

**Program Evaluation of Cardiac Care Programs in the VHA**

**AMI COHORT—SELF-REPORTED OUTCOMES**

**Self-Reported Outcomes for VA Patients with AMI**

**Assessment of Physical and Functional Capacity Methods**

With the assistance of Lewis Kazis, Sc.D., Chief, Health Outcomes Section, Center for Health Quality, Outcomes and Economic Research we obtained health status data collected as part of The 1999 Large Health Survey of Veteran Enrollees. The survey was based on approximately 43% of the veteran enrollee population and represented a cross-section of patients served by the VHA (Large Health Survey Executive Report). We sent identification numbers for patients in the FY 1999, 1998, 1997 and 1994 AMI and PCI cohorts to Dr Kazis’ office. His staff then matched the identification numbers we provided to respondents of the 1999 survey. The number of patients in each cohort with data from the 1999 survey is presented in Table E1. Only 20-25% of patients could be linked to the surveys.

**Table E1  
Numbers (%) of Patients in Each of the VA AMI Cohorts whose Hospitalization Data could be Linked to Survey Data**

	<b>FY 1994</b>	<b>FY 1997</b>	<b>FY 1998</b>	<b>FY 1999</b>
<b>Number in Cohort</b>	8677	8135	8353	8664
<b>Number Linked to Survey Data (%)</b>	1552 (17.9%)	1781 (21.9%)	2064 (24.7%)	1574 (18.2%)

The data files provided by Dr. Kazis contained scores for the SF-36v Physical Health Summary Scale, the SF-36v Mental Health Summary Scale, and the eight SF-36v individual scales: Physical Functioning, Role-Physical, Bodily Pain, General Health, Vitality, Social Functioning, Role-Emotional, and Mental Health. Based on scoring algorithms provided in the SF-36 Manual for the Physical and Mental Health Summary Scales [Ware, 2001], we standardized all scores and transformed them to norm-based scoring. The advantage to

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converting the scores in this way is that it allows for the score of one scale to be meaningfully compared to other scale scores (that is, all scale scores are measured on the same scale) and it allows for comparison of scores to the 1998 general population. With this approach, the average score for the 1998 population is 50 and the standard deviation is 10; therefore, about two thirds of the population have scores that range from 40 to 60. Scores above or below 50 for a particular sample of patients represent scores that are above or below average, respectively.

Longitudinal assessment of SF-36v summary scores. In order to evaluate the change in functioning over time we created a quasi-longitudinal assessment of the health status scores. We took advantage of the fact that the survey data were collected in 1999 and that patients in our cohorts experienced their AMIs between FY 1994 and 1999. Therefore, we had data that were collected prior to their AMIs for some patients (a portion of those in the FY 1999 cohort) and up to 75 months following their AMI (a portion of those in the FY 1994 cohort). We plot these data to show the pattern of functioning prior to and subsequent to hospitalization for AMI. Ideally, we would have liked to report the change over time by assessing the *same* patients at multiple time points, but this was not possible because such data are not available. This quasi-longitudinal assessment provides an alternative to a pure longitudinal assessment.

We present these analyses for the Physical Health Summary Scale and the Mental Health Summary Scale only. Scores were adjusted using the approach described above and 90% confidence intervals are reported.

Comparison of SF-36v scores across VISNs. We report the mean score and 90% confidence intervals for the Physical Health Summary Score and the Mental Health Summary Score across VISNs according to year of AMI. All scores were adjusted using the approach

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described in the AMI methods section (Section A). In Appendix E (Figure AE1), we also present the adjusted Summary scores and the individual SF-36v scale scores for each VISN.

### **Satisfaction and Utilization of Services Methods**

The 1999 Large Survey of Veteran Enrollees also contained questions on satisfaction with various aspects of care, insurance coverage, and plans to utilize services in the future. These questions were asked of a sample of Veterans as part of modules added to the core survey that contained the questions on health status. From the Satisfaction Module, we determined whether a patient had a regular doctor within the VHA and then, for those who said they had a regular doctor, we report the percent (and 90% confidence interval) of patients who reported that:

- convenience of their doctor's office was very good or excellent
- the thoroughness of their doctors questions about symptoms was very good or excellent
- the attention given by their doctor to what the patient said was very good or excellent
- their doctor's explanation of problems or treatments needed was very good or excellent
- they rated trust in their doctor greater than or equal to 8 (on a scale of 1 (Not at all) to 10 (Completely))
- receiving care they needed was a big problem
- the ability to see a specialist they wanted to see was a big problem
- they rated the quality of care in the past two months as excellent

We report these results according to the year in which a patient was hospitalized for AMI.

All of the Modules sent with the core survey included questions on the type of providers seen over the 12 months prior to the survey. We report:

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- the percent of patients (and 90% confidence intervals) who saw VHA providers only, both VHA and non-VHA providers, non-VHA providers only or no provider. These data are reported separately for patients less than age 65 and for those age 65 or older according to the year in which a patient was hospitalized for AMI.
- the percent of patients who say they plan to use the VHA in the future as a primary source of care, as a back-up to non-VA care, for prescriptions only, or who have no plans to use the VHA in the future. These data are reported separately for patients less than age 65 and for those age 65 or older according to the year in which a patient was hospitalized for AMI.

The Utilization and Insurance Module contained questions on health insurance. We report:

- the percent of patients age 65 and older who have Medicare Part A Coverage
- the percent of patients age 65 and older who have Medicare Part B Coverage
- the percent of patients age 65 and older who have a Medigap policy or other private health insurance to supplement their Medicare coverage
- the percent of patients age 65 and older who are enrolled in a Medicare HMO plan
- the percent of patients with private or group health insurance or a health plan that the patient, an employer, or someone else provides; this is reported separately for patients younger than age 65 and those age 65 and older
- the percent of patients with Medicaid; this is reported separately for patients younger than age 65 and those age 65 and older

We report these results according to the year in which a patient was hospitalized for AMI.

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### **Assessment of Physical and Functional Capacity Results**

Our analysis of physical and functional capacity focused on the Mental Health Summary Scale and the Physical Health Summary Scale derived from the SF-36V Health Survey. Because the summary scales present linear combinations of subsets of the eight SF-36V scales, we present only the results for the Summary Scales here. We provide both the Summary Scores and the eight scale scores for each VISN in Appendix E (Figure AE1), but we do not discuss results associated with individual scale scores.

Longitudinal assessment of SF 36v summary scores. We took advantage of the fact that the survey data were collected in 1999 and that patients in our cohorts experienced their AMIs between FY 1994 and 1999 to evaluate the change in functioning over time. Figures E1 and E2 display the mean Mental Health Summary Scale and the Physical Health Scale scores (and 90% confidence intervals), respectively, for patients who completed surveys prior to their AMIs and at various points following their AMIs (from 1 to 6 months through 67 to 75 months). These scores have been adjusted to account for differences in age, gender, and comorbid disease status across time points. For both Summary Scales, we did not observe a major change in status over months since AMI. Scores did not vary by more than one point over time for either scale. At each time point scores for both scales were significantly below the mean score for the general population (a score of 50).

Comparison of SF 36V summary scores across VISNs. All scores reported in this section have been adjusted to account for differences in age, gender, and comorbid disease across VISNs. Figures E3 through E6 display the Mental Health Summary Scores calculated from administration of the 1999 Large Survey of Veteran Enrollees separately for each cohort (FY 1994, 1997, 1998, 1999) and across VISNs. The scores are remarkably consistent across cohorts

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and across VISNs. No VISN in any cohort had a mean score that was statistically significantly above or below the mean for all VISNs. Although scores were lower for the Physical Summary Scale (Figures E7 through E10), the pattern of results was generally similar to those for the Mental Health Summary Scale—scores were consistent across cohorts and across VISNs. The only exception to this occurred with respect to the FY 1997 cohort where the mean scores for VISNs 7 and 9 were statistically significantly lower than the average for all VISNs in that year and where the mean score for VISN 1 was statistically significantly higher than the average.

Norms for patients with AMI are not available; but norms for heart disease are [Ware, 2001 #20]. For each cohort and for each VISN, the scores for Veterans with AMI are lower than the mean score for patients with heart disease (mean score for Mental Health Summary Scale = 48.84 and for Physical Health Summary Scale = 39.36). Note that patients with heart disease represent a diverse group of cardiac conditions, and therefore, it is not unexpected that scores for those with AMI are lower.

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Figure E1

Adjusted Mental Health Summary Scale From Date of AMI: 1999 Survey

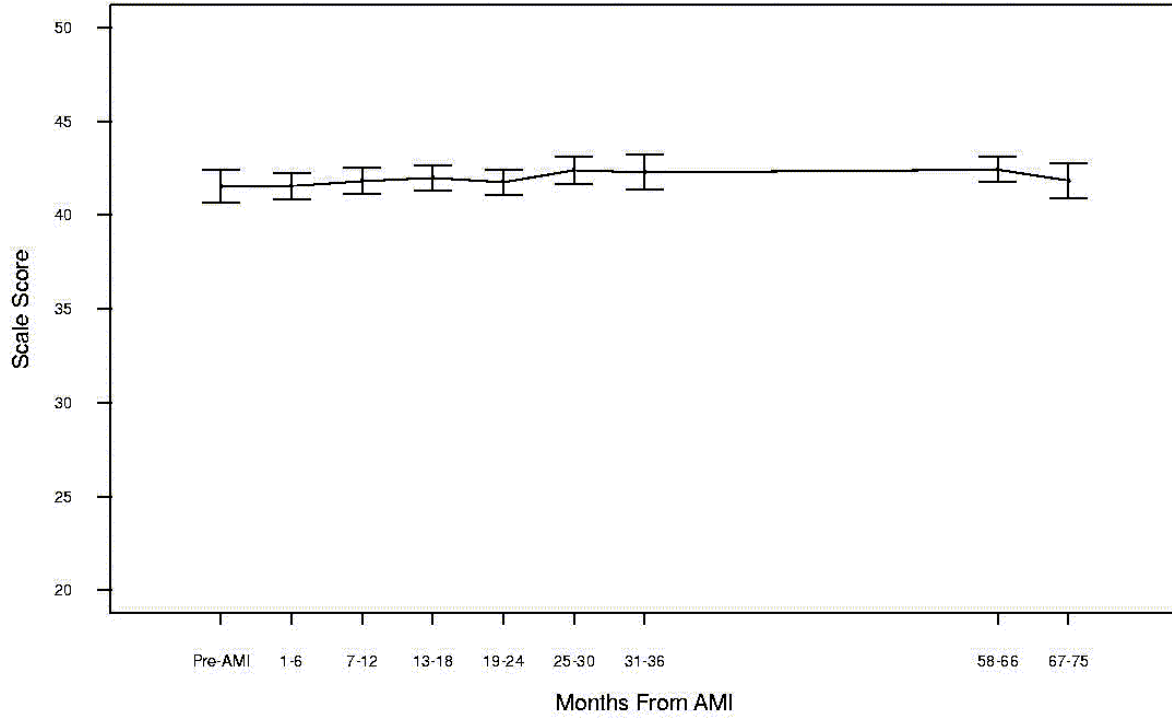
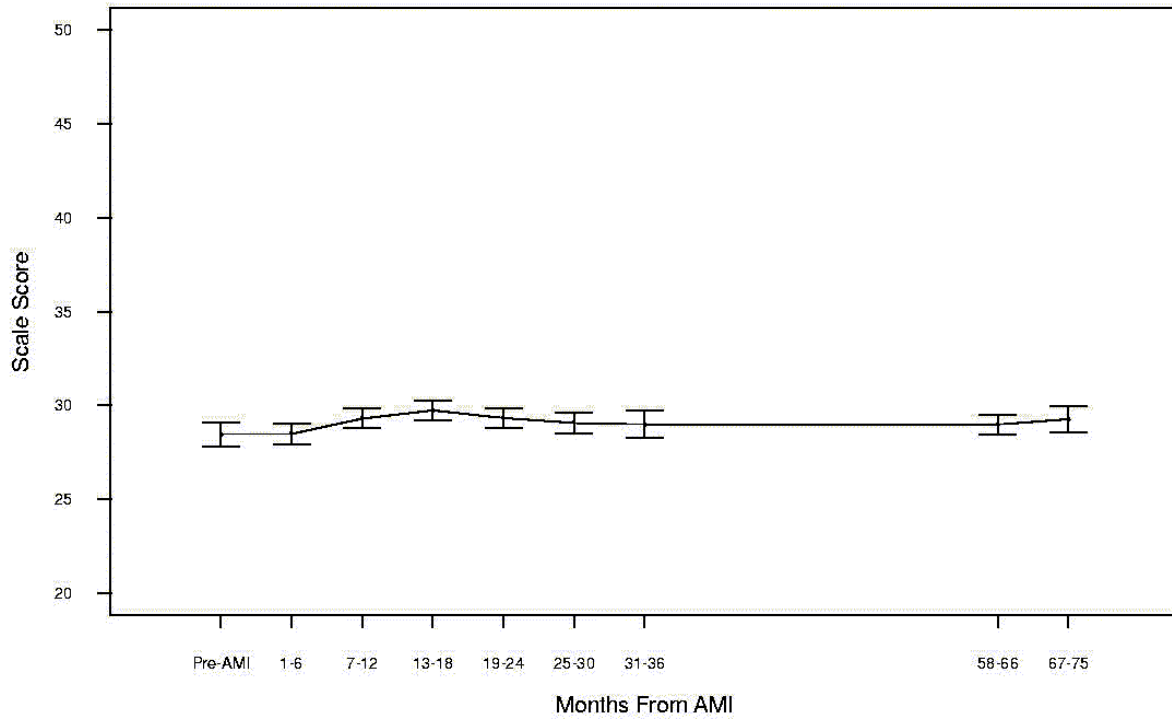


Figure E2

Adjusted Physical Health Summary Scale From Date of AMI: 1999 Survey



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Figure E3

Adjusted Mental Health Summary Scale: 1999 Survey, 1997 Cohort

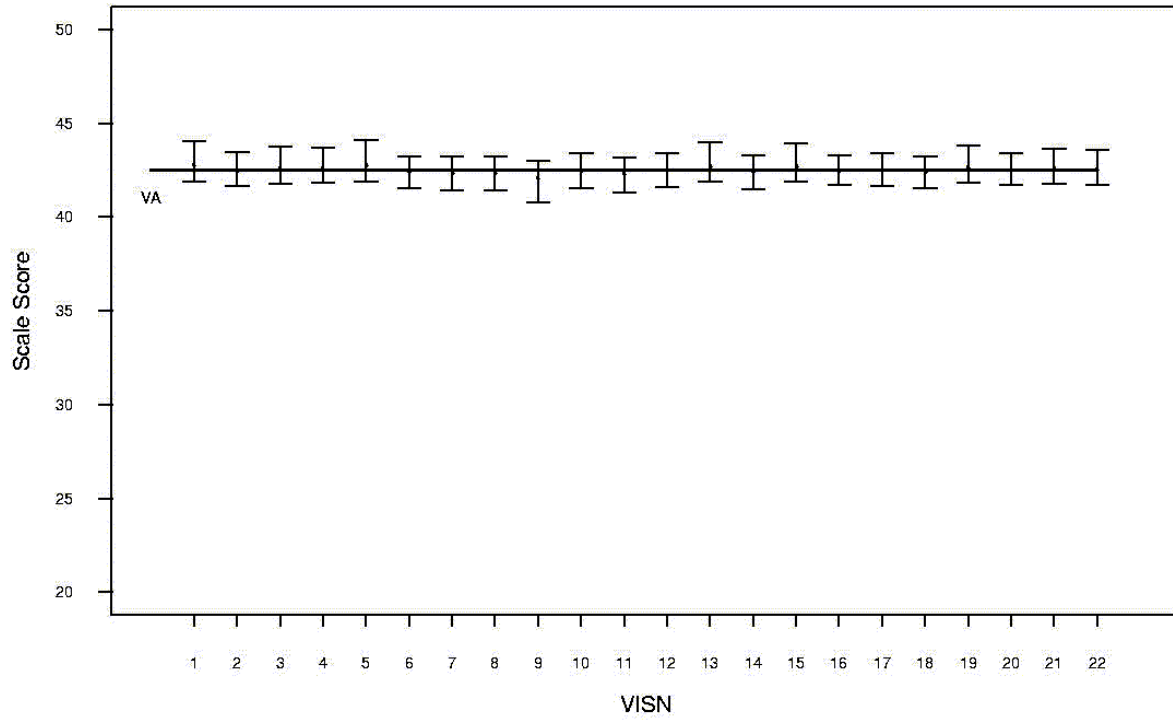
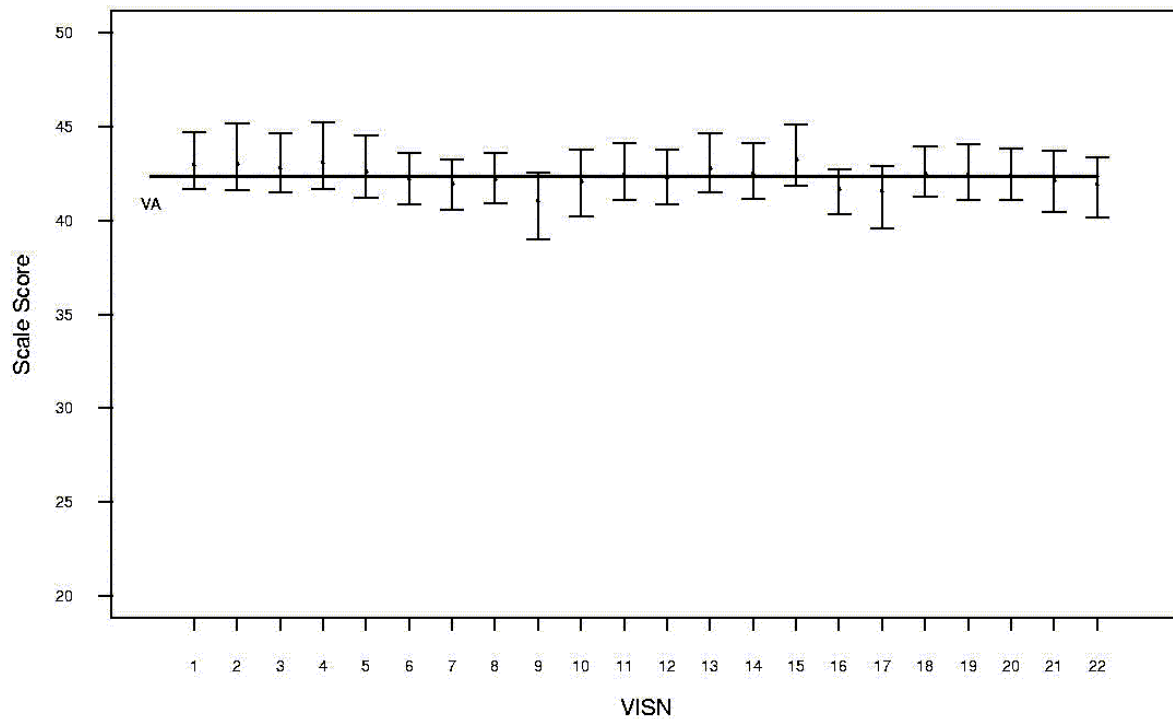


Figure E4

Adjusted Mental Health Summary Scale: 1999 Survey, 1994 Cohort





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Figure E5

Adjusted Mental Health Summary Scale: 1999 Survey, 1999 Cohort

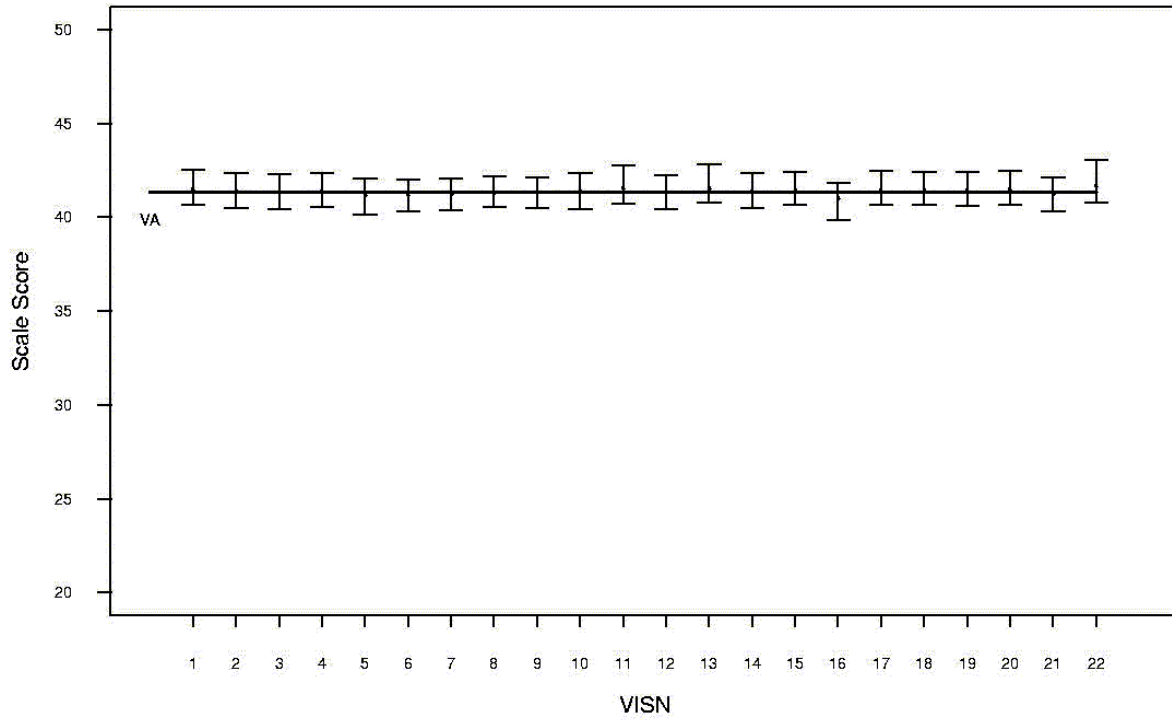
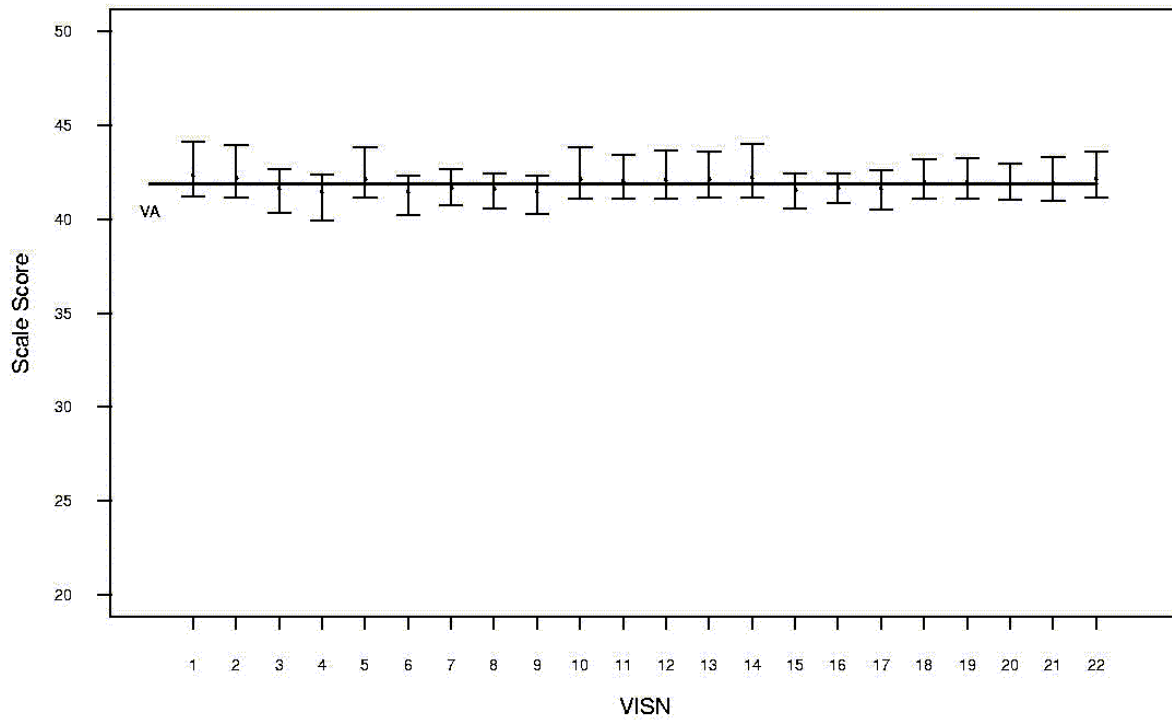


Figure E6

Adjusted Mental Health Summary Scale: 1999 Survey, 1998 Cohort



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Figure E7

Adjusted Physical Health Summary Scale: 1999 Survey, 1997 Cohort

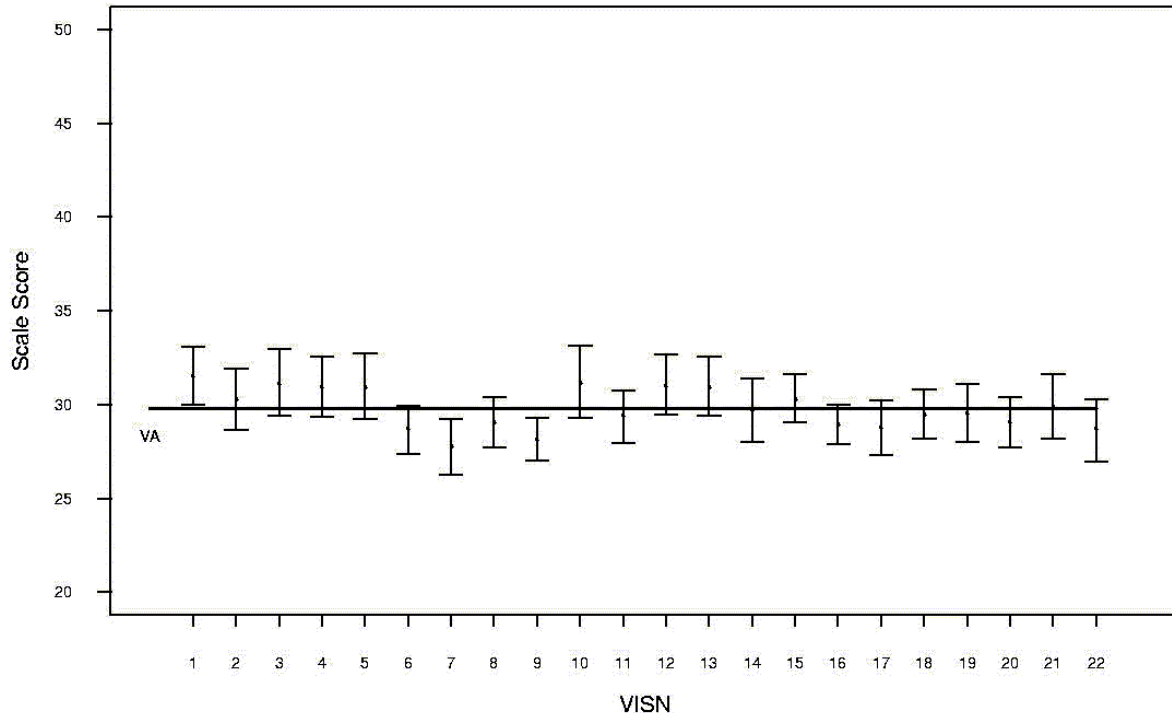
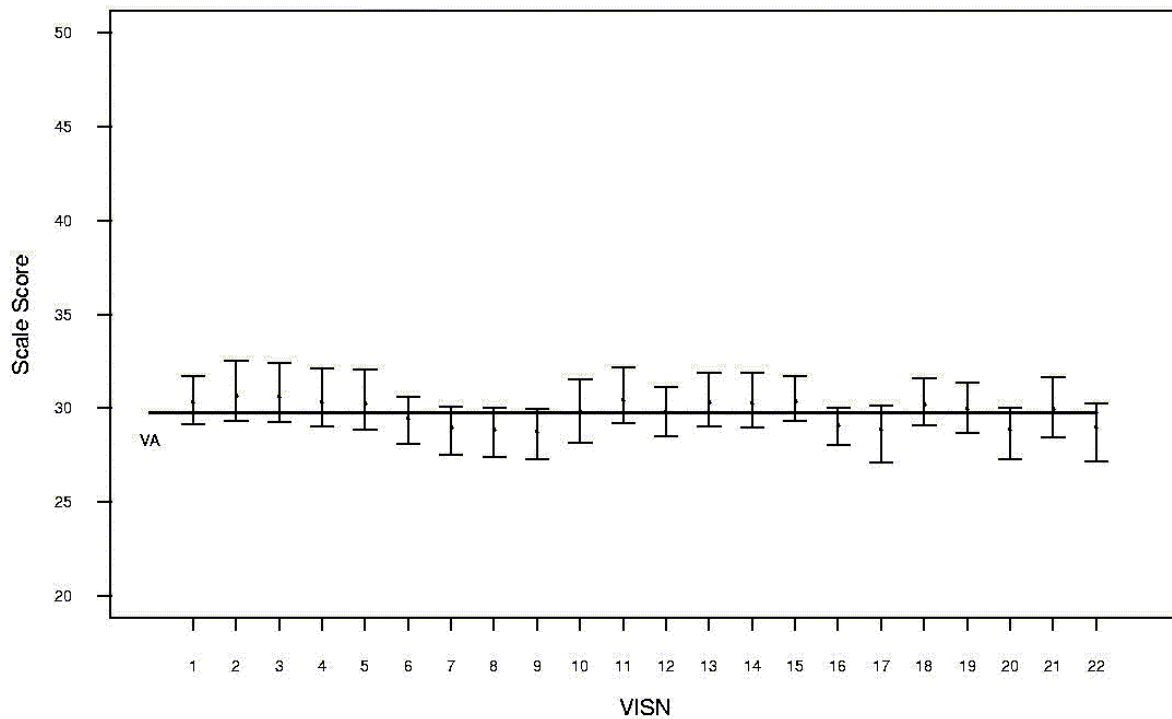


Figure E8

Adjusted Physical Health Summary Scale: 1999 Survey, 1994 Cohort



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Figure E9

Adjusted Physical Health Summary Scale: 1999 Survey, 1999 Cohort

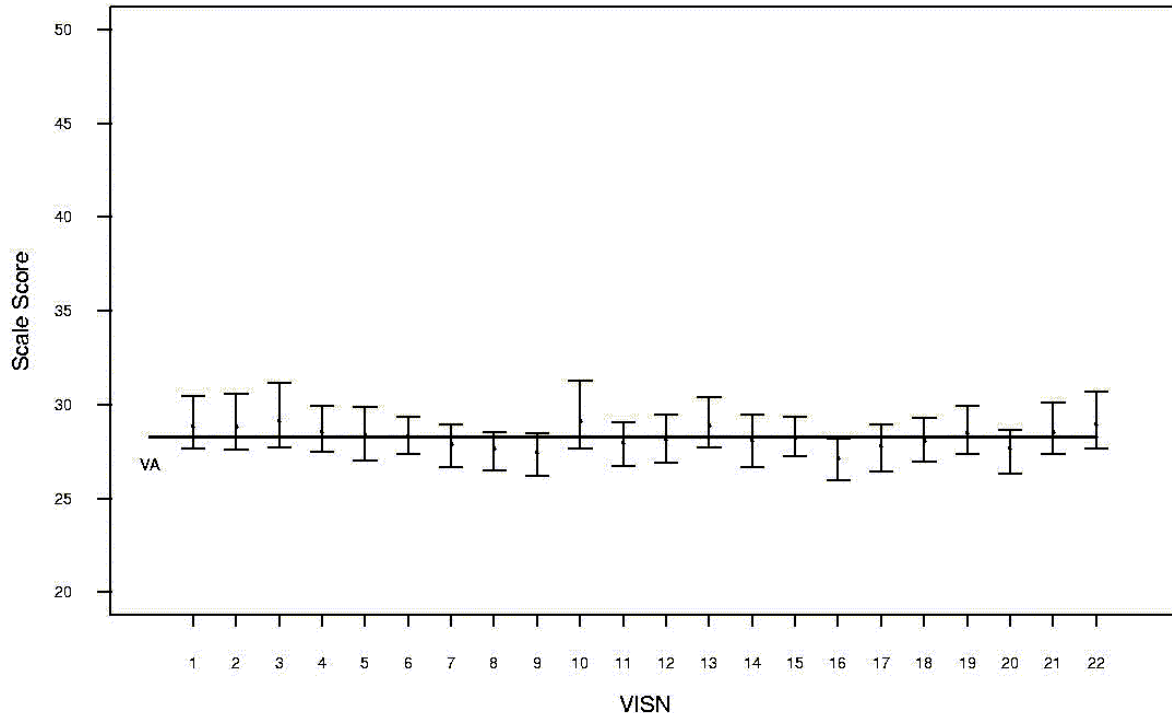
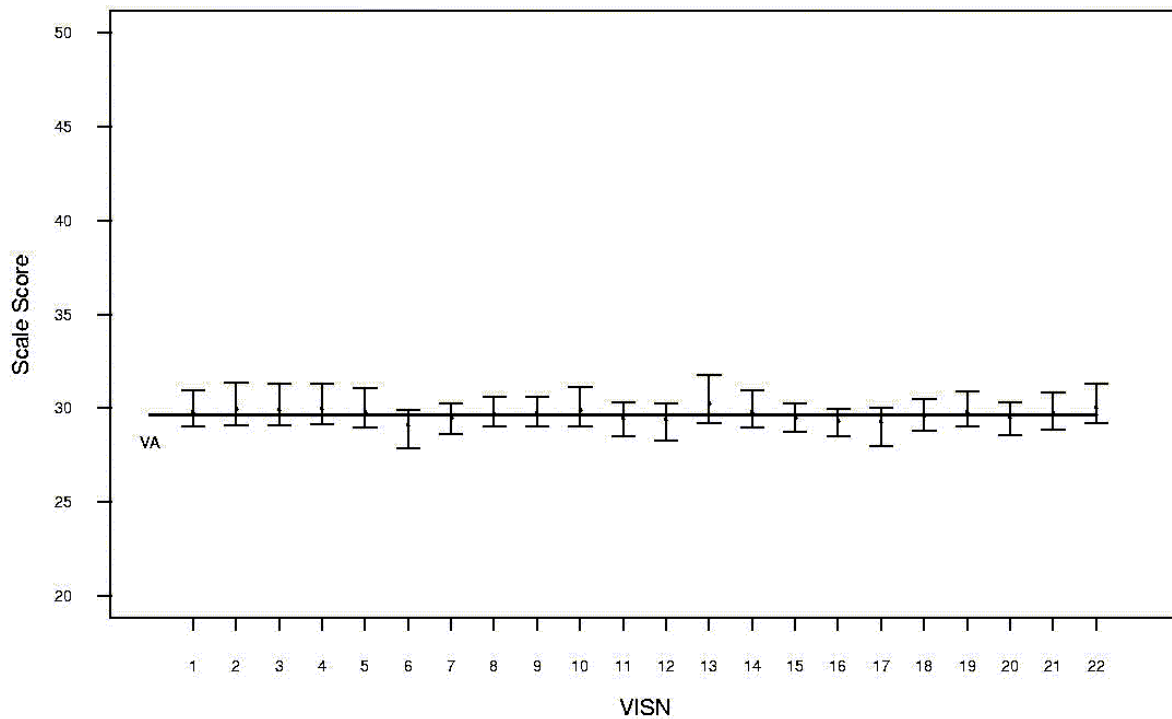


Figure E10

Adjusted Physical Health Summary Scale: 1999 Survey, 1998 Cohort



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### **Satisfaction and Utilization of Services Results**

Figures E11 through E14 display the type of providers seen over the 12 months prior to the 1999 survey by Veterans under age 65, according to VISN. Overall, the proportion who saw only a VHA provider varied across cohorts, with more of those who had their AMI in 1997 reporting that they saw only a VHA provider in the 12 months prior to the survey administered in 1999. Compared to the other cohorts, those in the FY 1999 cohort (that is, those with the most recent AMIs) reported seeing only a VHA provider less often than those in other cohorts. For the FY 1999 cohort, fewer than 50% of the Veterans in VISN 13 reported seeing only a VHA provider and nearly 80% reported seeing a VHA provider in VISNs 2, 10, 17, and 21.

For those age 65 and older we observed similar patterns (Figures E15 through E18), but for some VISNs we did observe that the proportion of patients who saw only a VHA provider reached (VISN 10, FY 1994 cohort) or approached 100% (VISN 3, FY 1994 cohort; and VISN 5 FY 1998 cohort).

For both age groups, the second most frequent category was patients who saw both VHA and non-VHA providers. Patients who saw only non-VHA providers or no providers in the 12 months prior to completing the 1999 survey were generally rare. Exceptions were the approximately 10% of patients younger than age 65 in the 1994 cohort from VISN 5 (Figure E12) and approximately 10% age 65 and older in the FY 1994 cohort from VISN 13 (Figure E16) who saw no providers.

The overwhelming majority of Veterans of any age, in any cohort and in any VISN, reported that they planned to use the VHA as their primary source of care in the future (Figures E19 through E26). Exceptions were the approximately 10% of patients younger than age 65 in the FY 1994 cohort from VISNs 2, 12 and 21 who reported that they planned to use the VHA as a back-up to non-VHA care and the nearly 20% of patients and 10% older than age 65 in the FY

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1994 cohort from VISNs 5 and 21, respectively, who planned to do the same. In the FY 1997 cohort, nearly 10% of those age 65 and older from VISNs 3, 5, 6, 10, and 22 also planned to use the VHA as a back-up to non-VHA care. For those younger than age 65, only patients in VISNs 6, 12, 14, 16, 18, and 22 in the FY 1994 cohort; VISNs 13, 15, and 16 in the 1997 cohort; VISN 9 in the FY 1998 cohort; and VISN 15 in the FY 1999 cohort said that they planned to use the VHA only for prescriptions in the future. The plan to use the VHA for prescriptions only was more common, although still of low frequency, among those 65 years or older.

Across AMI cohorts, about 85% of Veterans reported that their regular doctor was a VHA doctor. A sample of Veterans received surveys with a satisfaction module comprised of questions related to satisfaction with various aspects of care. When we examined responses to these questions we limited the analysis to those with a regular doctor in the VHA (from between 200 to 300 veterans per AMI cohort.)

On average, fewer than half the respondents in any cohort reported that the convenience of their doctor's office location was very good or excellent (Figure E27). Approximately 70% reported that the thoroughness of the questions asked about their symptoms by their doctors was very good or excellent (Figure E28). A similar percentage, across AMI cohorts, also said that the attention paid by their doctor to what they said was very good or excellent (Figure E29) and that the explanation provided by their doctors regarding their symptoms or required treatments was very good or excellent (Figure E30). On scale of 0 to 10, between 50% to 60% of patients reported their level of trust in their physicians as 8 or greater (Figure E31). This rating did not vary across AMI cohorts. Few patients in any cohort (approximately 10%) reported that getting care was a big problem (Figure E32) or that getting a referral to a specialist was a big problem

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(Figure E33). However, only approximately 40% of patients in any cohort reported the quality of their care over the past two months as excellent (Figure E34).

Another sample of Veterans received surveys with questions about health insurance. For these questions we have responses from 85 to 200 respondents, depending upon the year of the AMI cohort. Most ( $\geq 80\%$ ) patients age 65 and older had Medicare Part A coverage (Figure E35). A lower percentage (between 60% and 70%) of those age 65 and older had Part B coverage (Figure E36). Few patients (20%) age 65 and older had a Medigap policy or other private health insurance to supplement their Medicare coverage (Figure E37). Less than 10% of those age 65 and older were enrolled in a Medicare HMO plan (Figure E38). Few patients ( $< 10\%$ ) age 65 or older (Figure E40) or younger than age 65 (Figure E42) were enrolled in Medicaid. Slightly over 10% of those age 65 and older had private or group health insurance or a health plan that the patient, an employer, or someone else provides (Figure E39). This percentage was similar for those younger than age 65 (Figure E41). For all of the percentages reported in this section, results did not vary across AMI cohort.

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Figure E11

Type of Providers Seen In The Last 12 Months: 1997 Cohort,  
1999 Survey, Age < 65

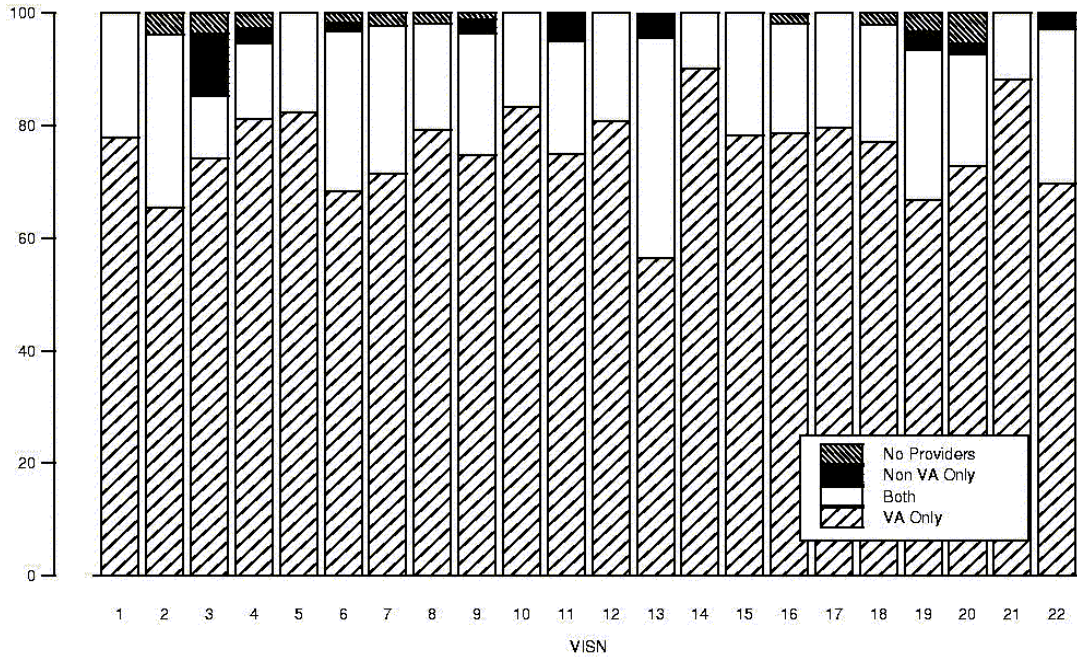
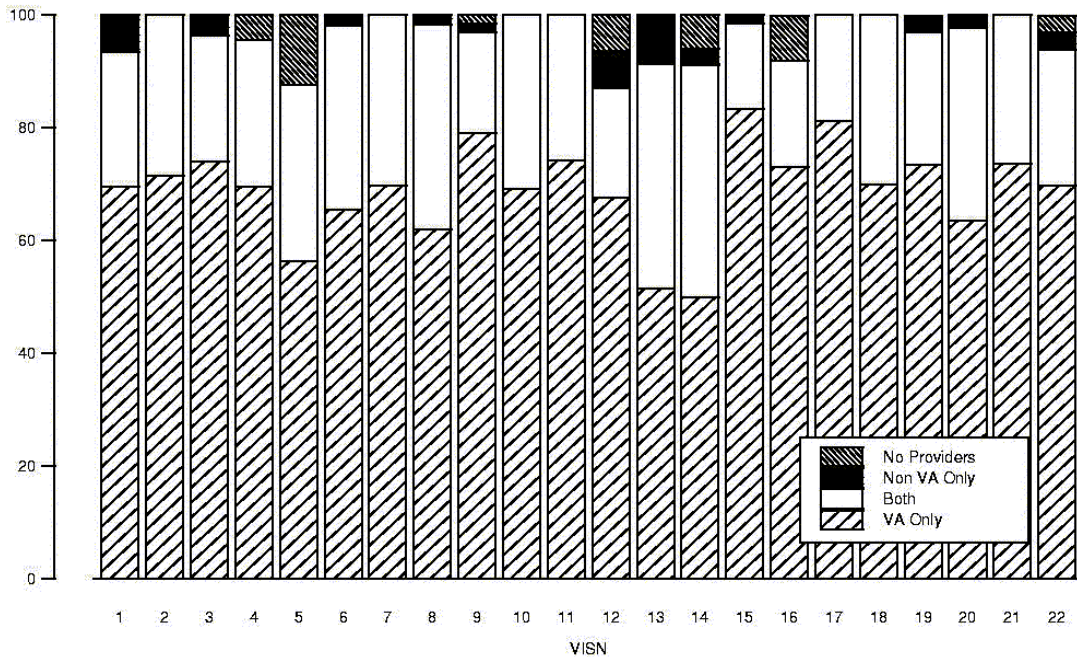


Figure E12

Type of Providers Seen In The Last 12 Months: 1994 Cohort,  
1999 Survey, Age < 65



# Program Evaluation of Cardiac Care Programs in the VHA

Figure E13

Type of Providers Seen In The Last 12 Months: 1999 Cohort,  
1999 Survey, Age < 65

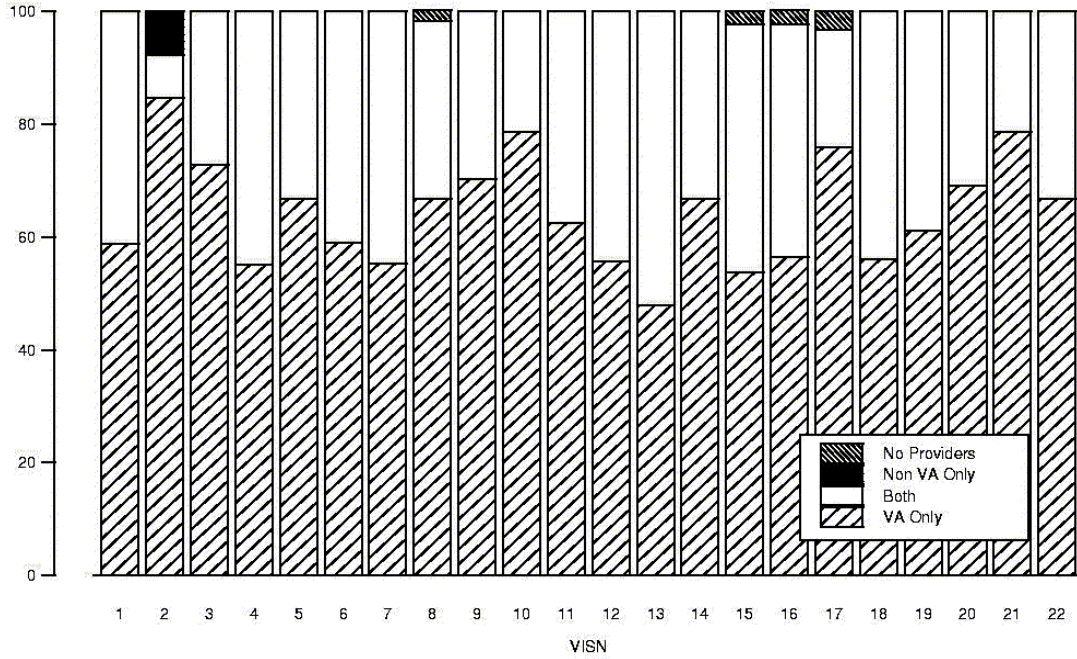
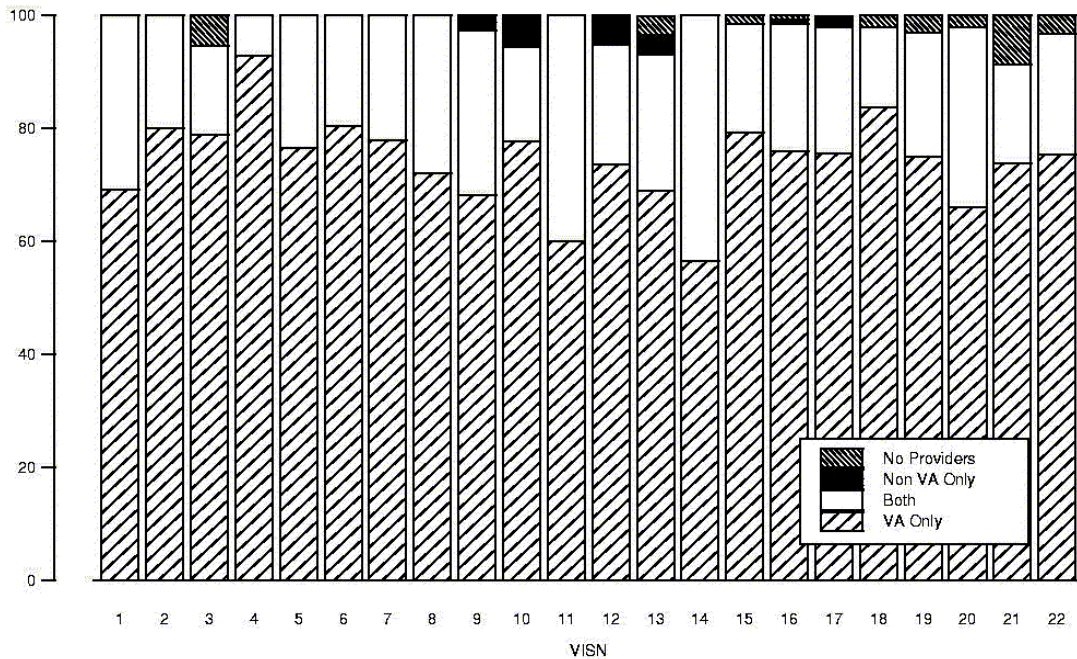


Figure E14

Type of Providers Seen In The Last 12 Months: 1998 Cohort,  
1999 Survey, Age < 65





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Figure E15

Type of Providers Seen In The Last 12 Months: 1997 Cohort,  
1999 Survey, Age >= 65

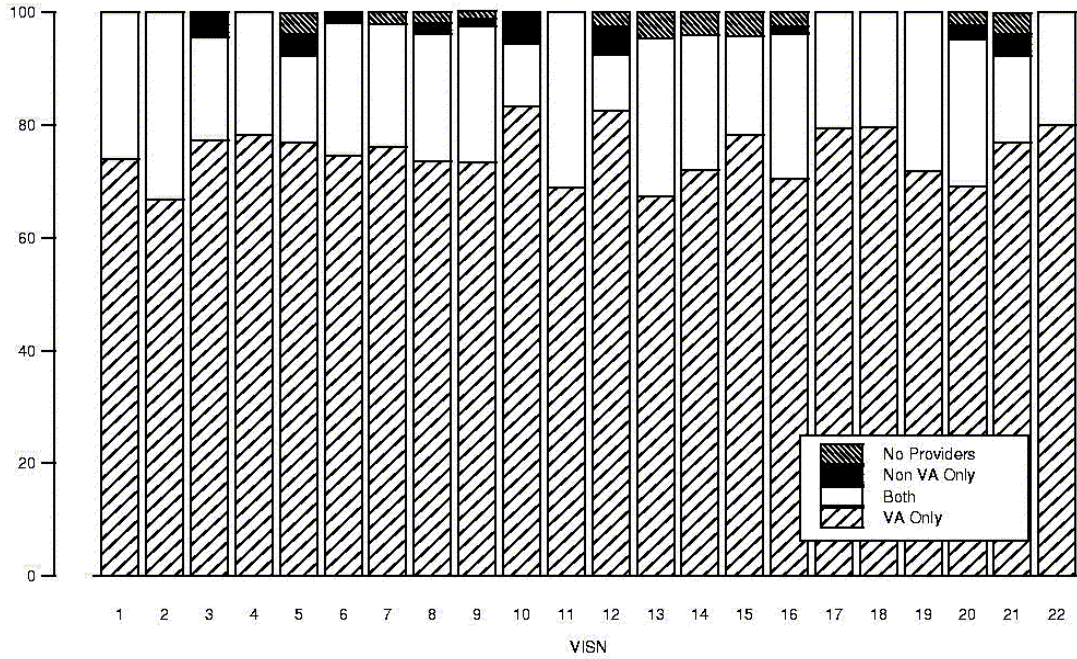
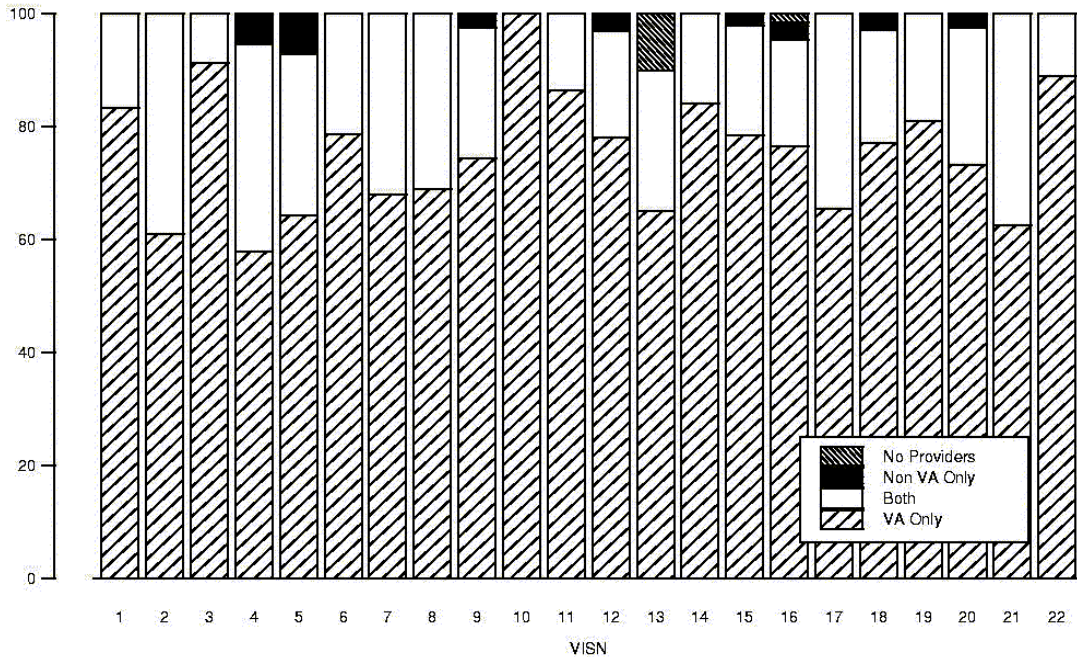


Figure E16

Type of Providers Seen In The Last 12 Months: 1994 Cohort,  
1999 Survey, Age >= 65



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Figure E17

Type of Providers Seen In The Last 12 Months: 1999 Cohort,  
1999 Survey, Age >= 65

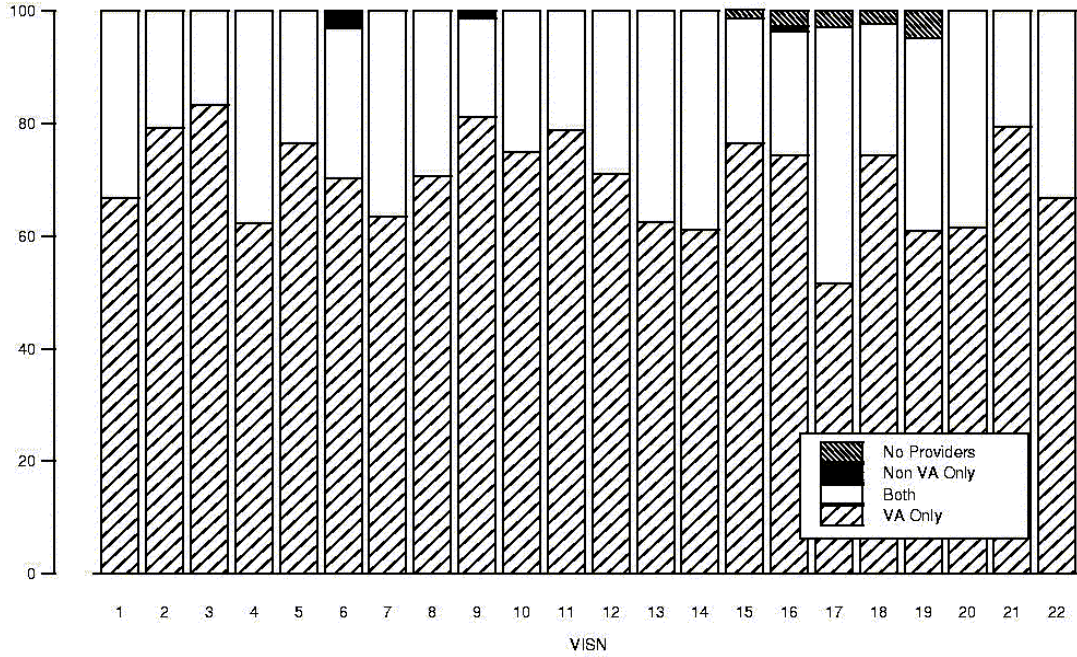
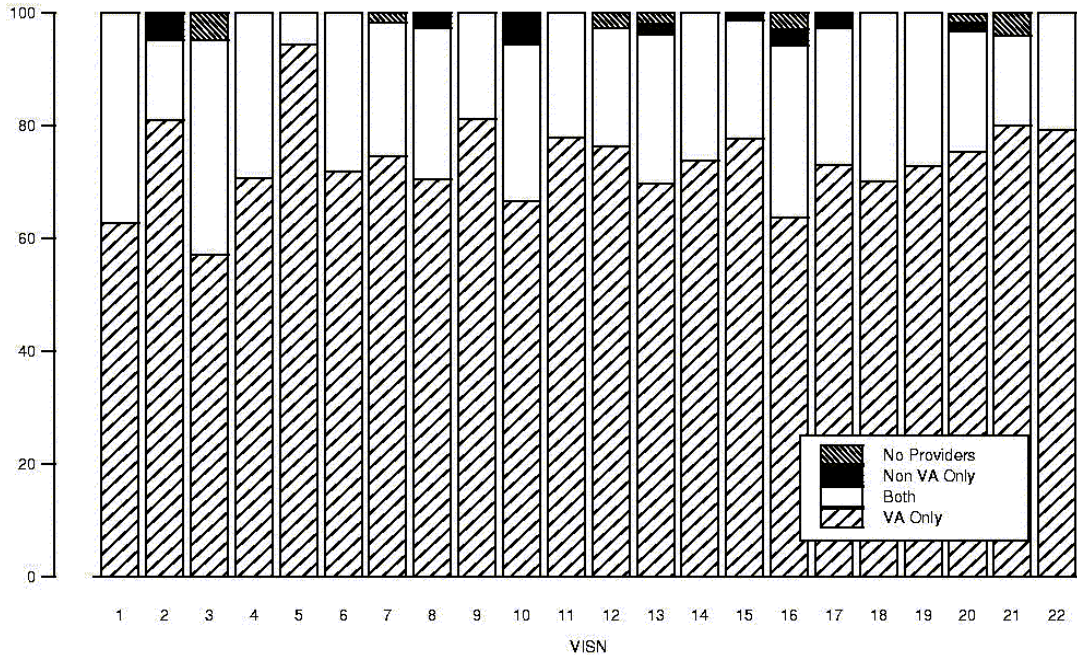


Figure E18

Type of Providers Seen In The Last 12 Months: 1998 Cohort,  
1999 Survey, Age >= 65



# Program Evaluation of Cardiac Care Programs in the VHA

Figure E19

Plans to Use VA Health System in the Future: 1997 Cohort,  
1999 Survey, Age < 65

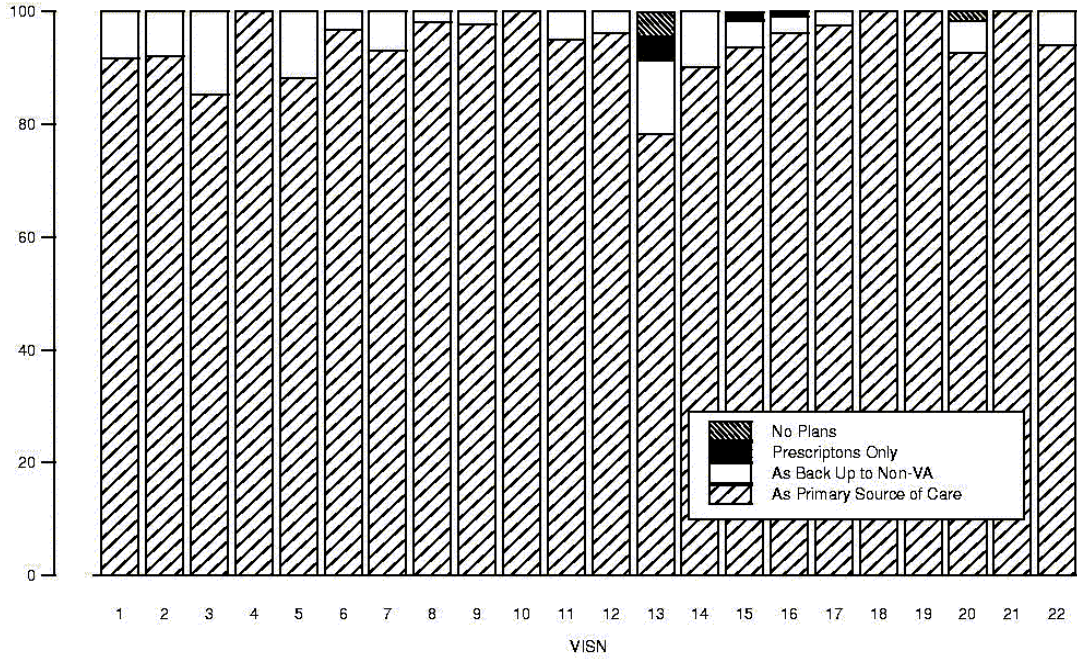
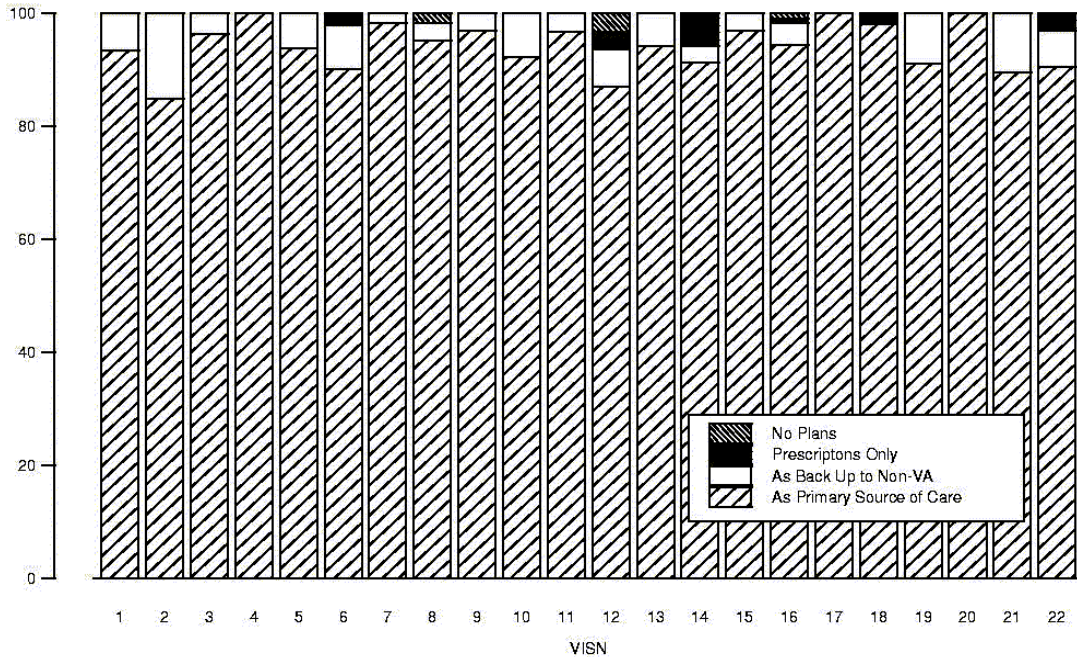


Figure E20

Plans to Use VA Health System in the Future: 1994 Cohort,  
1999 Survey, Age < 65



# Program Evaluation of Cardiac Care Programs in the VHA

Figure E21

Plans to Use VA Health System in the Future: 1999 Cohort,  
1999 Survey, Age < 65

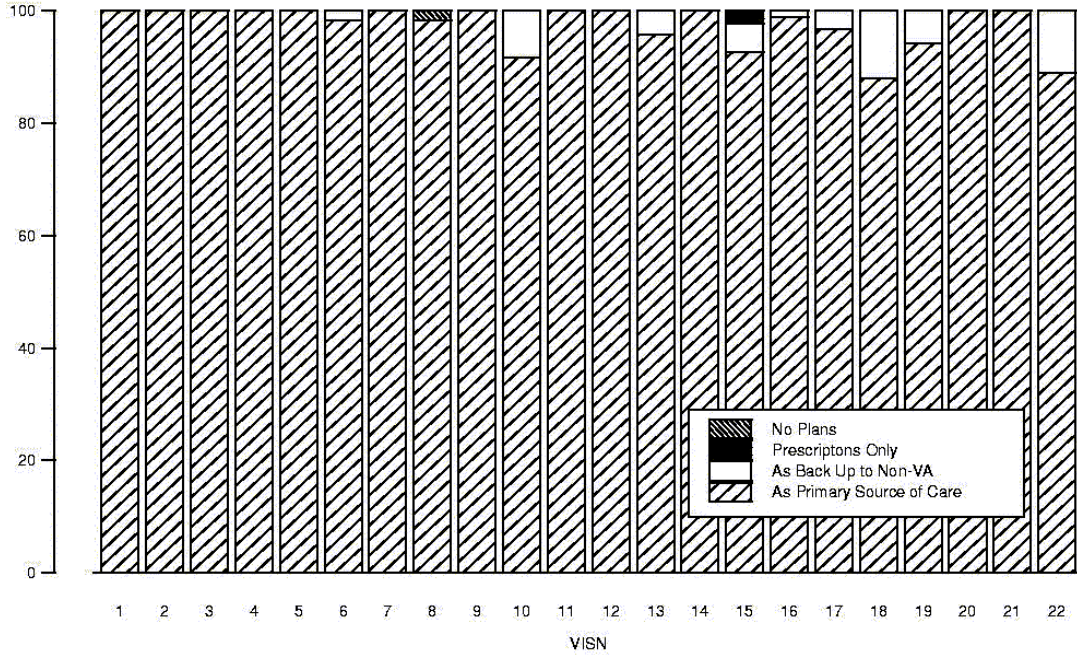
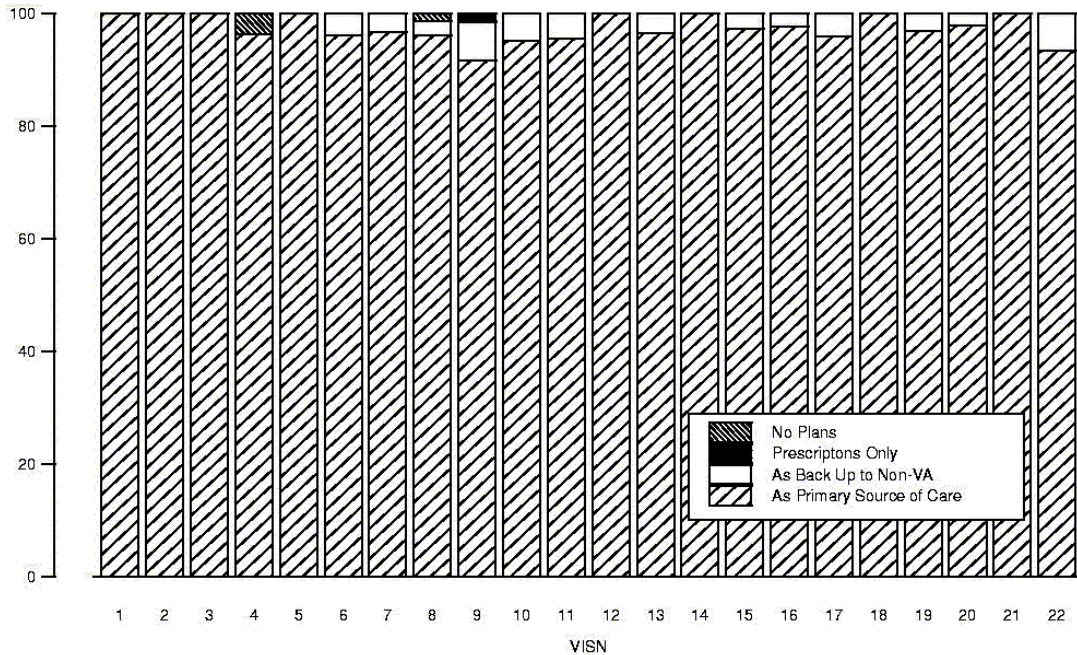


Figure E22

Plans to Use VA Health System in the Future: 1998 Cohort,  
1999 Survey, Age < 65



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Figure E23

Plans to Use VA Health System in the Future: 1997 Cohort,  
1999 Survey, Age >= 65

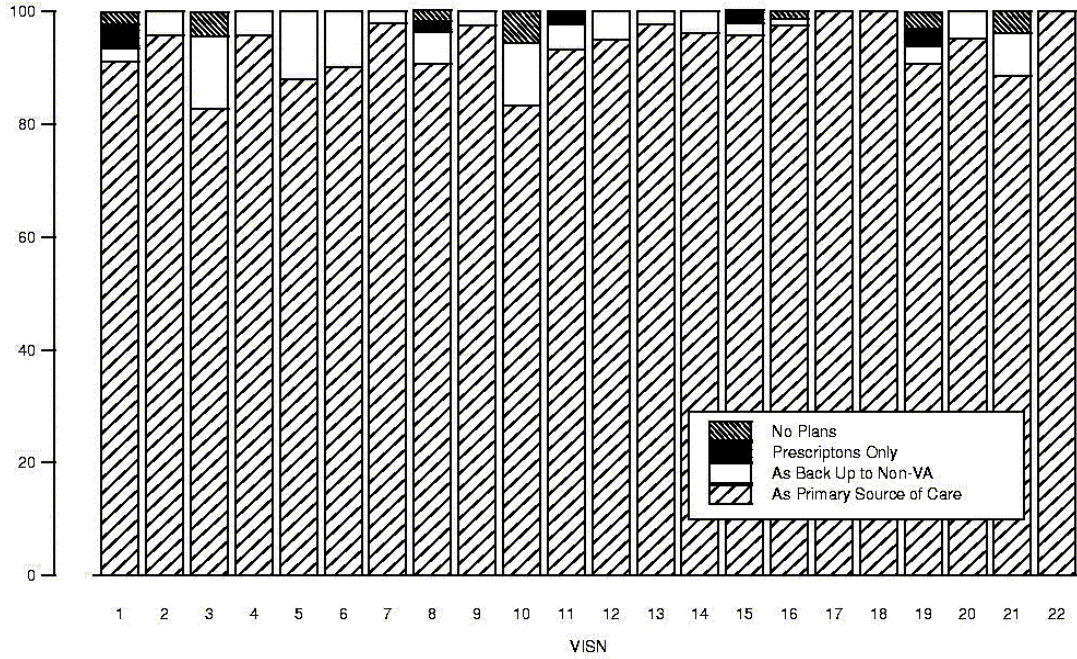
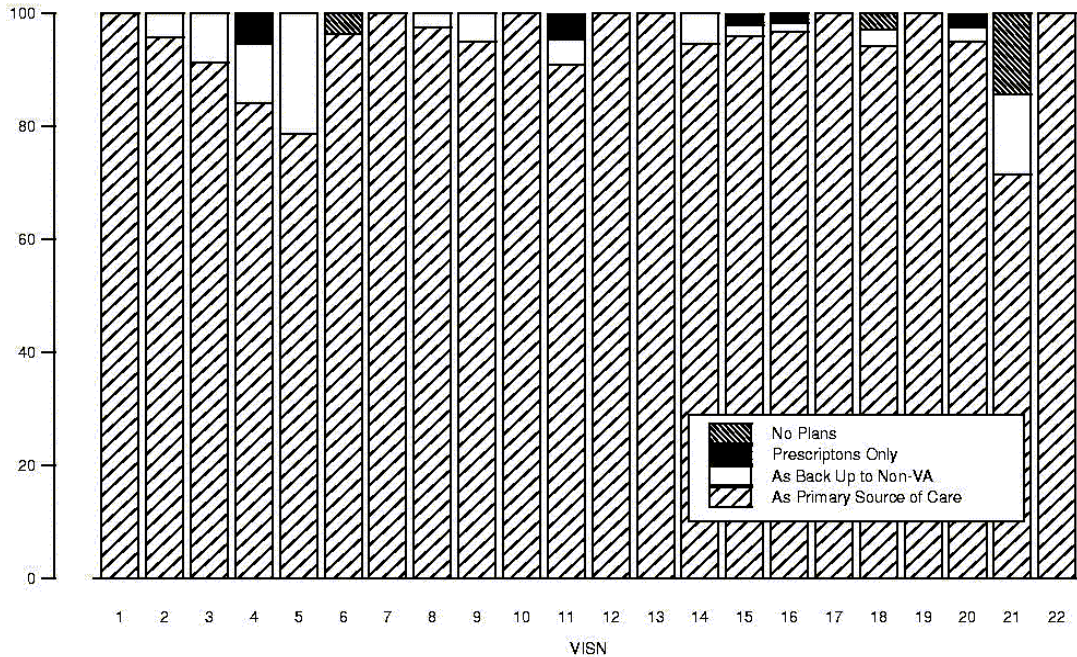


Figure E24

Plans to Use VA Health System in the Future: 1994 Cohort,  
1999 Survey, Age >= 65



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Figure E25

Plans to Use VA Health System in the Future: 1999 Cohort,  
1999 Survey, Age >= 65

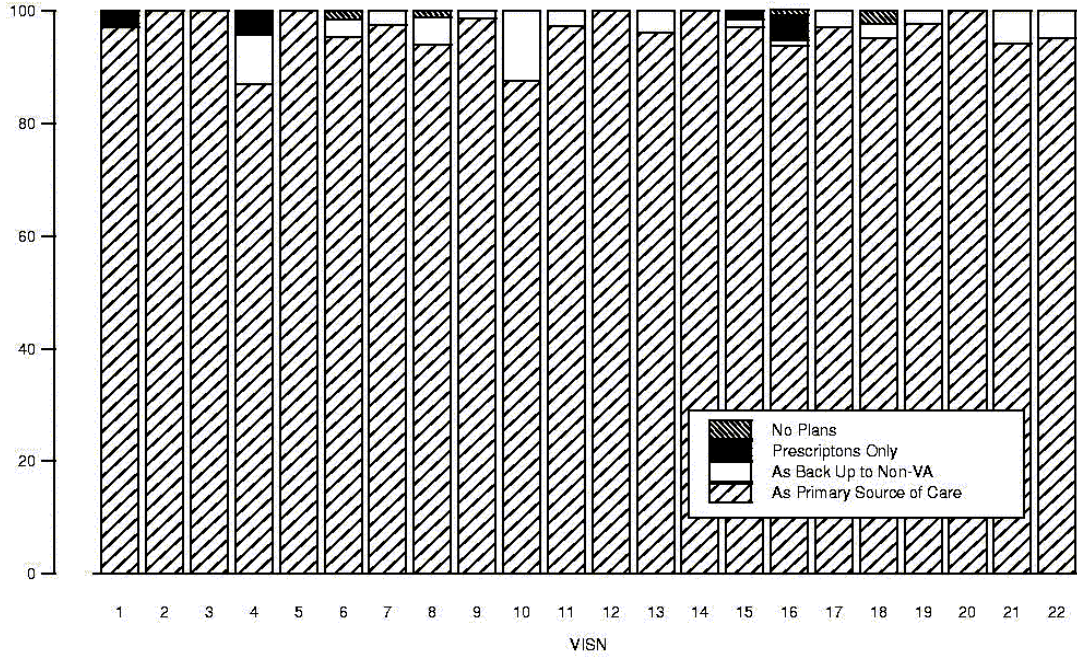
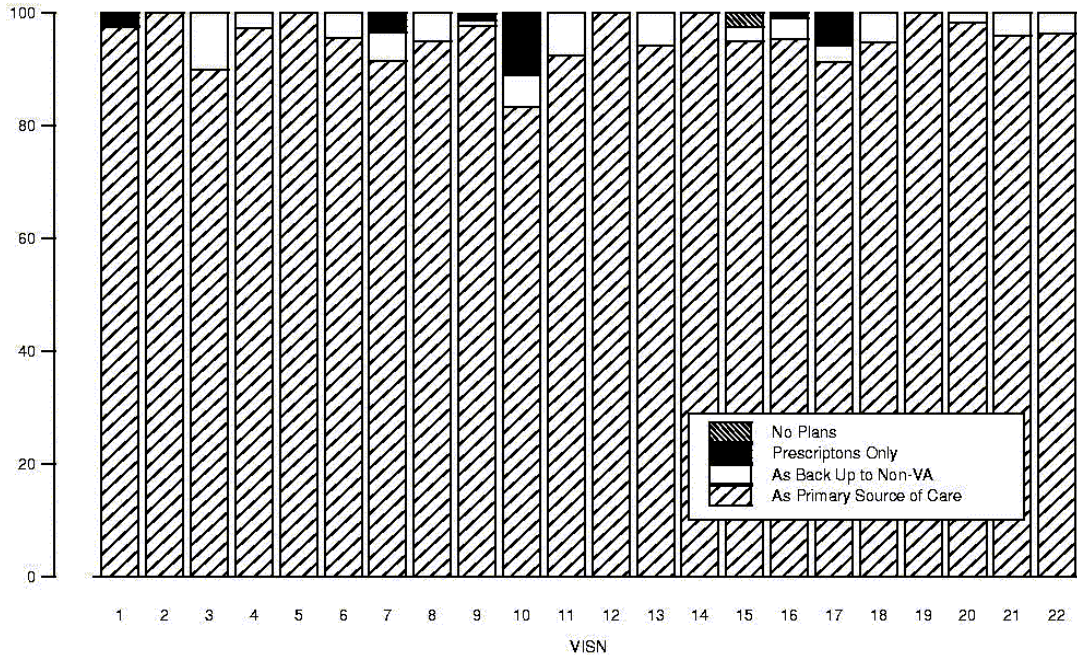


Figure E26

Plans to Use VA Health System in the Future: 1998 Cohort,  
1999 Survey, Age >= 65



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## Patients with Regular Doctor at VA

Figure E27

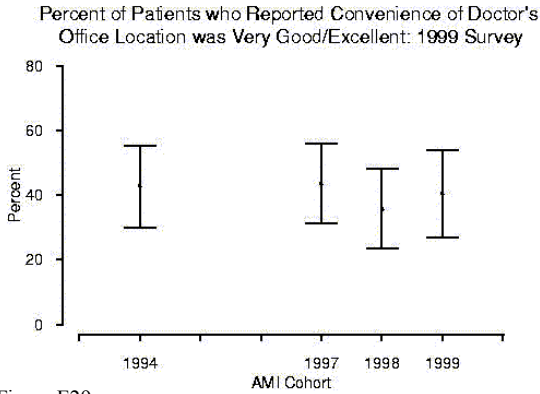


Figure E28

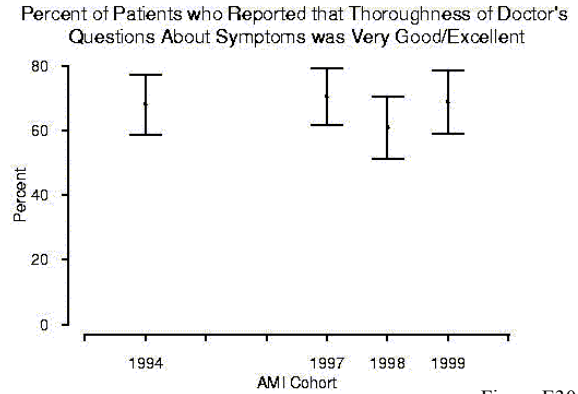


Figure E29

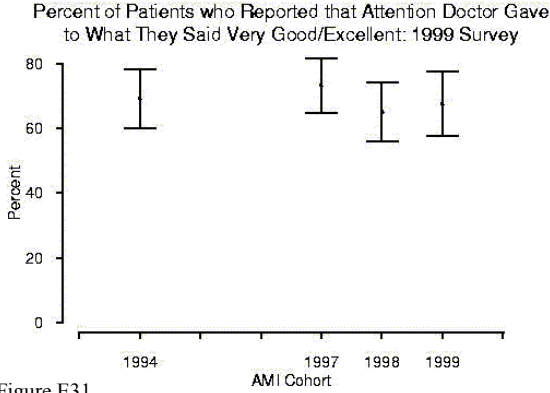


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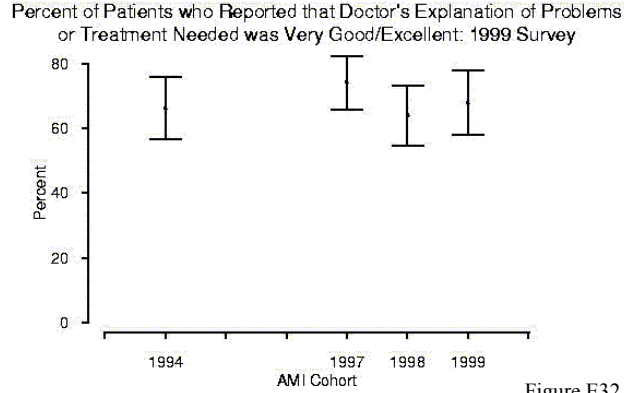


Figure E31

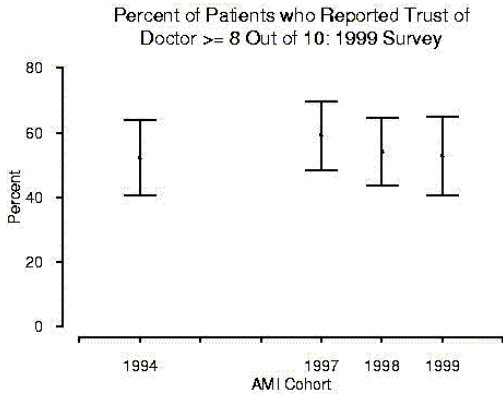


Figure E32

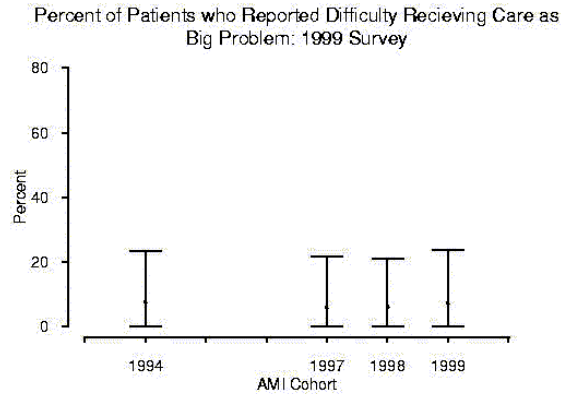


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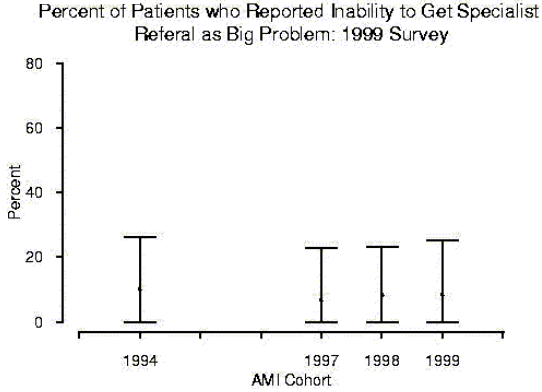
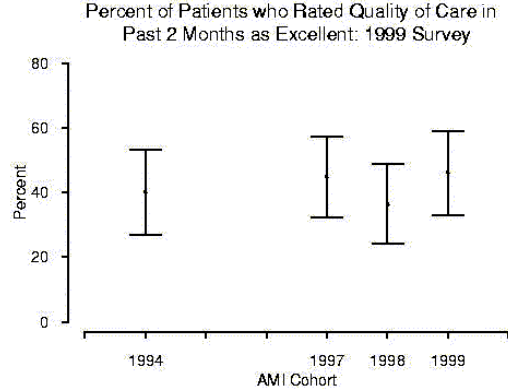


Figure E34



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## Patients with Regular Doctor at VA

Figure E35

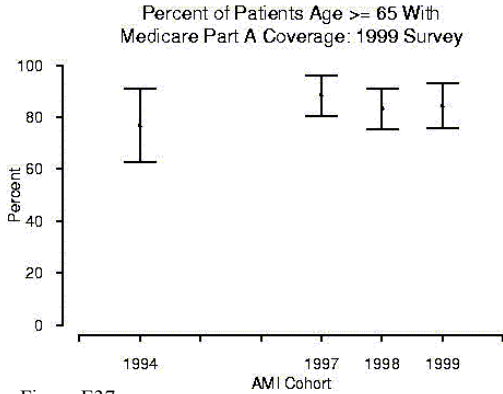


Figure E36

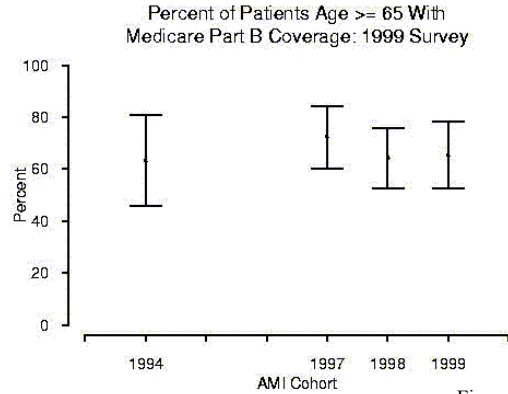


Figure E37

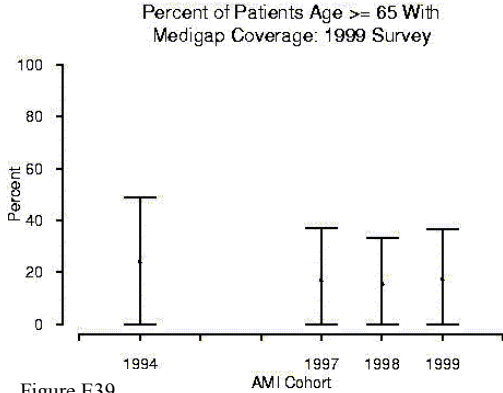


Figure E38

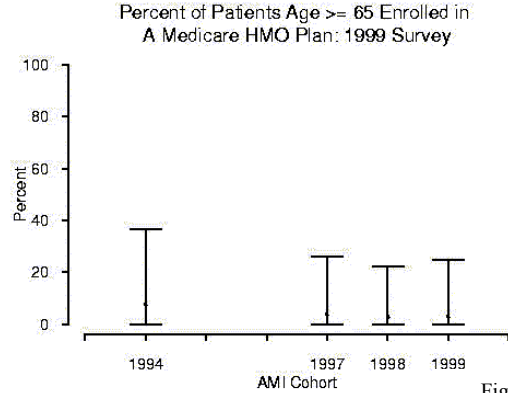


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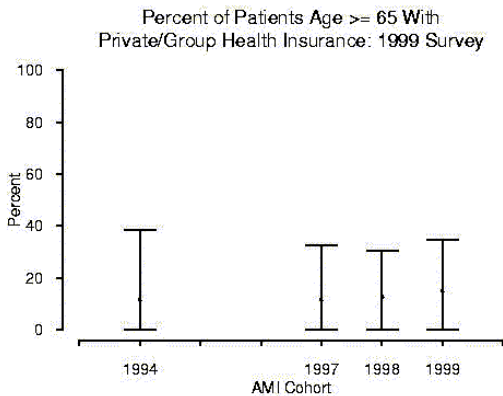


Figure E40

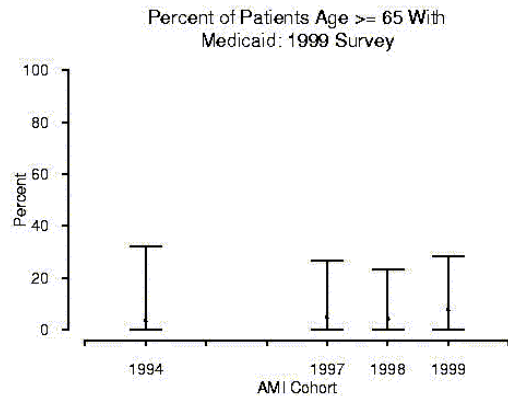


Figure E41

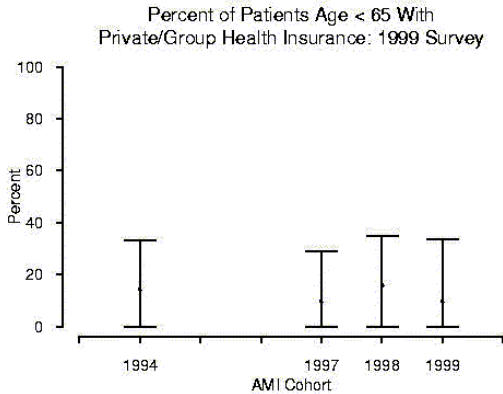
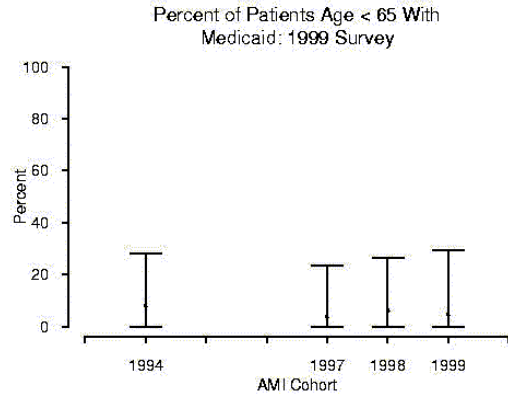


Figure E42





## **Program Evaluation of Cardiac Care Programs in the VHA**

### **References**

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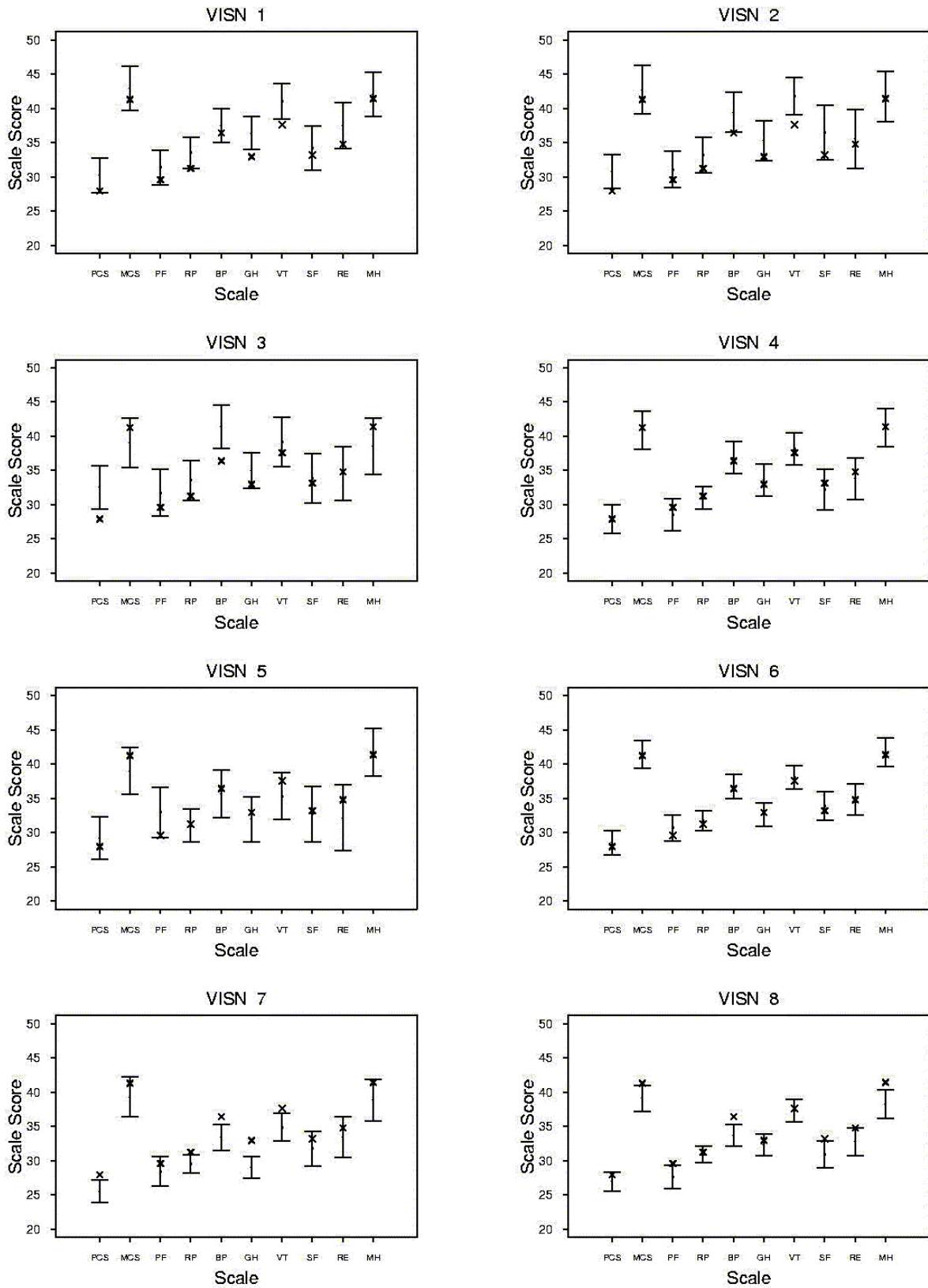
**Appendix E**

# Program Evaluation of Cardiac Care Programs in the VHA

Figure AE1

## SF36 Scale Scores: 1999 Survey, 1999 Cohort

x - National VA Average

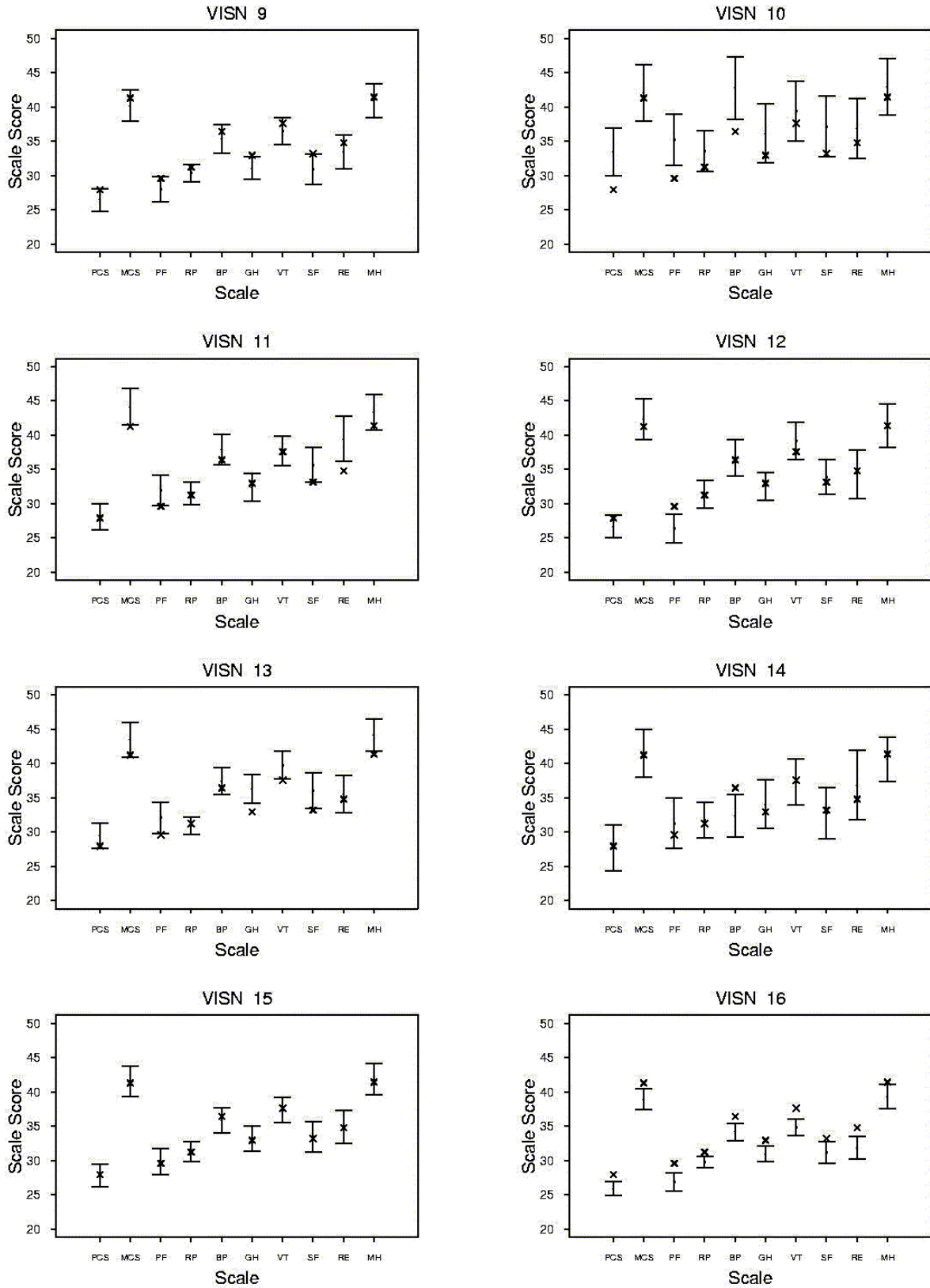


# Program Evaluation of Cardiac Care Programs in the VHA

Figure AE1

## SF36 Scale Scores: 1999 Survey, 1999 Cohort

x - National VA Average



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Figure AE1

## SF36 Scale Scores: 1999 Survey, 1999 Cohort

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