal resources or both by supportive services lessens one's vulnerability to their situation. This forms the theoretical basis for

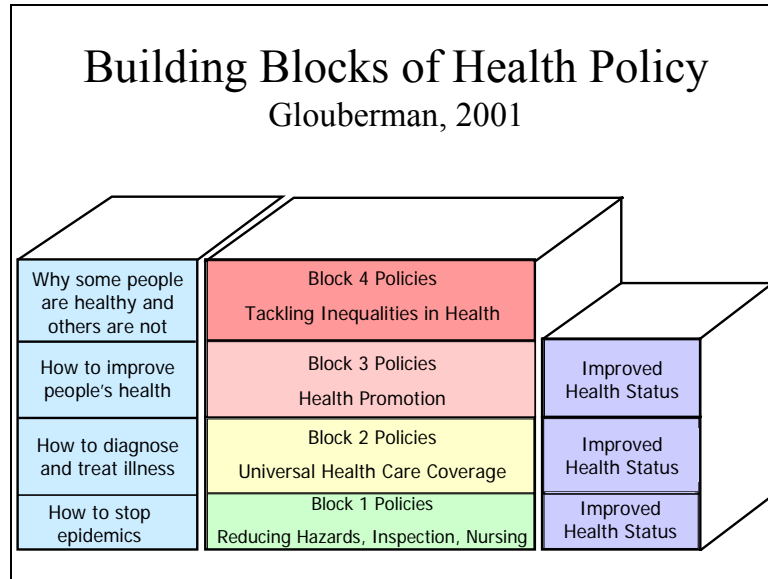
the economic value of supportive care as both more effective and ultimately, less expensive than ignoring the plight of vulnerable citizens (Browne et al., 2001).

Figure 2



Consequently, current health policy and policies governing supportive care for people facing any kind of adversity must begin to tackle the modifiable inequalities of a person's circumstance or resources that determine their vulnerable health status (Figure 3).

Figure 3



Within this framework, it is understood that inequities in personal/environmental resources are the major determinants of ill-health (defined as a lower capacity to respond to one's circumstances) and therefore reliance on or use of supportive care resources. They are well understood to be strongly related to socioeconomic equality, employment, social support and coping and cognitive capacity (including the meaning given to illness). These determinants of health, and therefore services utilization exceed the importance of stage, type of disease, prognosis or treatment status (Arpin et al., 1990) when explaining capacity to live with illness with less reliance on the intersectoral service system (Browne et al., 1994, 1999, 2001).

iv) Importance of Partnerships

Comprehensive services for complex circumstances, contexts, and conditions such as those related to vulnerability, chronic illness and disability require a variety of types of knowledge and skill. Knowledge which is acquired, synthesized and disseminated through partnerships with agencies, academia, government and the public is more likely to be useful in changing the behaviour of both the service provider and the public. Service partnerships enable the development and

provision of more effective and less expensive comprehensive, tailored, support services aimed at all the determinants of health defined as a person's capacity to live with their circumstances, including illness.

Community (service)/university (research) alliances are now encouraged to promote a convergence of scientific curiosity with social responsibility: *"Academic independence can be balanced with involvement, rigour with relevance, freedom with social responsibility, security with risks attached to opportunity, impartiality with advocacy and empirical knowledge with experiential wisdom"* (Browne et al., 1997, p. 129). Until now, less attention has been paid to the role of consumers in this strategic public education alliance, their characteristics and their circumstances that predict use of and response to screening, diagnostic treatment and palliative services although pilot projects have been carried out (Johnston, Murnaghan, Buehler & Nugent, 1998).

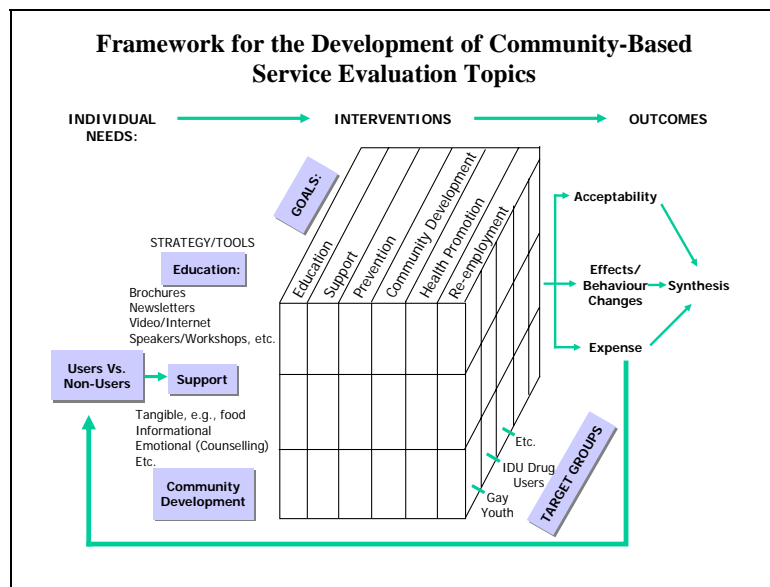
A number of disease-related organizations, such as the Canadian Mental Health Association (CMHA) and the National Cancer Institute of Canada (NCIC) have identified the need for partnerships to improve health services and delivery through the dissemination of research and use of evidence-based information. Currently, a shift in the end-user requirements of the system is occurring. No longer are patients and families victims of a disease, rather they are survivors who wish to be informed and can inform the decision-making about provision of health and social services (Johnston & Short, 1999). Consumer and therefore provider education is an expectation (HIV/AIDS Strategy for Ontario to 2008); however, health care providers and consumers do not always know what questions to ask, what information they need or the extent of all their problems. Furthermore, care providers are expected to know the most current and up-to-date information to provide the best possible care. The CLEAR Research Unit represents a strategic alliance to marshal the resources needed to evaluate the effects and expense of a mix of supportive care services for

persons infected and affected by HIV/AIDS. CLEAR Investigators work with supportive care ideas generated by CBAO's, co-constructing and "growing" a way of measuring the impact of unique CBAO supportive services and their general value when pooled or synthesized in this theme of research.

v) The Spectrum of Supportive Care

The goals, strategies and target groups for each supportive care effort can be summarized as in the following framework (Figure 4). The framework in turn, can highlight gaps in our knowledge of supportive care.

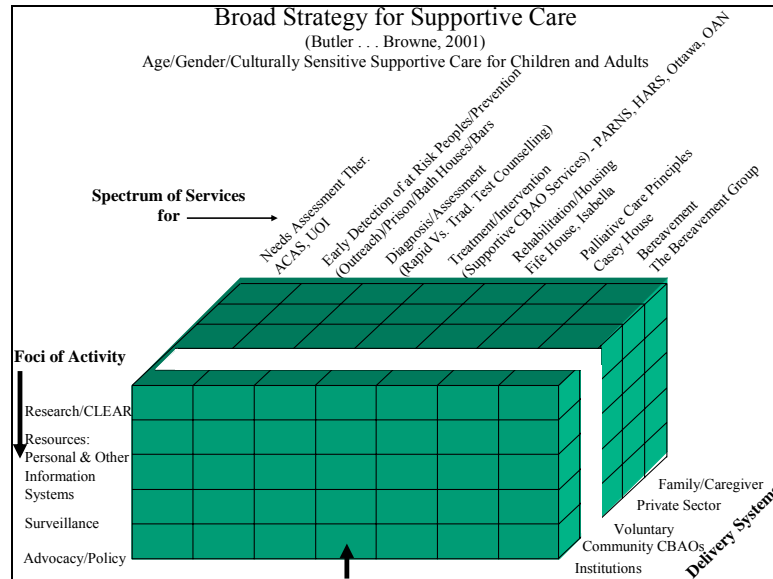
Figure 4



Improved patient outcomes and lowered expenditure on care are dependent upon the dissemination and use of new and effective education, supportive care and community development approaches to early detection, assessment, diagnosis, treatment interventions, rehabilitation, palliation, bereavement support and a person's concomitant circumstances which determine their overall health. In Ontario, Community-based AIDS Service Organizations and other groups are now

specialized in different facets of this Spectrum of Supportive Care as in Figure 5. The four studies reported here are about the characteristics of people using supportive CBAO services.

Figure 5



Generally, this supportive care CBAO service evaluation theme* within the CLEAR Unit assists community-based groups identify and explain: Who, with what characteristics or needs (target groups) are community-based groups reaching (accessibility¹, acceptability²) for what purpose (programme goals), with what mix of strategies or tools of providing service, with what effect³ (impact) on health and behaviour at what expense⁴ using comparative research designs⁵?

***Glossary of Terms**

The adequacy or effectiveness of prevention and support services consists of knowing:

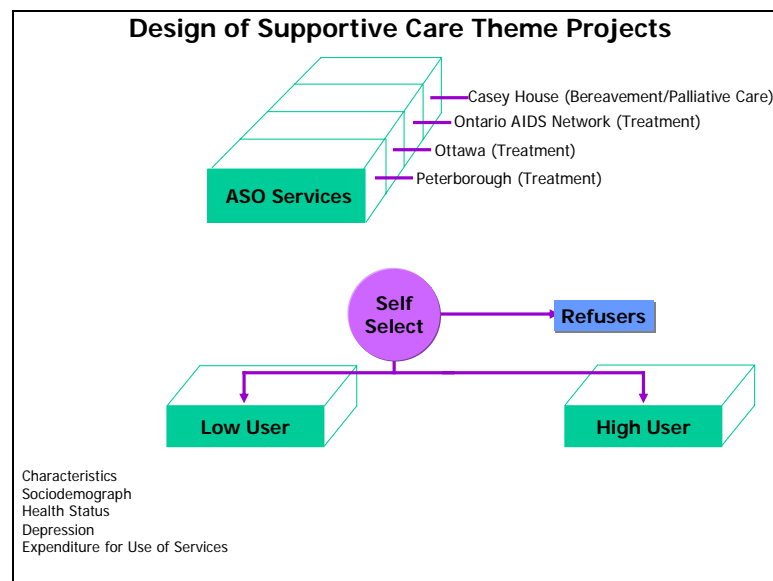
1. Is it accessible (available without barriers to those who need/want it)?
2. Acceptable and culturally appropriate (reaching those who need/want it).
3. Efficacious (benefits those who comply with or make use of the service).
4. At what expense (the cost of the service minus the dollars saved for cases or other service utilization averted).
5. Comparative Designs consist of the full range of experimental, and observational designs and qualitative evaluation methodologies.

METHODS

i) Design of Supportive Care Theme Projects

Regardless of CBAO service emphasis within the spectrum of supportive care for the disease-illness continuum, each CBAO provides its specialized and general services more or less intensely to persons who self select to use this service. A series of natural quasi-experiments across the spectrum of stages of supportive care is made possible as in Figure 6.

Figure 6



In each study, users of CBAO services were approached for their willingness to participate in this survey about their health and use of services. Participants were classified into intensity of use groups across studies as follows:

Peterborough (PARN - small/urban/rural) where high users equalled 24 or more contacts per year; N=26.

Ottawa (large/urban) where a high user equalled 52 or more contacts per year; N=43.

Ontario AIDS Network (provincial) where PHAs were classified as ever versus never used CBAO services; N=363.

Casey House inpatients and home care patients were classified as longer ≥ 1 year versus shorter ≤ 1 year service user; N=60.

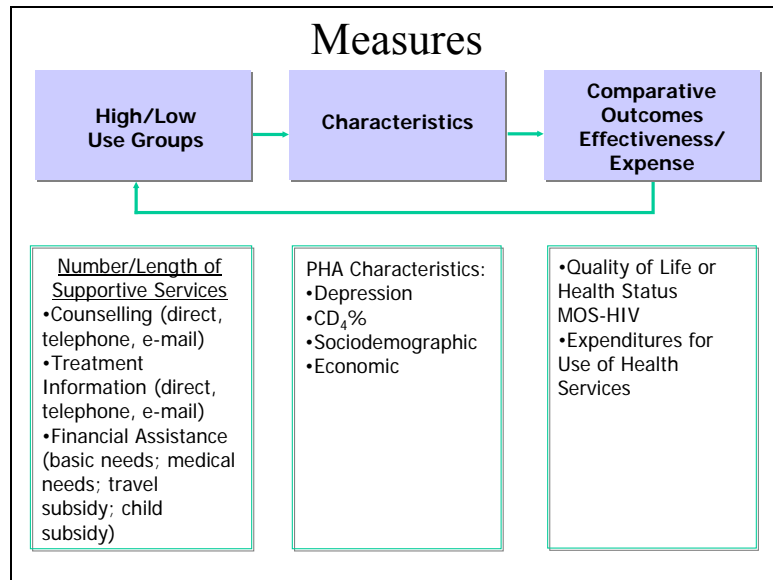
High and low users of CBAO services (Peterborough, Ottawa study), PHAs in the community who ever or never used CBAO services (OAN study), or PHAs receiving palliative care more or less than one year (Casey House study) were compared for the prevalence of depression, quality of life and expenditures for use of all health and social services.

ii) Measures

Common measures (Figure 7) of the

- a) characteristics of those served/not served,
- b) quality of life or health status, and
- c) expense of service utilization for high and low CBAO service users were gathered in each study.

Figure 7



Sociodemographic and Economic Characteristics

PHAs in each user group were compared in terms of percent male, in specific age groups, education levels, marital/partner status, living arrangement (alone: yes/no), receiving monetary benefits, mean years since diagnosis, CD₄% count, Karnofsky score as a measure of stage of illness.

Depression

Client depression was assessed using the Centre for Epidemiological Studies Depression Scale (CES-D Scale) (Radloff, 1977). This is a 20-item, four-point Likert summative scale, rated from zero (rarely) to three (most or all of the time), with a range of zero to 60. Ratings are summed for a total score. The literature is controversial regarding the cut off score indicating the presence of depression. Original articles suggest that a cut off score of 16 is indicative of depression symptoms (Radloff, 1977) while later studies (Himmelfarb and Murrell, 1983) suggest that the optimum score (to avoid false positives) is 21 or more. We chose to use 21 as the cut off score as indicative of depression. The CES-D Scale has been widely used as a short, easily administered indicator of depression in non-psychiatric populations (Radloff, 1977; Radloff and Locke, 1986). With a sample of 754 care givers, Given et al., (1992), reported a reliability value of .91 Coefficient Alpha. Time to complete the instrument is estimated to be approximately 15 minutes.

Quality of Life (MOS-HIV Health Survey)

The Medical Outcomes Study, HIV Health Survey, is a brief, comprehensive measure of health-related quality of life (HRQoL) used extensively in diverse groups including human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) (Wu et al., 1997). The 35-item questionnaire assesses ten dimensions of health including general

health perceptions (5 items), pain (2 items), physical functioning (6 items), role functioning (2 items), social functioning (1 item), cognitive functioning (4 items), mental health (5 items), energy/fatigue (4 items), health distress (4 items), quality of life (1 item) and health transition (1 item). The questionnaire takes about 15 minutes to complete. Subscales are scored on a 0-100 scale (a higher score indicates better health) and physical and mental health summary scores can be generated. The MOS-HIV has been shown to be internally consistent, correlate with concurrent measures of health, discriminate between distinct groups, predict future outcomes and be responsive to changes over time. Limited experience suggests acceptable reliability and validity in women, injection drug users and African-American and lower socioeconomic status patients. The MOS-HIV is available in 14 languages and has been included as a secondary outcome measure in numerous clinical trials for all states of disease.

Health and Social Service Utilization Questionnaire (HSSUQ)

The use of health and social services for each client was documented. The health and social service utilization variable was measured by an inventory developed by Browne, et al. (1990) based on Spitzer's methodology. It consists of questions about the respondent's use of categories of direct health services/primary care, emergency room, specialists, hospital episodes and days (irrespective of episode), use of other health and social professionals, and laboratory services. Inquiries are *"restricted to the reliable duration of recall span: six months for remembering a hospitalization, two weeks for a visit to a physician, and two days for the consumption of a prescription medication"* (Spitzer, Roberts and Demore, 1976, p. 1099). To calculate annual utilization measures, the various spans of time are extended to yield an annual rate of utilization per category of health and social service and multiplied by

the dollar value of the service to yield a measure of costs of health service. Browne et al. (1990) added questions to the health service utilization inventory, designed to assess the direct out-of-pocket expenditures, indirect costs, cash transfer effects of illness and other social costs. The additional approaches to the measure of out-of-pocket expenditures and the assignment of dollar values for direct and indirect costs are described more fully elsewhere (Browne et al., 1990). This measure has been previously tested and has demonstrated discriminant validity. High levels of observed agreement (.72-.99) between the patients' report and the clinic record have been reported (Browne et al., 1990).

Each CBAO has its own evaluation of the outcomes of their efforts at supportive care by comparing the outcomes of people with similar characteristics who use CBAO support services more or less intensely. Each have been prepared as separate papers (Lush et al., 2002; Oliver et al., 2003; Randall-Wood et al., 2003; Williams et al., 2003). This paper summarizes the results of these four studies.

RESULTS

Because of the small samples in three of four studies, final conclusions (if conflicting across studies) are based on the OAN study where N=363.

CBAO users and non-users are equivalent (Tables 1, 1a, and 1b) in gender, age (84% less than 50 years), having some college or university education (65%), married/common-law/partner (30%), living alone (50%), typically nine years since diagnosis, a CD₄ count of approximately 275, and a stage of illness Karnofsky score of 80 out of 100.

- Ambulatory PHAs are very ill physically and mentally compared with other populations (Hopman et al., 2000) and are similar to PHAs receiving hospice or home care services

(Casey House study).

- Ambulatory PHAs who use CBAOs at all or most intensely are (Table 2) citing the OAN study:
 - > the most depressed (61% versus 45%, $p=.02$).
 - > the lowest in physical ($\bar{x}=52$ versus 57, $p=.03$) and mental health ($\bar{x}=55$ versus 59, $p=.09$).
 - > the most poor (56%-82% CBAO high users versus 39%-74% CBAO low users).
 - > and generate expenditures for use of direct health services that are greater than non-users of CBAOs' services (\$21,000 versus \$14,000 per person, per annum, $p=.07$).

A closer look at the characteristics of depressed and non-depressed PHAs in the four studies reveals (Tables 3, 3a, and 3b) similarities in gender, age, education, married/common-law/partner, living alone, years since diagnosis, CD₄% count. Depressed PHAs have a lower functioning as measured by the Karnofsky scale.

Table 4 provides the physical and mental health summary scores and expenditures for the use of services by depressed and non-depressed PHAs. Because of the small samples in three of four studies, final conclusions (if conflicting across studies) are based on the OAN study where N=355 PHAs completed the survey of 363.

Irrespective of city, rural institution or province-wide Ontario studies:

- The prevalence of depression among Ontario PHAs is 40-60%, an underestimate.
- Depressed PHAs have:
 - > poorer physical function (45 versus 63, $p=.001$)
 - > poorer mental health (46 versus 70, $p=.001$) and lower role, social, cognitive function (Table 5)

and use less expenditures for direct health services (\$18,000 versus \$22,000 per person, per annum).

Nevertheless, while ambulatory depressed PHAs use CBAO services more intensely, they also (citing OAN data):

- Use more psychiatrists, psychologists ($p=.05$), community support groups and unpaid volunteers, yet remain depressed.
- Use less medication $<.001$.
- Use more crisis (911, ambulance) services and emergency room $p<.03$.

PHAs receiving hospice and/or home care with depression use twice the expenditures for direct services as their non-depressed counterparts ($p=.02$) especially in:

- Unpaid community support
- Hospice stay
- Hospital stay yet use less medication

In the OAN study (Table 6), of 355 Ontario PHAs, 204 were depressed (58%) and only 54 or 27% of them were taking antidepressants yet still scoring in the depressed range, 22% of the not depressed were taking antidepressants (Table 5) ($\chi^2_4=13.75$, $p=.008$). This same pattern of low use of antidepressants by those still scoring depressed was true of the smaller studies: Peterborough (31%), Ottawa (41%), Casey House (52%).

In addition, in the large OAN study, there was a lower use of antiviral medication by depressed PHAs (61%) compared to 78% using antivirals of the not depressed group (Table 6).

CONCLUSION

- CBAOs have access to the most ill, poorest, most depressed and more expensive of PHAs

because they use more crisis services.

- Depressed ambulatory PHAs (58%) use mental health services yet remain depressed, use less medication and use more crisis services.
- Interventions through local service strategic alliances will enhance CBAOs' capacity to serve the physical and emotional needs of a growing population of surviving PHAs.
- PHAs in hospice and/or on home care for greater than one year are equivalent to those on home care less than one year in poor physical and mental health function yet consume 33% reduction in expenditures for health and social services than PHAs on the service less than one year (\$39,000 versus \$59,000 per person, per annum).
- More enduring hospice/home care for this ambulatory population is associated with lower expenditures for use of other services and can pay for itself within one to two years.
- This is consistent with other Canadian evidence on chronic home care users (Hollander & Chappell, 2002).
- On the other hand, depressed PHAs receiving institutionalized or home care services are twice as expensive as their non-depressed counterparts. Treating the depression could be associated with cost savings.

DISCUSSION

A significant proportion (40%) of the PHAs in the four studies were depressed. As noted in the literature, there is a greater likelihood of depression in those who have significant health problems (Wells et al 1991; Kessler et al, 1994; Croghan et al, 1998). Depression is associated with diminished health status and substantially lower health related quality of life persisting over time.

Depression is associated with a high rate of health care utilizations and severe limitations in daily functioning (Manning & Wells, 1992; Simon, Ormel, VonVorff et al, 1995).

In addition, it was noted in a recent review of the literature that depressed patients were 3 times as likely as non-depressed patients to be non-compliant of their medical treatment (DiMatteo, Lepper & Croghan, 2000) although the reasons are not known. Some suggested hypotheses included:

1. compliance might be difficult for the depressed person who holds little optimism that any action will be worthwhile;
2. social isolation from those who would provide support and assistance and the presence of barriers such as adverse effects and financial constraints.

The comparative analysis of the depressed PHAs with the non-depressed PHAs demonstrates that depression negatively affects both the mental and physical health of depressed clients. Depressed PHAs reported consistently poorer perceptions of their health, poorer role, social, cognitive and mental health function; less energy, less quality of life, more health distress and a perception that their health is getting worse.

The health and social service utilization data confirms the lesson that people in a national health care system will use the services they think they need to achieve well being (Browne et al, 1995; Browne et al, 1999a; Browne et al, 1999b). However, the effect of self-selection of services used by the depressed PHAs suggests that their pattern of use might not reflect the most effective resource options or, as the literature suggests, these clients may not be complying with their medical regimen. The depressed clients, for example, are spending less on government-funded services, particularly medication, but using more “out of pocket” costs to themselves for “over the counter” medications and complementary therapies.

It does appear from the health service utilization data, that the depressed clients are using psychological services (psychologists, psychiatrists, counselling) more frequently yet are still scoring depressed while HIV related services (HIV specialists, other specialists, government-funded medication) are being used less frequently.

The availability and use of multimodal forms of community and CBAO supportive resources suggests at the very least the “not-depressed” group is receiving the appropriate HIV/AIDS resource options and is documentation of the efforts and value of the CBAO community programs.

The prevalence of a high level of depression suggests the need to train CBAO providers in the recognition of and appropriate referral for this depression. One suggestion for CBAOs and other health professionals treating HIV infected persons is that recognizing and treating depression might improve adherence to the medical and prevention regimen and subsequently reduce disability, enhance functioning, improve health care outcomes and decrease the spread of HIV. Testing this hypothesis is the objective of three future CBAO studies.

Raising the awareness of support workers and other health care providers about those at risk suggests a need for on-going targeted measures that consider the psychological and social dimensions of clients’ lives. The importance of social support is underscored. A second focus of support for clients would be to assist them to develop social networks to assist families and significant others to deal with the total impact of the illness and treatments.

These studies have implications for CBAO services. More support and training for CBAO staff in the care and treatment of a more impaired group of PHAs including care of depression could be beneficial. Experienced mental health professionals could train CBAO staff and volunteers to:

- recognize depression and other mental health problems
- enable PHAs to take up referral to HIV/AIDS clinics/specialists for appropriate and adequate

doses of medication

- assist clients to comply with their pharmacotherapy and prevention regimens
- serve the hard to reach PHAs
- and either provide basic interpersonal or cognitive behaviour counselling strategies themselves, once PHAs have begun to respond to their medication, or develop strategic alliances with existing mental services to provide this counselling.

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APPENDIX A

Tables

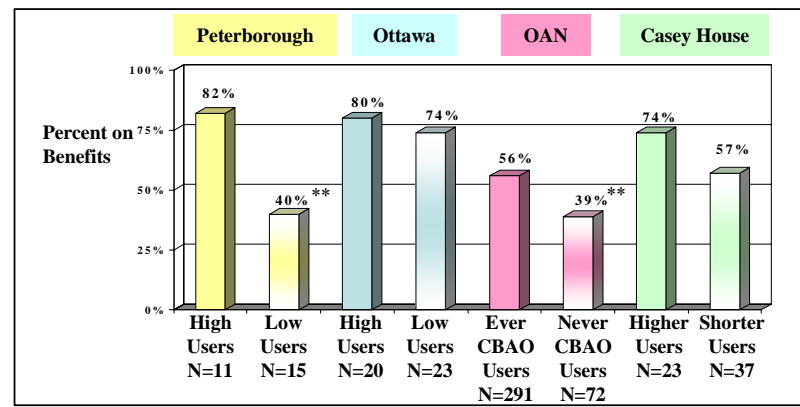
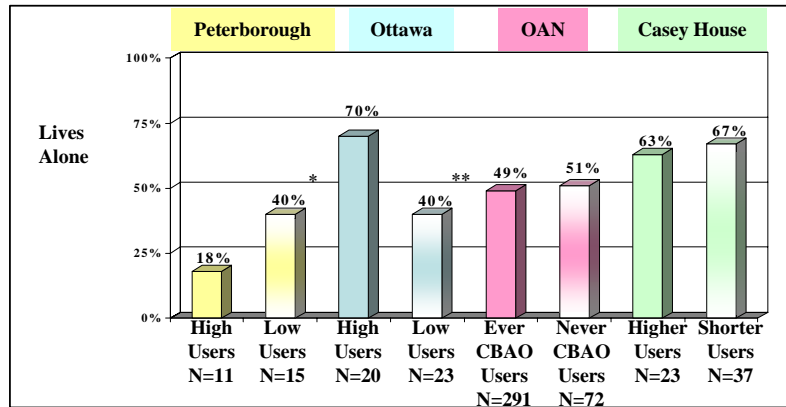
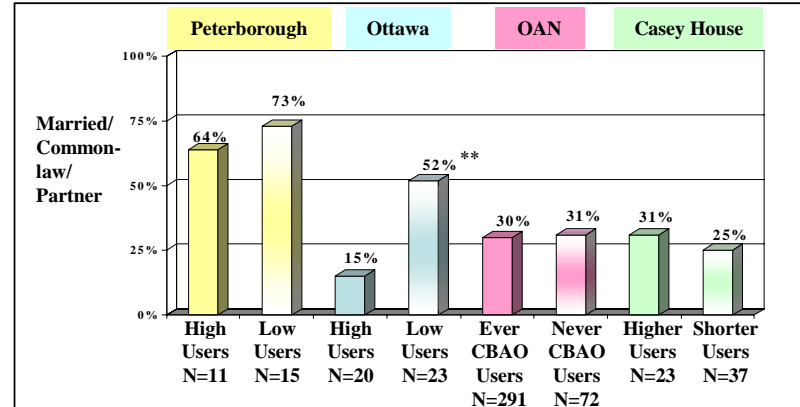
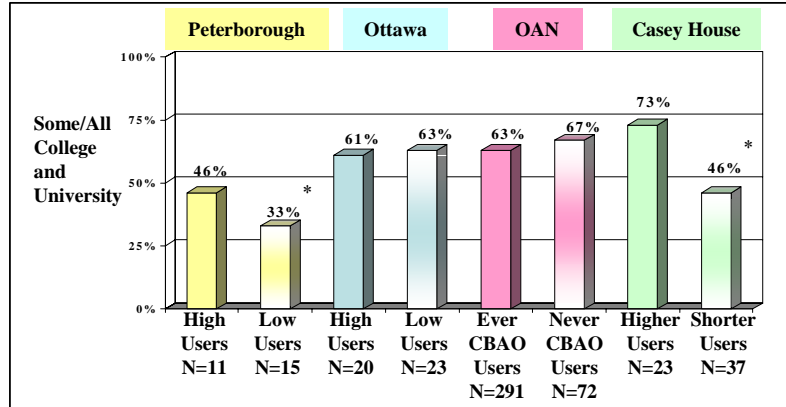
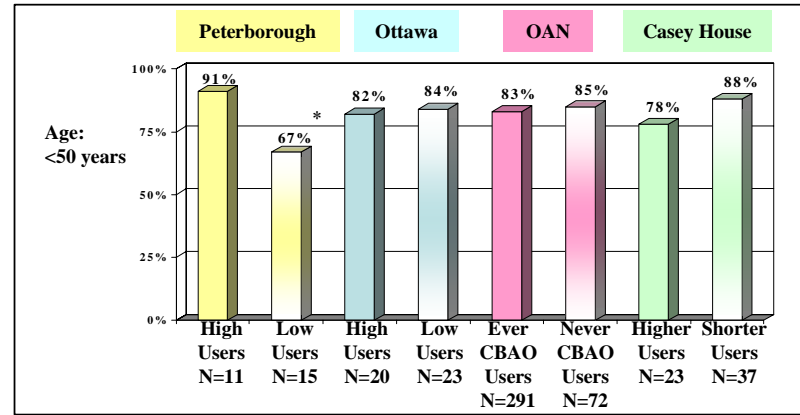
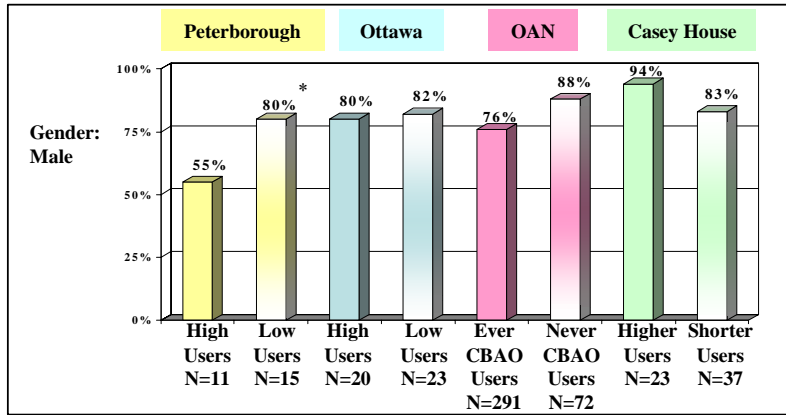
Table 1
Characteristics of CBAO Users Across Four Studies

	Peterborough		Ottawa		OAN		Casey House	
	High Users N=11	Low Users N=15	High Users N=20	Low Users N=23	Ever CBAO Users N=291	Never CBAO Users N=72	Higher Users N=23	Shorter Users N=37
	%	%	%	%	%	%	%	%
Male	55	80*	80	82	76	88	94	83
<50 years	91	67*	82	84	83	85	78	88
Some/all college and university	46	33*	61	63	63	67	73	46*
Married/common- law/partner	64	73	15	52**	30	31	31	25
Lives alone	18	40*	70	40**	49	51	63	67
Percent on benefits	82	40**	80	74	56	39**	74	57
	\bar{x}	\bar{x}	\bar{x}	\bar{x}	\bar{x}	\bar{x}	\bar{x}	\bar{x}
Years since diagnosis	9	10	9	11	9	8	11	11
CD₄% count	492	452	511	483	285	262	289	220
Stage of illness Karnofsky	85	84	80	84	79	83	69	69

* = clinically different

** = statistically different p=.05 to .003

Table 1a
Characteristics of CBAO Users Across Four Studies



* Clinically different ** Statistically different p=.05 to .003

Table 1b
Characteristics of CBAO Users Across Four Studies

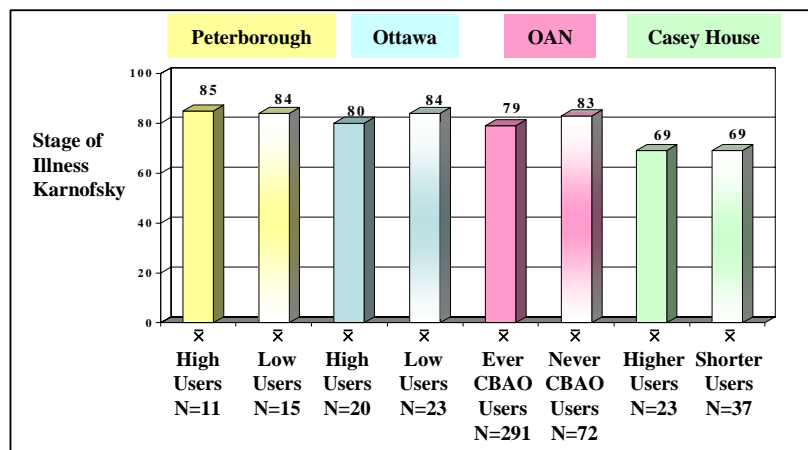
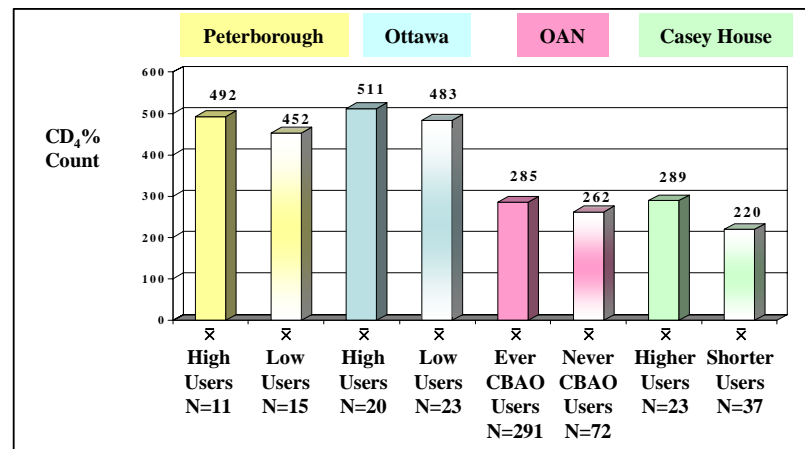
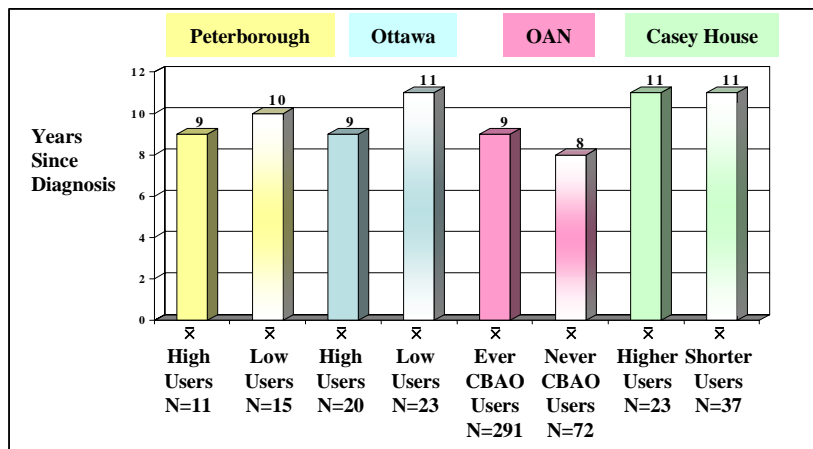
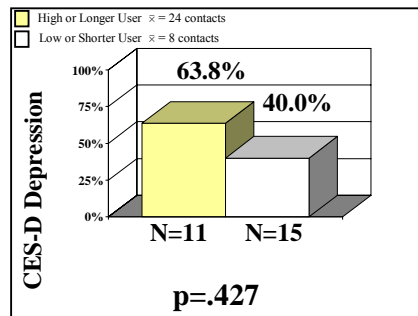
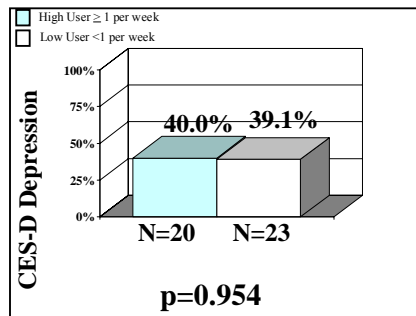


Table 2

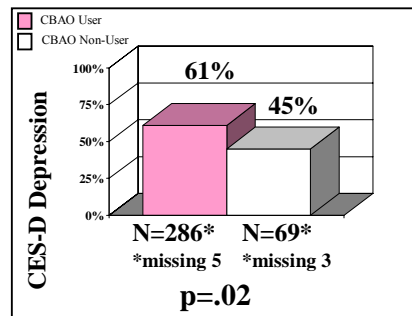
Peterborough



Ottawa



OAN



Casey House

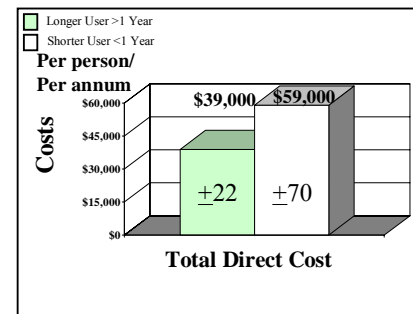
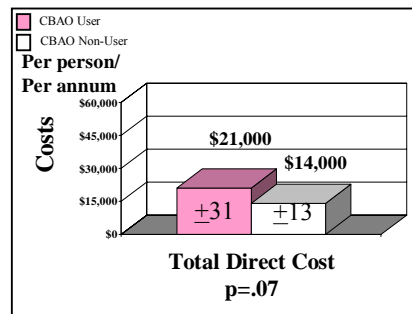
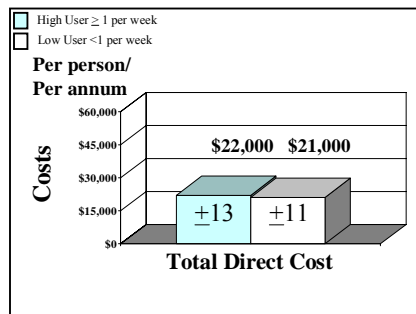
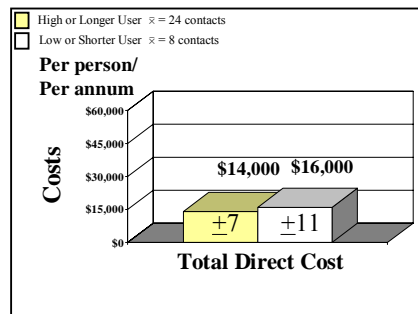
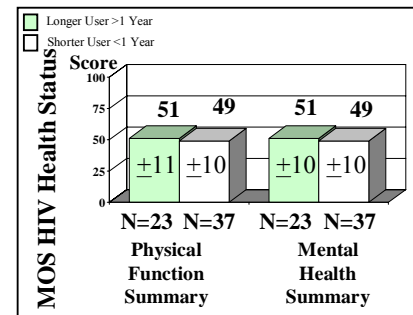
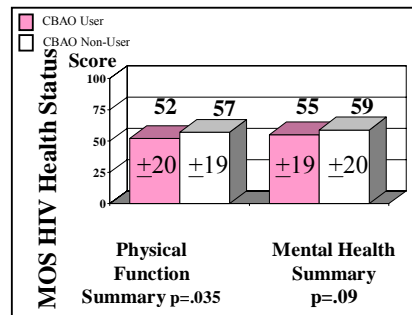
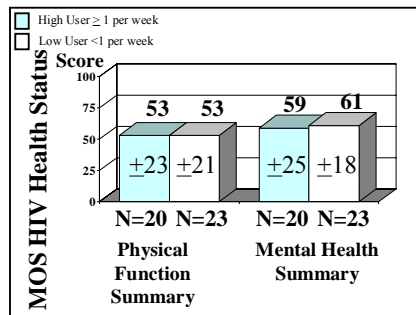
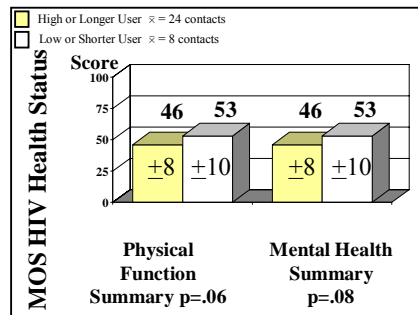
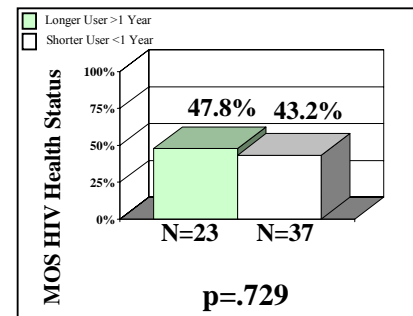
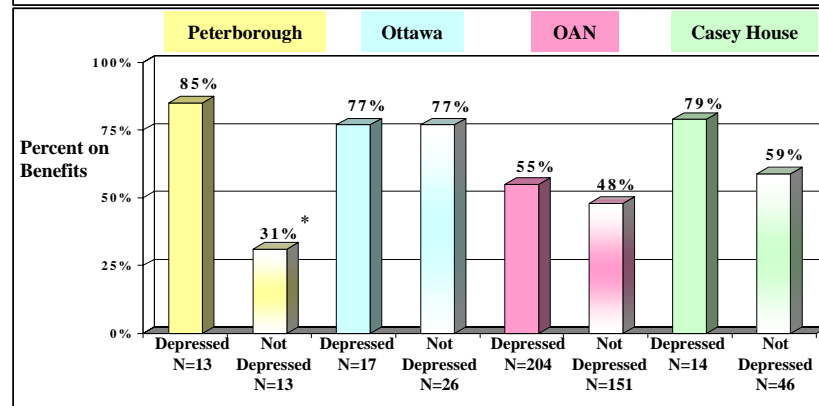
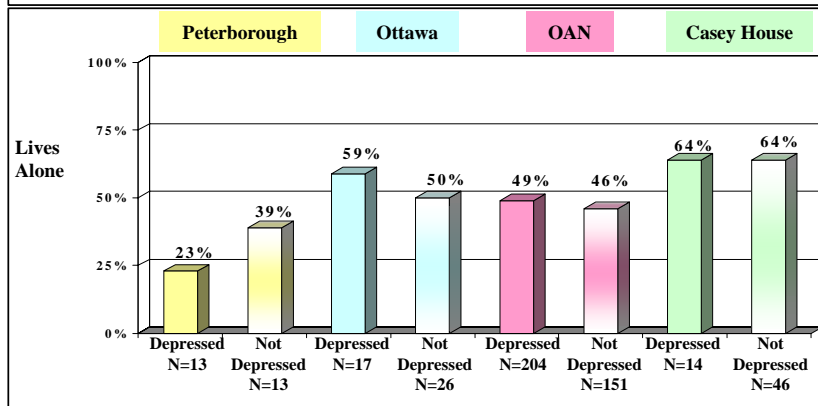
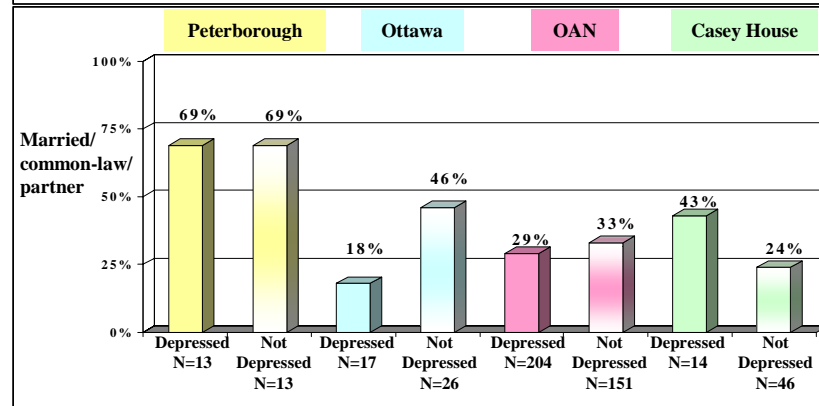
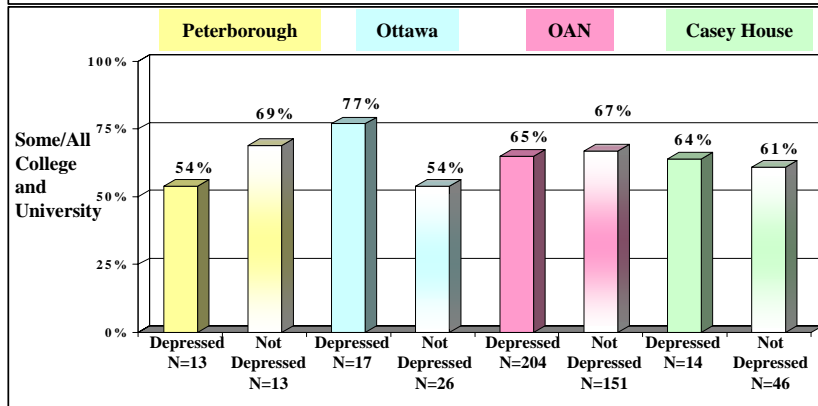
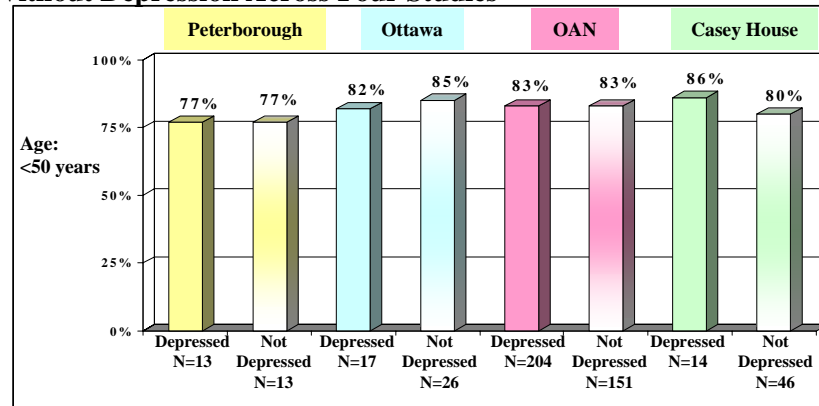
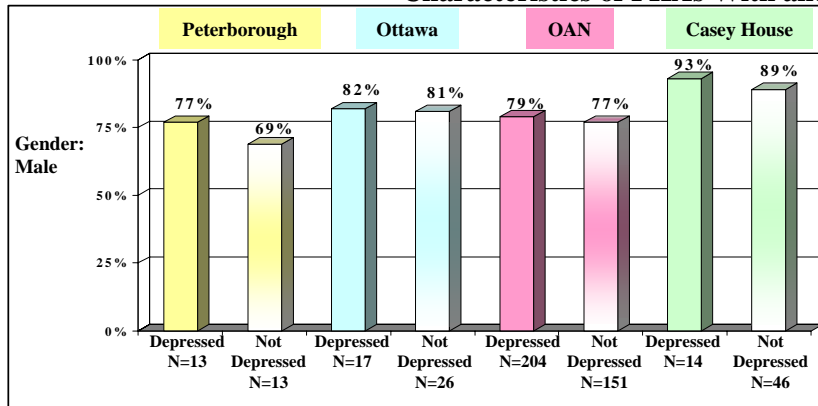


Table 3
Characteristics of PHAs With and Without Depression Across Four Studies

	Peterborough		Ottawa		OAN		Casey House	
	Depressed N=13	Not Depressed N=13	Depressed N=17	Not Depressed N=26	Depressed N=204	Not Depressed N=151	Depressed N=14	Not Depressed N=46
	%	%	%	%	%	%	%	%
Male	77	69	82	81	79	77	93	89
<50 years	77	77	82	85	83	83	86	80
Some/all college and university	54	69	77	54	65	67	64	61
Married/common- law/partner	69	69	18	46	29	33	43	24
Lives alone	23	39	59	50	49	46	64	64
Percent on benefits	85	31*	77	77	55	48	79	59
	\bar{x} (SD)	\bar{x} (SD)	\bar{x} (SD)	\bar{x} (SD)	\bar{x} (SD)	\bar{x} (SD)	\bar{x} (SD)	\bar{x} (SD)
Years since diagnosis	9 (4)	9 (5)	8 (5)	12 (6)	9 (5)	9 (5)	10 (5)	11 (5)
CD₄% count	494 (346)	440 (258)	412 (207)	550 (303)	289 (246)	259 (283)	191 (136)	282 (216)
Stage of illness Karnofsky	82 (14)	86 (10)	79 (11)	84 (16)	76 (17)	84 (14)	60 (15)	72 (15)

* = significant p=.05

Table 3a
Characteristics of PHAs With and Without Depression Across Four Studies



* Significant p=.05

Table 3b
Characteristics of PHAs With and Without Depression Across Four Studies

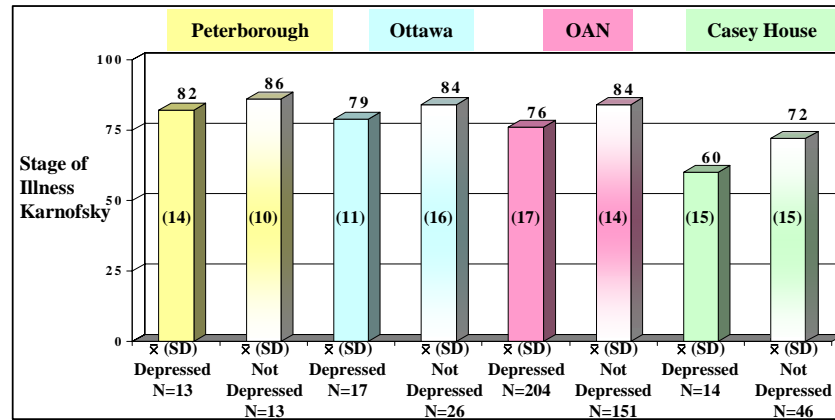
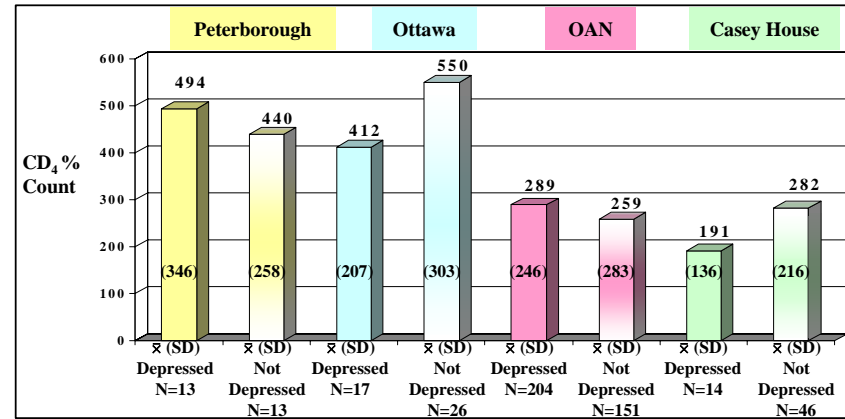
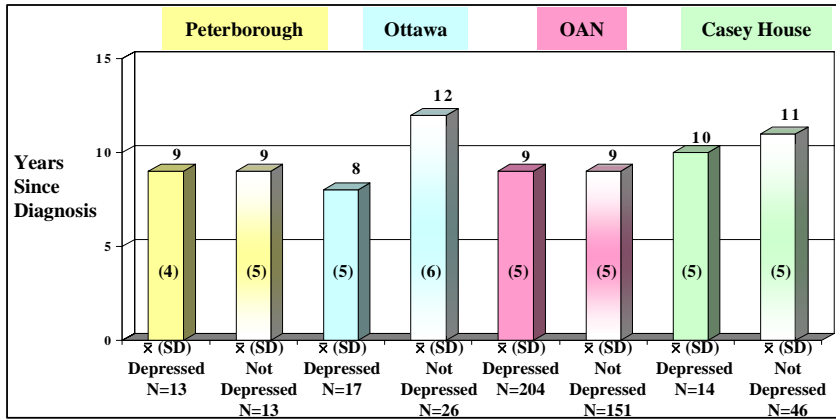
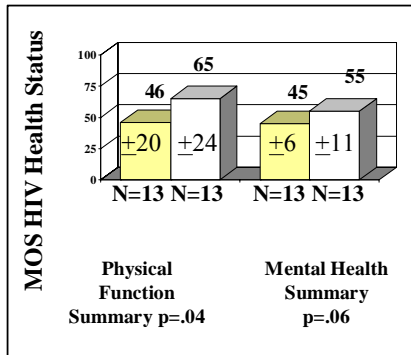


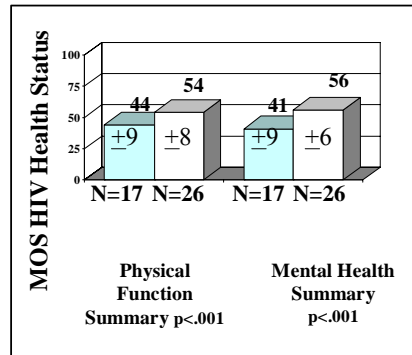
Table 4

= Depressed \geq 21 CES-D
 = Depressed \geq 21 CES-D
 = Depressed \geq 21 CES-D
 = Worse Mental Health < 43 MOS-HIV
 = Not Depressed
 = Not Depressed < 20 CES-D
 = Not Depressed
 = Better > 44 MOS-HIV

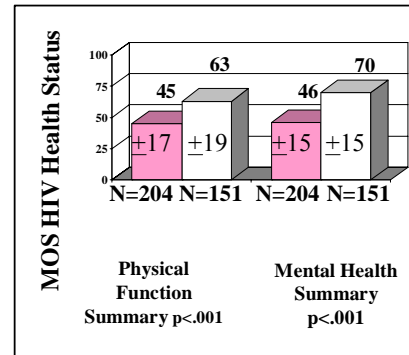
Peterborough



Ottawa



OAN



Casey House

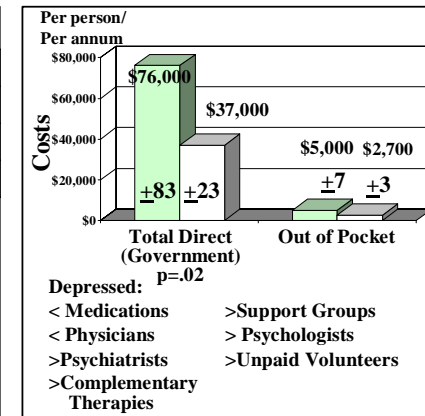
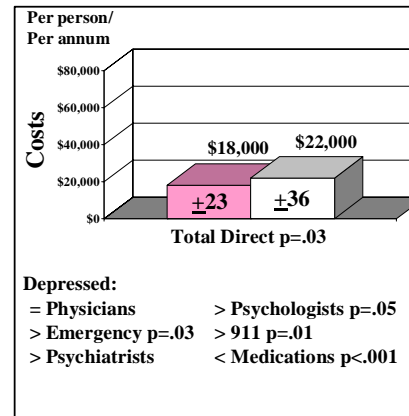
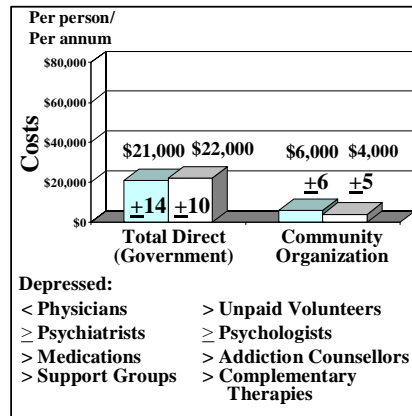
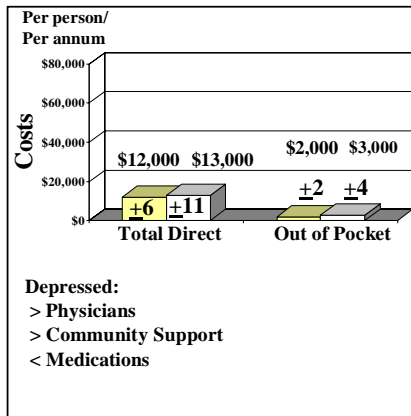
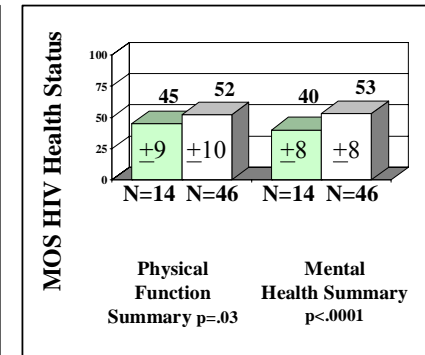


Table 5

OAN Health-related Quality of Life of Depressed and Non-depressed PHAs

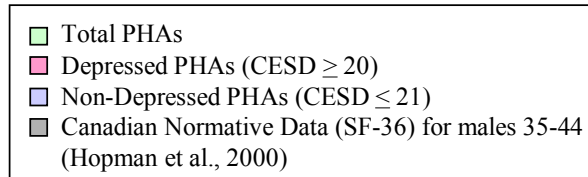
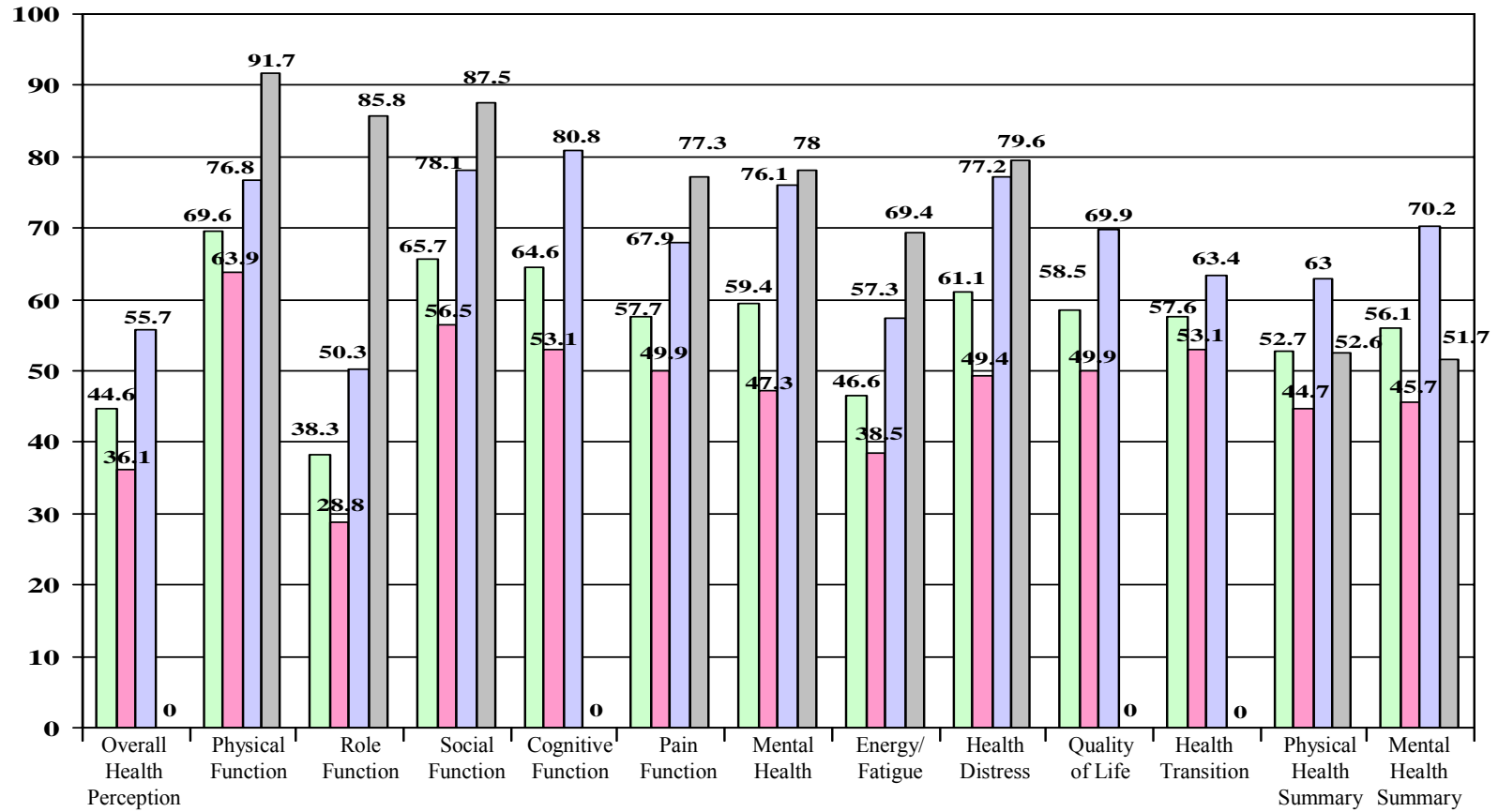
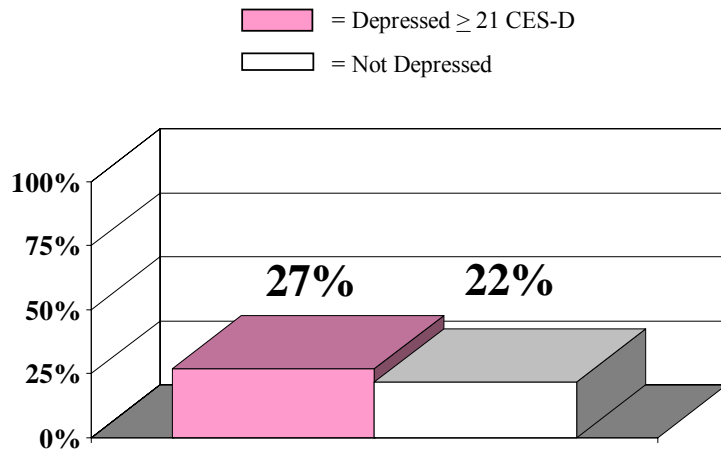
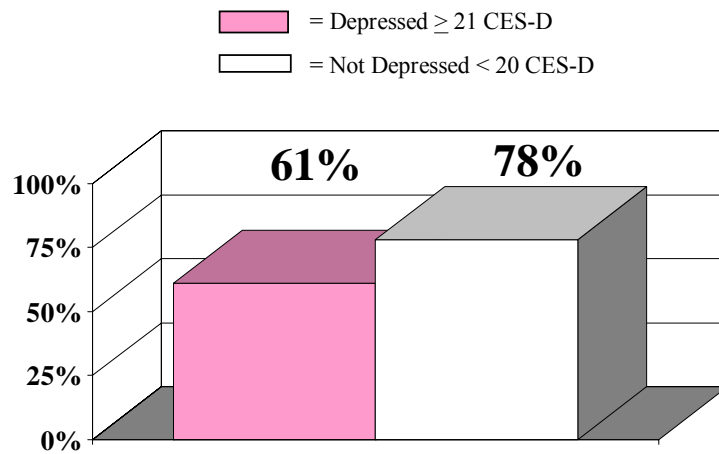


Table 6

Percent of PHAs (OAN Study) Using Antidepressants



Percent of PHAs (OAN Study) Using Antivirals



APPENDIX B

Measures