

Utilization of Veterans' Health Services for Substance Abuse: A Study of Aging Baby Boomer Veterans

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Abstract: The purpose of this chapter is to determine whether there were changes in veterans' utilization of substance abuse services as they became older. The study used national Department of Veterans Affairs (VA) inpatient utilization data from fiscal years 1988, 1991, 1994, and 1998, and national outpatient data from fiscal year 1998. Observations were selected if the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes for substance abuse or dependence, intoxication, or alcohol or drug psychoses were identified in any of the 10 diagnosis fields for the inpatient stay or outpatient visit. Observations were also identified as primary or secondary substance-related diagnoses. Utilization of inpatient substance use and non-substance use services by age cohorts, including baby boomers (i.e., those aged 30 to 44 years in 1992), was examined for all veterans with substance use diagnoses in each year, and utilization of outpatient substance use services was studied for 1998. Relative to other age groups defined for 1992, the proportionate use of VA inpatient substance use services by baby boomers remained relatively constant or increased over the years studied, while their proportionate use of other inpatient services increased. Results for the 1 year of outpatient utilization data that were available showed similar distributions to those from the comparable inpatient year. Therefore, veteran substance abusers from the baby boomer generation continue to occupy the largest proportion of VA substance abuse services, and there is little evidence of declining need for treatment or "aging out" among this group of substance-using veterans.

Introduction

The purpose of this chapter is to determine whether there were cohort differences over time in veterans' utilization of substance abuse services as they became older. Epidemiologic data from the early 1980s indicates that the prevalence of substance use disorders decreases substantially with age (Helzer, Burnam, & McEvoy, 1991); however, recent national prevalence data to identify whether later cohorts of substance abusers continue to "age out" at similar rates are not available. Generally, substance abuse treatment programs have younger to early middle-aged clients (Weisner, 1993; Weisner, Greenfield, & Room, 1995), although a number of specialized programs focus on older adults (Atkinson, Tolson, & Turner, 1990; Blow, Walton, Chermack, Mudd, & Brower, 2000b; Center for Substance Abuse Treatment [CSAT], 1998; Willenbring, Olson, Bielinski, & Lynch, 1995). VA substance abuse treatment programs serve a substantial number of older adults (Moos, Mertens, & Brennan, 1994c), although these patients generally represent a small fraction (around 10 to 15 percent) of the overall treatment

population (Booth, Blow, Cook, Bunn, & Fortney, 1992; Ross, Fortney, Lancaster, & Booth, 1998).

There is also evidence of a substantial number of older alcoholics in medical and psychiatric settings and in primary care (Beresford, Blow, Brower, Adams, & Hall, 1988; Blow et al., 2000a), especially in Department of Veterans Affairs (VA) hospitals (Booth et al., 1992; Booth, Blow, Cook, Bunn, & Fortney, 1997; Moos, Brennan, & Mertens, 1994a; Willenbring et al., 1995). Older alcoholic veterans are more likely to be present in medical and psychiatric settings than in substance abuse treatment (Booth et al., 1992, 1997), both because of the chronic medical conditions more common in the elderly and because of the medical and psychiatric consequences of alcohol abuse. However, many more VA medical inpatients are recovering alcoholics whose acute alcohol problems ended many years earlier (Booth, Blow, & Cook, 1998).

This chapter discusses the utilization of VA health services by baby boomers (individuals born between 1946 and 1964). Utilization of services was measured within the VA only. It focuses on whether the use of substance use treatment and other service utilization declined as this generation aged between 1992 and 1998. For this study, cross-sectional data were used over 11 years of VA utilization, and age in 1992 was examined to provide a common anchor-point to identify changes in utilization for specific birth cohorts. An alternative design was considered: a longitudinal analysis of a specific cohort of individuals identified at a single point in time and followed subsequently through their VA utilization. However, because of time and resource constraints, that design was not chosen.

Methods

Data Obtained

The VA's inpatient and outpatient databases (the "patient treatment file" and the "outpatient file," respectively) were used. These databases include records of all inpatient and outpatient care provided in VA medical centers and freestanding outpatient clinics and have been maintained by the VA since the early 1980s. There is one observation for each inpatient stay and each outpatient clinic visit. As many as 10 International Classification of Disease (ICD-9) diagnoses are available in the inpatient and outpatient data, as well as demographic information, including age, gender, and race/ethnicity.

Until recently, all substance abuse care in the VA was provided on an inpatient basis. Therefore, the patient treatment files for fiscal years (FY) 1988, 1991, 1994, and 1998 were used. Beginning in the mid-1990s, the VA began providing a substantial portion of its substance abuse and other care on an outpatient basis. By 1997-1998, almost all of the treatment was provided in the outpatient setting. FY 1998 was substituted for FY 1997

(which would have maintained the 3-year increments) because the outpatient file with patient diagnoses was very incomplete for FY 1997.

All discharge diagnoses for each observation, either inpatient or outpatient, were searched for ICD-9 substance use diagnoses, including alcohol abuse, drug abuse, alcohol intoxication, alcohol dependence, drug dependence, alcoholic psychosis, and drug-induced psychosis. Each identified observation was classified as either "primary diagnosis" (if the substance use diagnosis was the primary diagnosis on either the inpatient or outpatient data files), or "secondary diagnosis" (if the substance use diagnosis was listed in any of the other diagnosis fields). A secondary diagnosis of substance abuse could have been assigned from a variety of hospitalizations for medical, surgical, or psychiatric diagnoses.

For the inpatient data, the type of care was characterized according to primary or secondary diagnosis and length of stay. For example, a veteran with a liver cirrhosis diagnosis as a primary diagnosis and an alcohol diagnosis listed in one of the secondary diagnosis fields would be classified as secondary diagnosis; if the diagnoses were reversed, the veteran would be classified as primary diagnosis. If the primary diagnosis was substance use, two groups were created: length of stay of 1 to 5 days (an approximation for a detoxification or brief treatment episode) and length of stay of more than 5 days (an approximation for an extended treatment episode). If the substance use diagnosis was the secondary diagnosis, the type of care was labeled as secondary diagnosis and it was assumed that less direct substance abuse care was provided, although this assumption cannot be verified. For the outpatient FY 1998 data, the distribution of outpatient visits was examined, counts of substance use visits during the year were calculated, and patients were grouped by 1 to 5 visits, 6 to 19 visits, and 20 or more visits, and secondary diagnosis visits.

Subjects

An inpatient database was assembled of a single record per individual veteran for each fiscal year included. For each fiscal year and individual patient, the observation was chosen that represented the most intense amount of substance use care (e.g., longer substance abuse hospitalizations were selected first, followed by shorter brief treatments or detoxification, followed by secondary diagnosis hospitalizations). Therefore, individuals will be duplicated across inpatient fiscal years but not within fiscal years.

Only one observation per individual in the outpatient data was included; preferential selection was made if an individual had at least one outpatient visit with a primary substance abuse diagnosis. Duplicates between the FY 1998 inpatient and outpatient data were not eliminated. Date of birth was available for only 72 percent of the outpatient substance abuse observations in FY 1998, even after searching a range of years of inpatient and outpatient data. Therefore, age was not available for approximately one

fourth of the outpatient observations for that fiscal year, and those observations were dropped from further analysis.

To provide a context within which to view these age-related data for substance-abusing veterans, we also obtained the age distributions for all veterans who used the VA as inpatients or outpatients in the years studied.

Analyses

Age groups with a base year of 1992 were defined to examine how similarly aged individuals with substance abuse were represented in the VA system over time. 1992 was chosen as the anchor because the National Institute on Alcohol Abuse and Alcoholism's (NIAAA's) National Longitudinal Epidemiologic Study (NLAES) was conducted in that year. All tables in this chapter are displayed with rows representing age in 1992. Baby boomers were aged 28 to 46 in 1992. Therefore, the age groups 30 to 44 years in 1992 capture the majority of baby boomers. Other age groups were defined as younger than 30 years, 45 to 59 years, and 60 or older in 1992.

Results

[Table 1](#) shows the age distribution of all veterans with substance abuse diagnoses using VA inpatient services from 1988 to 1998, together with the same age distributions for all VA inpatients in the same fiscal years. It is important to note the overall decline in absolute numbers of inpatients, both substance abusers and total population. Most of this decrease is attributable to the massive shifts that have occurred from inpatient to outpatient services during this time period. The proportion of substance-abusing baby boomers (aged 30 to 44 in 1992) within the total substance-abusing VA inpatient populations increased from 37.0 to 52.5 percent between fiscal years 1988 and 1998 (see [Table 1](#)). In each year, baby boomers represented the largest proportion of substance abusers by age group. In contrast, this age group represented substantially *smaller* proportions of the total VA inpatient population in the same years: 17.6 percent in 1988 and 26.0 percent in 1998. Even though the representation of younger substance-abusing veterans (those aged 30 or younger in 1992) increased fivefold from 1988 to 1998, only 5.5 percent of the inpatients with substance abuse diagnoses in 1998 were from this youngest age group. In the entire VA inpatient system, there were smaller (threefold) increases in representation of this young age group. Corresponding decreases were observed in the older substance abusers—among those who were 60 or older in 1992. The representation of this age group among substance abusers declined by almost two thirds between 1988 and 1998, while the representation of the 60 or older group only decreased from 63.0 to 42.5 percent in the entire VA inpatient population. The decrease in the proportion of older substance abusers may have been a function of mortality, a

decrease in prevalence of substance abuse, or even more frequent underdiagnosis of substance abuse problems in the elderly.

Age Group	1988		1991		1994		1998	
	Substance Abusers	All VA Inpatients	Substance Abusers	All VA Inpatients	Substance Abusers	All VA Inpatients	Substance Abusers	All VA Inpatients
60 or Older	48,949 (33.74%)	394,340 (63.03%)	34,831 (26.91%)	318,865 (57.64%)	23,521 (18.70%)	263,781 (49.90%)	10,553 (12.70%)	157,346 (42.50%)
45 to 59	40,900 (28.19%)	113,715 (18.18%)	37,605 (29.05%)	114,230 (20.65%)	36,155 (28.74%)	124,937 (23.64%)	24,375 (29.32%)	103,759 (28.02%)
30 to 44	53,630 (36.96%)	109,783 (17.55%)	54,292 (41.94%)	109,003 (19.70%)	60,873 (48.39%)	122,527 (23.18%)	43,659 (52.52%)	96,164 (25.97%)
Younger Than 30	1,608 (1.11%)	7,819 (1.25%)	2,726 (2.11%)	11,110 (2.01%)	5,243 (4.17%)	17,360 (3.28%)	4,539 (5.46%)	12,979 (3.51%)
Total	145,087	625,657	129,454	553,208	125,792	528,605	83,126	370,248

Note: Estimates are column percentages.

Between FY 1988 and FY 1998, the proportion of baby boomer substance-abusing veterans (aged 30 to 44 in 1992) in longer substance abuse hospitalizations actually increased over the same time interval, from 45.8 percent in 1988 to 57.1 percent in 1998 ([Table 2](#)). At the same time, this group also increased their representation in the secondary diagnosis group (primary diagnosis of another disorder and secondary diagnosis of substance abuse) from 24.8 percent in 1988 to 50.0 percent in 1998. On the other hand, the representation of the oldest veterans (60 or older in 1992) in longer inpatient substance abuse treatment stays decreased ([Table 2](#)). For example, in 1988, 22.5 percent of longer inpatient substance abuse hospitalizations were accounted for by veterans 60 or older in 1992. In contrast, this age group accounted for only 8.8 percent of longer inpatient substance abuse hospitalizations in 1998. Similarly, there was a concomitant decrease in secondary diagnosis hospitalizations by older substance-abusing veterans (45 or older) between 1988 and 1998 (74.5 and 44.7 percent, respectively). The substance-abusing group aged 45 to 59 in 1992 provides a useful contrast: Their representation in the longer substance abuse treatment episodes stayed relatively constant over the years studied (range of 26.8 to 30.2 percent), as did their representation in the secondary diagnosis group (range of 25.0 to 31.1 percent).

Age Group	1988			1991			1994			1998		
	Treatment > 5 Days	Treatment 0-5 Days	Secondary Diagnosis	Treatment > 5 Days	Treatment 0-5 Days	Secondary Diagnosis	Treatment > 5 Days	Treatment 0-5 Days	Secondary Diagnosis	Treatment > 5 Days	Treatment 0-5 Days	Secondary Diagnosis
60 or Older	15,669 (22.48%)	3,650 (23.62%)	29,630 (49.44%)	9,404 (15.41%)	2,168 (17.56%)	23,259 (41.47%)	6,104 (9.88%)	1,570 (11.87%)	15,847 (31.21%)	1,556 (8.81%)	852 (7.15%)	8,145 (15.21%)
45 to 59	21,067 (30.22%)	4,823 (31.21%)	15,010 (25.04%)	17,789 (29.15%)	3,914 (31.70%)	15,902 (28.35%)	16,562 (26.80%)	3,807 (28.79%)	15,786 (31.09%)	5,034 (28.50%)	3,532 (29.65%)	15,809 (29.52%)
30 to 44	31,934 (45.82%)	6,808 (44.06%)	14,888 (24.84%)	31,997 (52.43%)	6,020 (48.76%)	16,275 (29.02%)	35,645 (57.68%)	7,226 (54.65%)	18,002 (35.45%)	10,088 (57.11%)	6,779 (56.91%)	26,792 (50.03%)
Younger Than 30	1,032 (1.48%)	170 (1.10%)	406 (0.68%)	1,833 (3.00%)	245 (1.98%)	648 (1.16%)	3,483 (5.64%)	619 (4.68%)	1,141 (2.25%)	986 (5.58%)	748 (6.28%)	2,805 (5.24%)

Note: Estimates are column percentages.

As a frame of reference for the total veteran inpatient populations in these years, the absolute numbers and proportions of the oldest group (60 or older) declined between 1988 and 1998 while the younger age groups increased in representation. However, the representation of baby boomer substance abusers in the secondary diagnosis group ([Table 2](#)) was consistently *greater* than in the entire VA inpatient population ([Table 1](#)).

Among veterans with substance abuse diagnoses using outpatient services in FY 1998, outpatient baby boomer veterans with substance abuse diagnoses occupied the largest age group (48.0 percent) in FY 1998 ([Table 3](#)). This proportion is very similar to that found in the inpatient data for the same fiscal year (52.5 percent, see [Table 1](#)). The next highest representation was among veterans who were aged 45 to 59 in 1992 (32.1 percent). On the other hand, baby boomer veterans were relatively less frequently represented in the total outpatient population—only 27.8 percent contrasted to the most frequent age group (those 60 or older in 1992) who comprised 36.6 percent of the total outpatient users (see [Table 3](#)).

Table 3 Distribution for Substance Abusers and Outpatient Clinic Population in VA Outpatient Clinics for Fiscal Year 1998, by Age

Age Group	Substance Abuse Diagnosis		All Outpatient Clinic Patients	
	N	%	N	%
60 or Older	43,386	15.7	1,164,734	36.6
45 to 59	88,576	32.1	870,599	27.4
30 to 44	132,484	48.0	884,023	27.8
Younger Than 30	11,468	4.2	262,115	8.2
Total	275,914		3,181,471	

Note: Estimates are column percentages.

Baby boomer veterans with substance use diagnoses were most heavily represented in all outpatient substance abuse utilization categories ([Table 4](#)). This group of veteran outpatients used 62.5 percent of the 20 or more visits category and 55.8 percent of the 6 to 19 visits category, as well as 46.3 percent of the secondary diagnosis visits, contrasted with older and younger age groups who were less frequently represented in any of the types of outpatient care. For example, veterans aged 45 to 59 in 1992 accounted for only 25.8 percent of the longer (20 or more) episodes of outpatient substance abuse care and 33.1 percent of the secondary diagnosis outpatient population.

Table 4 Distribution for Type of VA Outpatient Substance Abuse Services for Fiscal Year 1998, by Age

Age Group	Substance Abuse Primary Diagnosis Visits						Secondary Diagnosis Visits	
	20 or More		6 to 19		1 to 5		N	%
	N	%	N	%	N	%		
60 or Older	628	5.66	1,398	9.28	11,726	15.40	29,634	17.07
45 to 59	2,870	25.85	4,333	28.76	23,980	31.50	57,393	33.06
30 to 44	6,937	62.48	8,414	55.84	36,732	48.25	80,401	46.31
Younger Than 30	668	6.02	922	6.12	3,689	4.85	6,189	3.56

Note: Estimates are column percentages.

Conclusions

There is no evidence of a relative decline in demand for VA substance abuse treatment services among veterans in the baby boomer generation as they age. Compared with the relative ages of the other veterans with substance abuse diagnoses who used VA health services, baby boomer veterans continued to consume directly associated substance abuse services in similar or greater proportions over the time period covered by this report. These analyses should be replicated with data from fiscal years 2001 and 2004 to examine whether this generation of veterans is still using treatment services in the same proportions. Particularly, it will be important to examine trends in outpatient utilization, given that we were able to study only one fiscal year of such data.

Therefore, there was no evidence that the need for treatment was declining with increasing age as might have been expected from prior community studies of the decreasing prevalence of substance use disorders with age, such as the National Institute of Mental Health's Epidemiologic Catchment Area (ECA) Study (Helzer et al., 1991). In particular, in the population of veterans using the VA health care system, there did not appear to be an aging-out phenomenon for baby boomer veterans, although only 11 years of data were examined. This finding suggests that this generation of veterans may not be decreasing their dependence on alcohol and drugs with increasing age, although a firm conclusion on this issue cannot be made without information from veterans in the general population who do not use VA services. It is clear that the VA must consider allocating more substance abuse treatment resources for older veterans in the next decade, probably at a higher level than current allocations allow.

Furthermore, because these veterans have already shown greater prevalence of medical and psychiatric comorbidity with increasing age as shown by their substantial hospitalizations and outpatient visits for primary diagnoses other than substance abuse, the VA also will need to include programming to link substance abusers with medical and psychiatric services during substance abuse treatment. Even though it is likely that some of the increased utilization based on substance abuse as a secondary diagnosis was due to the physical consequences of substance abuse, it is more likely (from data not shown here) that most of the increased use was because of medical diagnoses associated with increasing age, such as cardiovascular disease and cancer. In addition, it will be important for the VA to strengthen linkages in the other direction—from medical care to substance abuse services, particularly for older veterans with substance abuse problems who are present in general medical and nonsubstance abuse settings.

As in other studies (Booth et al., 1992; Ross et al., 1998), our data suggest that older substance abusers are less likely to receive extended substance abuse treatment. The VA has already made substantial efforts toward general screening for alcohol problems in primary care. If the trends indicated in this report continue, medical settings will see more aging baby boomer veterans with the medical consequences of alcohol and drug abuse. The VA, therefore, will need to allocate resources to deal with the increased need for care

for these medical complications, as well as to emphasize the importance of facilitating referrals to alcohol and drug treatment from medical and psychiatric settings.

Psychiatric and substance use disorders in medical and surgical inpatients are associated with decreased health-related quality of life and increased psychological distress, both during hospitalization and longitudinally (Booth et al., 1998; Booth, Blow, & Cook, 2001). Community population studies have shown that having a psychiatric disorder significantly raises the odds of substance use diagnosis (Regier et al., 1990) and point to the importance of dual diagnosis programs or at least attention to substance abuse in psychiatric settings. Long-term use of alcohol and drugs is associated with substantial medical complications (Moos et al., 1994b), although some of these are hard to separate from the consequences of smoking. If trends indicated in this study continue, VA medical settings will continue to be mindful of substance abuse as a comorbid condition to medical presentations.

There are a substantial number of benefits to these data and findings:

- The VA is a national health care system and, as such, includes representation from all States.
- The VA generally serves a low-income, disabled population, especially for substance abuse. As such, the VA provides some comparability with the public sector providing substance abuse treatment and with Medicaid clients.
- The VA is a comprehensive medical, psychiatric, and substance abuse health care system. Therefore, individuals with substance use disorders were included from the gamut of health care settings, including substantial samples of individuals with substance abuse as a comorbid condition who were receiving medical or psychiatric care.
- Because of military buildup during the Vietnam Era, large numbers of baby boomers, who are the target group of interest, could be studied.
- The ability to study a series of cross-sectional national samples from the same health care system across just over a decade is relatively rare. These samples enabled a determination to be made of the relative health care burden of baby boomers with substance abuse over time.

Several issues to be examined in further research. For example, one important factor—period of military service—was not examined. Many veterans aged 35 to 49 in 1992 would have been Vietnam Era veterans, who may have differing persistence of substance use disorders as compared with earlier and later eras. In addition, other important characteristics, such as race/ethnicity and gender, were not examined. It also will be important to look at mortality rates for the baby boomer veterans who are substance abusers.

There are limitations to these data. Substance use disorders are generally underdiagnosed in nonspecialty substance abuse treatment settings (Beresford et al., 1988; Moore et al., 1989). Therefore, prevalence of substance abuse as a comorbid condition (the secondary diagnosis group) is undoubtedly underestimated. It is also important to note that these

data do not reflect the prevalence of substance use disorders in the overall veteran population but only *as diagnosed* among veterans using VA health services. Therefore, we cannot comment on the age-specific population incidence and prevalence of substance use disorders among veterans. Because substance use disorders are underdiagnosed in most hospital settings (Beresford et al., 1988; Moore et al., 1989), and this study is based on recorded diagnoses in medical records, these data cannot even reflect the prevalence of substance use disorders in VA health service settings. Also, these data represent veterans using the VA health care system and may not reflect the substance use utilization by veterans using non-VA health care services.

The impact of mortality in reducing the denominators for these analyses, especially among the older veterans, is not known. However, it is clear that baby boomer substance abusers occupied a greater proportion of substance abuse services compared with their representation in the overall VA inpatient population. This finding is particularly important given that the comparison group is all service users rather than a community sample or national estimates of community individuals (i.e., not necessarily service users). However, the onset of substance abuse is in the earlier years of life (Helzer et al., 1991), so the variation in age distribution between the substance abusers and the general VA service population is not surprising.

Another issue that will certainly arise as veterans continue to age beyond Medicare eligibility is the generalizability of Medicare-eligible veterans who continue to use the VA. They do so for many reasons, including financial ones. The VA does not charge co-payments or deductibles, or for prescriptions, and will even mail prescriptions. Otherwise, many veterans continue to use the VA because of familiarity with the system and loyalty to the health service that has provided them with long-standing care. Finally, the VA provides the most available and comprehensive substance abuse treatment, other psychiatric services, and medical care in many areas of the country; the VA is often the system of choice for veterans with substance abuse.

Finally, these data include relatively few women (approximately 1 percent of the samples). In general, women veterans presenting to VA health care with substance abuse have high rates of psychiatric and medical comorbidity (Ross et al., 1998). It is not known whether these findings would generalize to larger populations of women.

These data provide strong empirical evidence for the massive shifting from inpatient to outpatient substance abuse services during the 1990s. This shift was done as part of national VA policy shifts away from costly inpatient services to less intensive and less costly outpatient services. This shift may have disproportionately affected substance-abusing veterans because of decreased access, lack of transportation, or the need for supportive housing. However, many VA medical centers have developed innovative programs for substance abusers without housing or transportation, including the use of domicilaries and halfway houses.

It is important to note that these data are not longitudinal data that follow a specific cohort of veterans over time to identify changes in diagnoses within individual veterans.

Instead, four cross-sectional panels of data were analyzed over 11 years of VA health care. The advantage of using cross-sectional data is that the proportionate representation of the baby boomer generation with substance abuse within the VA health care system could be identified. Additional research is needed to identify a birth cohort at a particular time point and follow that cohort longitudinally. Such a study would allow identification of the incidence of comorbid conditions, including those associated with substance abuse, to identify changing patterns of health care utilization and to conduct mortality studies.

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