

**Comparative Assessment Report:  
Cardiovascular Care for Enrollees  
Oregon Health Plan Managed Care Plans, 2003–2004**

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Presented to the Oregon Department of Human Services, Health Services,  
Office of Medical Assistance Programs

**June 28, 2005**

**Presented by**

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OMAP-EQRO-105570



## Executive Summary

In May 2003, the Oregon Department of Human Services, Health Services, Office of Medical Assistance Programs (OMAP) contracted with OMPRO to review the care and services provided by the fully capitated health plans (FCHPs) that participate in the Oregon Health Plan (OHP). As part of its review activity, OMPRO will complete comparative assessments of five clinical and nonclinical topics selected by OMAP and FCHP medical directors. This comparative assessment focuses on the quality of cardiovascular care received by OHP enrollees.

As indicators of the quality of cardiovascular care, OMPRO selected three measures published by the Agency for Healthcare Research and Quality (AHRQ). OMPRO analyzed hospital discharge data to calculate admission rates per 100,000 adult OHP members (aged 19–64) for angina without procedure, congestive heart failure (CHF), and hypertension.

OMPRO assessed estimated hospitalization rates for adults (ages 19–64). In addition to assessing cardiovascular admission rates for each of 13 FCHPs and for the aggregate of FCHPs, OMPRO assessed admission rates by demographic category (gender, race/ethnicity, geography, and OHP benefit package) and examined differences between admissions of enrollees in the managed care and fee-for-service (FFS) enrollment categories.

### Findings

The study showed statistically significant variation among FCHPs with regard to rates of angina and hypertension admissions, but not with regard to CHF admissions. Four plans' estimated admission rates were higher than the AHRQ benchmark for angina, and three plans' admission rates were higher than the AHRQ benchmark for hypertension. However, comparisons to the AHRQ measures should be made with caution, as the samples used are not identical. Despite the variation in admission rates among FCHPs, the study identified no FCHPs as outliers according to the study definition.

Age was significantly related to admissions for all three heart conditions. In addition, African Americans had higher admission rates for CHF and hypertension than did whites.

Some limitations apply to the study findings. The small number of actual admissions and the number of enrollees in each plan required OMPRO to extrapolate the rate of admissions per 100,000; thus, all rates are estimates, not actual rates. No corrective action plans are recommended because no FCHPs were identified as outliers.



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## Introduction

Federal regulations require state Medicaid agencies to contract with an external quality review organization to provide an independent annual review of the quality outcomes, timeliness of service, and access to care provided by Medicaid managed care organizations (MCOs). In May 2003, the Oregon Department of Human Services, Health Services, Office of Medical Assistance Programs (OMAP) contracted with OMPRO to review the care and services provided by the fully capitated health plans (FCHPs) that participate in the Oregon Health Plan (OHP).

As part of its review activity, OMPRO will complete five comparative assessments over the two years of the contract. The assessments will examine five clinical and nonclinical topics selected by OMAP and FCHP medical directors at the beginning of the contract period. The comparative assessments are part of a rapid cycle process in which

- OMPRO analyzes the data for evidence of variation
- OMAP validates the results
- OMAP and OMPRO share the findings with the FCHPs
- OMPRO follows up with FCHPs to discuss opportunities for improvement and produces a comparative assessment report

The rapid cycle studies analyze measures derived from administrative data and encounter data. The purpose of these studies is to provide high-level results that can be applied more quickly than results obtained through a formal research analysis. The findings of the five comparative assessments, in conjunction with information gathered in other external quality review activities, such as evaluation of statewide quality improvement program activities and CAHPS<sup>®</sup>, will provide a comprehensive evaluation of each FCHP's performance.

The focus of this comparative assessment is the quality of cardiovascular care received by enrollees. Cardiovascular disease (CVD) is the leading cause of death in the United States overall and the second leading cause of death in Oregon (cancer was the leading cause). CVD accounted for 38 percent of all deaths in the United States in 2002 and was listed as a primary or contributing cause on approximately 1.4 million death certificates; as many as two-thirds of these deaths are considered preventable.<sup>1</sup> In 2003, heart disease accounted for 7,008 deaths in Oregon, or about 23 percent of all deaths.<sup>2</sup> In 2001, Oregon recorded 50,423 hospitalizations for CVD, at an estimated cost of \$782 million.<sup>3</sup>

Common cardiovascular conditions such as angina, congestive heart failure (CHF), and hypertension are chronic illnesses and are “ambulatory care sensitive conditions” (ACSCs) for which good outpatient care can potentially prevent the need for hospitalization, or for which early intervention can prevent complications or more severe disease.

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<sup>1</sup> American Heart Association, Heart Disease and Stroke Statistics, 2005 Update. Available at: <http://www.americanheart.org/downloadable/heart/1105390918119HDSSStats2005Update.pdf>. Accessed June 6, 2005.

<sup>2</sup> Oregon Department of Human Services, Health Services, Center for Health Statistics. Oregon Vital Statistics Report 2000. Available at: <http://egov.oregon.gov/DHS/ph/chs/data/arpt/03v2/chapter6/6-04.pdf>.

<sup>3</sup> Oregon Department of Human Services, Health Services, Health Promotion and Chronic Disease Prevention Program. Heart and Stroke Report 2001. Available at: <http://www.oregon.gov/DHS/ph/hdsp/2001/hosp.shtml>. Accessed May 13, 2005.

**Angina**, either stable or unstable, is a symptom of potential coronary artery disease. Effective management of coronary artery disease reduces the occurrence of major cardiac events such as heart attacks and may also reduce admission rates for angina. Stable angina can be managed in an outpatient setting using drugs such as aspirin and beta blockers, as well as advice to change diet and exercise habits.<sup>4</sup> Effective treatments for coronary artery disease reduce admissions for serious complications of ischemic heart disease, including unstable angina.

**CHF** can be controlled in an outpatient setting for the most part; however, the disease is a chronic progressive disorder for which some hospitalizations are appropriate. Physician management of patients with CHF differs significantly by physician specialty.<sup>5,6</sup> Different community practices may be reflected in differences in CHF admission rates. Outpatient interventions such as the use of protocols for ambulatory management of low-severity patients and improvement of access to outpatient care would most likely decrease inpatient admissions for CHF.<sup>7</sup>

**Hypertension** often is controllable in an outpatient setting with appropriate use of drug therapy.

Given the prevalence and serious consequences of cardiovascular disease, there are several measures of quality of care for this condition (see Table 1). For this report, OMPRO used the Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators (PQIs), because these measures can be used to indicate problems that may result from a lack of preventive healthcare services. The PQIs track hospitalizations for conditions that should be treatable on an outpatient basis or could be less severe if treated early and appropriately. These indicators represent the current state of the art in measuring the outcomes of preventive and outpatient care through analysis of hospital discharge data.

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<sup>4</sup> Gibbons RJ, Chatterjee K, Daley J, et al. ACC/AHA/ACP-ASIM guidelines for the management of patients with chronic stable angina: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee on Management of Patients with Chronic Stable Angina) [published erratum appears in *J Am Coll Cardiol* 1999 Jul;34(1):314]. *J Am Coll Cardiol* 1999;33(7):2092–2197.

<sup>5</sup> Edep ME, Shah NB, Tateo IM, et al. Differences between primary care physicians and cardiologists in management of congestive heart failure: relation to practice guidelines. *J Am Coll Cardiol* 1997;30(2):518–526.

<sup>6</sup> Reis, SE, Holubkov R, Edmundowicz D, et al. Treatment of patients admitted to the hospital with congestive heart failure: specialty-related disparities in practice patterns and outcomes. *J Am Coll Cardiol* 1997;30(3):733–738.

<sup>7</sup> Rosenthal GE, Harper DL, Shah A, et al. A regional evaluation of variation in low-severity hospital admissions. *J Gen Intern Med* 1997;12(7):416–422.

**Table 1. Quality indicators for cardiovascular care.**

Agency	Measure	Description of measure	Specific measures	Advantages	Data
OMPRO	AHRQ Prevention Quality Indicators	Common cardiovascular conditions that are ambulatory sensitive conditions, which should be treatable on an outpatient basis or could be less severe if treated early and appropriately	Admissions for members 19–64 for: <ul style="list-style-type: none"> <li>➤ angina without procedure</li> <li>➤ congestive heart failure</li> <li>➤ hypertension</li> </ul>	Readily available and easy-to-use administrative data	Hospital discharge data
HEDIS	Beta-blocker treatment after a heart attack	Appropriateness of follow up care	Members 35 years and older who were hospitalized for an AMI and who received an prescription for beta blockers upon discharge	Comparability across Medicaid MCOs	Claims/ encounter and medical records
	Cholesterol management after acute cardiovascular events	Appropriate management of disease	Members 18–75 years who had an AMI, CABG, or PTCA, were screened for LDL-C, and had an LDL-C<130 mg/dL	Comparability across Medicaid MCOs	Claims/ encounter and medical records
<ul style="list-style-type: none"> <li>➤ CMS AMI National Project</li> <li>➤ JCAHO Core Measure</li> <li>➤ Guidelines Applied in Practice</li> </ul>	Care processes for patients hospitalized with AMI	Appropriate care for patients with AMI	<ul style="list-style-type: none"> <li>➤ Aspirin at arrival</li> <li>➤ aspirin prescribed at discharge</li> <li>➤ angiotensin converting enzyme inhibitor for patients with left ventricular systolic dysfunction</li> <li>➤ smoking cessation advice/counseling</li> <li>➤ beta blocker at discharge</li> <li>➤ median time to thrombolysis</li> <li>➤ thrombolytic therapy within 30 minutes of arrival</li> <li>➤ median time to percutaneous transluminal coronary angioplasty (PTCA)</li> <li>➤ PTCA received within 90 minutes of arrival</li> <li>➤ LDL cholesterol assessment</li> <li>➤ LD cholesterol test within 24 hours after arrival</li> <li>➤ lipid lowering therapy at discharge</li> </ul>	National comparability	Medical records review

**Objectives and scope**

As indicators of the quality of cardiovascular care, OMPRO selected three measures published in AHRQ's *Guide to Prevention Quality Indicators*. Hospital discharge data were analyzed to calculate admission rates per 100,000 adult OHP members (ages 19–64) for

- angina without procedure
- CHF
- hypertension

The 13 FCHPs examined in this study were:

- CareOregon, Inc.
- Cascade Comprehensive Care, Inc.
- Central Oregon Individual Health Solutions
- Doctors of the Oregon Coast South
- Douglas County Independent Physicians Association
- FamilyCare, Inc.
- InterCommunity Health Network
- Lane Individual Practice Association
- Marion Polk Community Health Plan
- Mid-Rogue Independent Physician Association
- Oregon Health Management Services
- Providence Health Plan
- Tuality Health Alliance

## Methodology

### Study design

Claims and encounter data were submitted to OMAP by medical facilities, FCHPs, and individual providers using UB-92 or HCFA-1500 insurance claim forms. These forms included information on the type of encounter, services provided, diagnoses, and demographic characteristics of the enrollee. In March 2005, OMAP extracted data from its encounter and claims database for all eligible enrollees for the July 1, 2003 to June 30, 2004 study time frame. Descriptions of the data elements used for this study are listed in Appendix A, Table A-1.

OMPRO analyzed hospital discharge claims from these sources to calculate asthma admission rates for OHP adults, children, and the combined sample for each FCHP and for the aggregate of FCHPs.

### Denominator—eligible population

OHP enrollees were eligible for inclusion in the study if they were 19–64 years old as of June 1, 2004, and had been enrolled continuously for six months in one FCHP during the measurement year.

### Numerator—admissions

The numerator, representing admissions, varied by quality-of-care measure. Appendix B displays the criteria for including or excluding enrollees for each measure.

### Data analysis

Comparative assessments are evaluations of FCHP performance that

- compare the populations of each FCHP's encounter data to a baseline of FCHP aggregated data
- examine the distribution of data for all FCHPs

OMPRO used descriptive and inferential statistical methods to examine the amount of variation in the three cardiovascular admission rates (angina without procedure, CHF, and hypertension) and to identify adversely out-of-range performance among FCHPs. Out-of-range performance data may be subject to review by OMAP and the FCHP. If, in OMAP's judgment, the data review does not result in an adequate explanation of the variation (i.e., the variation between the FCHP-submitted data and the aggregate data cannot be explained, identified, or shown to be the result of data entry, coding, transmission, or reporting error), OMPRO will review a representative sample of health records (charts) from the appropriate FCHP.

For purposes of this study, outliers were defined as FCHPs with admission rates that were statistically significantly different from the aggregate rate. Benchmark data from AHRQ are available to compare both state and plan performance to national performance rates. These benchmark comparisons, however, were not analyzed for statistical difference, nor were they used to identify outliers.

In addition to assessing cardiovascular admission rates for FCHPs and the aggregate, OMPRO assessed each measure among the following demographic categories:

- gender
- race/ethnicity
- geography (rural or urban, as defined by member ZIP code)
- OHP benefit package (OHP Standard or OHP Plus)

Finally, OMPRO examined differences between admissions of enrollees in managed care (MC) and in fee-for-service (FFS) enrollment categories.

#### **Administrative feasibility/limitations**

Although factors outside the direct control of the healthcare system, such as poor environmental conditions or lack of patient adherence to treatment recommendations, can result in hospitalization, the ACSC admission rates provide a good starting point for assessing quality of health services in the community. Because the rates are calculated using readily available hospital administrative data, they are an easy-to-use and inexpensive screening tool. They can provide a window on unmet healthcare needs, on the effectiveness of outpatient care in avoiding complications from common conditions, and on performance of local healthcare systems and health plans.

The AHRQ benchmark is defined as the number of admissions for CVD per 100,000 population. In this study, however, the denominator for each FCHP is considerably lower. Therefore, the admission rate for each plan must be extrapolated to enable comparison with the AHRQ benchmark.

## Results

Overall, 72,265 persons aged 19–64 were continuously enrolled in MC during the measured time frame. Given the low number of CVD admissions used for measurement, the following results are to be interpreted with caution. Also, rates per 100,000 had to be extrapolated; therefore, all rates should be considered estimates.

### Angina admissions

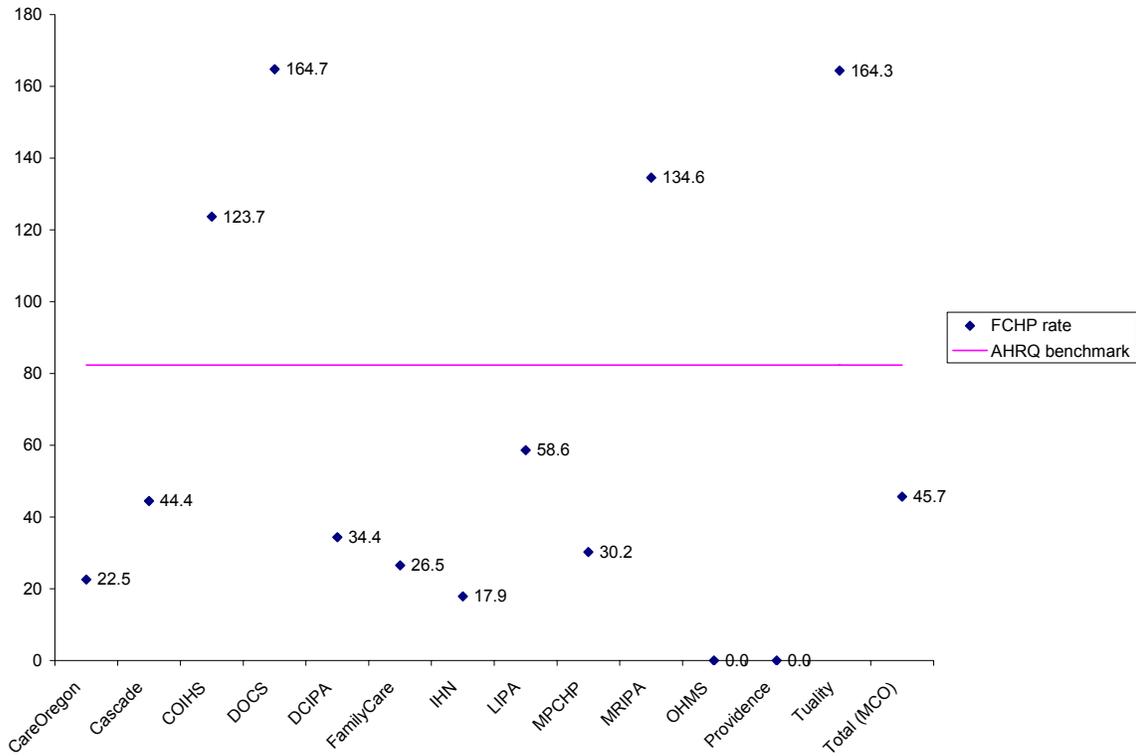
Only 33 enrollees met the criteria for an angina admission using the AHRQ definition. Two plans, Doctors of the Oregon Coast South (DOCS) and Central Oregon Individual Health Solutions (COIHS), had estimated adult angina admission rates that were statistically significantly higher than the FCHP aggregate. (See Table 2.)

**Table 2. Estimated angina admission rates for adult OHP managed care enrollees, by FCHP.**

Plan	Eligible enrollees	Enrollees admitted with angina	Estimated rate per 100,000	Significant difference
CareOregon, Inc.	22,176	5	22.5	
Cascade Comprehensive Care, Inc.	2,250	1	44.4	
Central Oregon Individual Health Solutions	4,042	5	123.7	↑
Doctors of the Oregon Coast South	3,035	5	164.7	↑
Douglas County IPA	2,908	1	34.4	
FamilyCare, Inc.	3,767	1	26.5	
InterCommunity Health Network	5,590	1	17.9	
Lane Individual Practice Association	10,236	6	58.6	
Marion Polk Community Health Plan	9,924	3	30.2	
Mid-Rogue IPA	2,229	3	134.6	
Oregon Health Management Services	1,955	0	0.0	
Providence Health Plan	2,936	0	0.0	
Tuality Health Alliance	1,217	2	164.3	
<b>Aggregate of FCHPs</b>	<b>72,265</b>	<b>33</b>	<b>45.7</b>	

Arrows ↑↓ indicate that the FCHP percentage is statistically significantly higher or lower, respectively, than the aggregate percentage at  $p < 0.05$ .

The estimated aggregate MC rate of angina admissions was 45.7 per 100,000. The AHRQ benchmark for angina admissions is 82.3 per 100,000. As shown in Figure 1, four plans' estimated rates were above the AHRQ benchmark.



**Figure 1. Estimated angina admission rates by FCHP, compared to AHRQ benchmark.**

There were no significant differences in angina admissions between OHP Plus and Standard enrollees (Table 3), nor between MC and FFS enrollees (Table 4).

**Table 3. Estimated angina admission rates for adult OHP enrollees, by benefit program.**

Category	Eligible enrollees	Enrollees admitted with angina	Estimated rate per 100,000	Significant difference
OHP Plus	58,853	25	42.5	
OHP Standard	13,412	8	59.6	

**Table 4. Estimated angina admission rates for adult OHP enrollees, by MC and FFS.**

Category	Eligible enrollees	Enrollees admitted with angina	Estimated rate per 100,000	Significant difference
MC	72,265	33	45.7	
FFS	42,800	16	37.4	

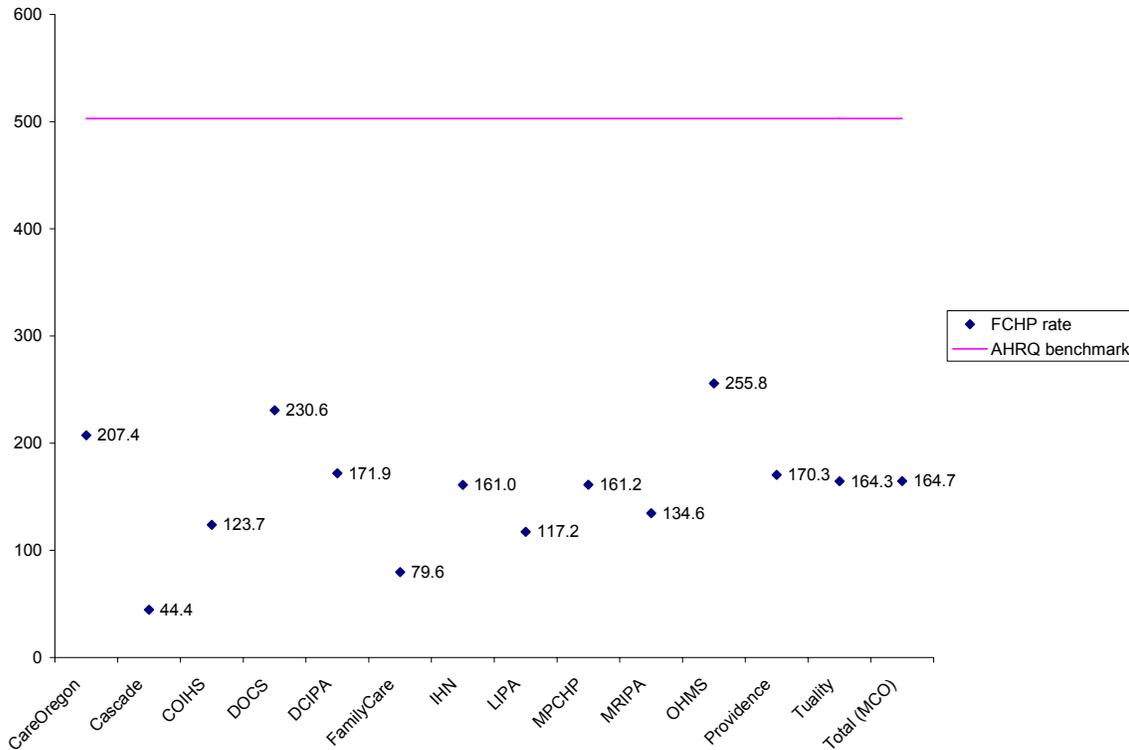
**CHF admissions**

Only 119 enrollees met the criteria for a CHF admission using the AHRQ definition. No plan's estimated CHF admission rate was significantly higher than the FCHP aggregate. (See Table 5.)

**Table 5. Estimated CHF admission rates for adult OHP managed care enrollees, by FCHP.**

<b>Plan</b>	<b>Eligible enrollees</b>	<b>Enrollees admitted with CHF</b>	<b>Estimated rate per 100,000</b>	<b>Significant difference</b>
CareOregon, Inc.	22,176	46	207.4	
Cascade Comprehensive Care, Inc.	2,250	1	44.4	
Central Oregon Individual Health Solutions	4,042	5	123.7	
Doctors of the Oregon Coast South	3,035	7	230.6	
Douglas County IPA	2,908	5	171.9	
FamilyCare, Inc.	3,767	3	79.6	
InterCommunity Health Network	5,590	9	161.0	
Lane Individual Practice Association	10,236	12	117.2	
Marion Polk Community Health Plan	9,924	16	161.2	
Mid-Rogue IPA	2,229	3	134.6	
Oregon Health Management Services	1,955	5	255.8	
Providence Health Plan	2,936	5	170.3	
Tuality Health Alliance	1,217	2	164.3	
<b>Aggregate of FCHPs</b>	<b>72,265</b>	<b>119</b>	<b>164.7</b>	

The estimated aggregate MC rate of CHF admissions was 164.7 per 100,000. The AHRQ benchmark for CHF admissions is 502.8 per 100,000. As shown in Figure 2, no plan’s rate was above the AHRQ benchmark.



**Figure 2. Estimated CHF admission rates by FCHP, compared to AHRQ benchmark.**

The estimated admission rate for OHP Plus enrollees was statistically significantly higher than the rate for OHP Standard enrollees (Table 6). There were no significant differences in CHF admission rates for MC and FFS enrollees (Table 7).

**Table 6. Estimated CHF admission rates for adult OHP enrollees, by benefit program.**

Category	Eligible enrollees	Enrollees admitted with CHF	Estimated rate per 100,000	Significant difference
OHP Plus	58,853	107	181.8	*
OHP Standard	13,412	12	89.5	

\* Indicates p<0.05.

**Table 7. Estimated CHF admission rates for adult OHP enrollees, by MC and FFS.**

Category	Eligible enrollees	Enrollees admitted with CHF	Estimated rate per 100,000	Significant difference
MC	72,265	119	164.7	
FFS	42,800	55	128.5	

### Hypertension admissions

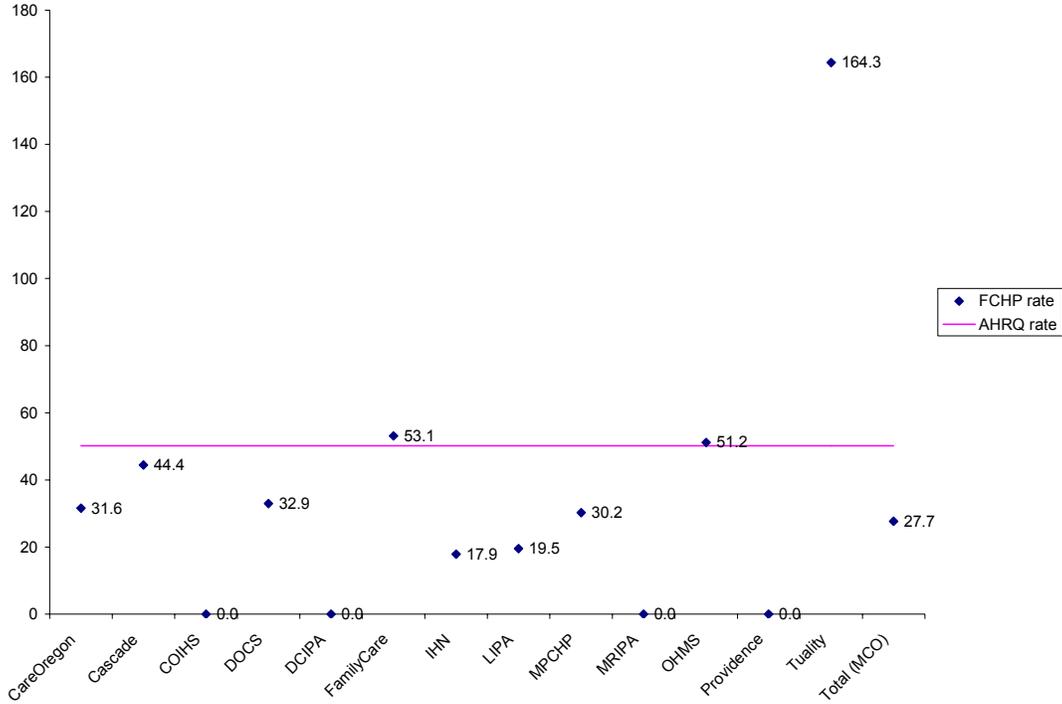
Only 20 enrollees met the criteria for a hypertension admission using the AHRQ definition. One plan, Tuality, had an estimated rate of hypertension admissions that was statistically significantly higher than the FCHP aggregate. (See Table 8.)

**Table 8. Estimated hypertension admission rates for adult OHP managed care enrollees, by FCHP.**

Plan	Eligible enrollees	Enrollees admitted with hypertension	Estimated rate per 100,000	Significant difference
CareOregon, Inc.	22,176	7	31.6	
Cascade Comprehensive Care, Inc.	2,250	1	44.4	
Central Oregon Individual Health Solutions	4,042	0	0.0	
Doctors of the Oregon Coast South	3,035	1	32.9	
Douglas County IPA	2,908	0	0.0	
FamilyCare, Inc.	3,767	2	53.1	
InterCommunity Health Network	5,590	1	17.9	
Lane Individual Practice Association	10,236	2	19.5	
Marion Polk Community Health Plan	9,924	3	30.2	
Mid-Rogue IPA	2,229	0	0.0	
Oregon Health Management Services	1,955	1	51.2	
Providence Health Plan	2,936	0	0.0	
Tuality Health Alliance	1,217	2	164.3	↑
<b>Aggregate of FCHPs</b>	<b>72,265</b>	<b>20</b>	<b>27.7</b>	

Arrows ↑↓ indicate that the FCHP percentage is statistically significantly higher or lower, respectively, than the aggregate percentage at  $p < 0.05$ .

The estimated aggregate MC rate of hypertension admissions was 27.7 per 100,000. The AHRQ benchmark for hypertension admissions is 50.2 per 100,000. As shown in Figure 3, three plans' estimated rates were higher than the AHRQ benchmark.



**Figure 3. Estimated hypertension admission rates by FCHP, compared to AHRQ benchmark.**

There were no significant differences in hypertension admissions between OHP Plus and Standard enrollees (Table 9), nor between MC and FFS enrollees (Table 10).

**Table 9. Estimated hypertension admission rates for adult OHP enrollees, by benefit program.**

Category	Eligible enrollees	Enrollees admitted with hypertension	Estimated rate per 100,000	Significant difference
OHP Plus	58,853	18	30.6	
OHP Standard	13,412	2	14.9	

**Table 10. Estimated hypertension admission rates for adult OHP enrollees, by MC and FFS.**

Category	Eligible enrollees	Enrollees admitted with hypertension	Estimated rate per 100,000	Significant difference
MC	72,265	20	27.7	
FFS	42,800	6	14.0	

### Demographic comparisons

OMPRO found few demographic differences in the three admission types for cardiovascular disease. However, African American enrollees had statistically significantly higher admission rates than whites for both CHF and hypertension (Table 11). Also, admission rates for all three conditions increased significantly with age (Table 12 and Figure 4).

**Table 11. Estimated cardiovascular disease admission rates for adult OHP managed care enrollees, by race.**

Race	Eligible enrollees	Enrollees admitted with CVD	Estimated rate per 100,000	Significant difference
Angina				
African American	3,624	0	0.0	
White	61,479	32	52.1	
CHF				
African American	3,624	15	413.91	*
White	61,479	94	152.90	
Hypertension				
African American	3,624	6	165.56	*
White	61,479	14	22.77	

\* Indicates  $p < 0.05$ .

**Table 12. Estimated cardiovascular disease admission rates for adult OHP managed care enrollees, by age.**

Age	Eligible enrollees	Enrollees admitted with CVD	Estimated rate per 100,000	Significant difference
Angina				
19 to 40	41,292	1	2.4	*
41 to 64	3,093	32	103.3	
CHF				
19 to 40	41,292	10	24.2	*
41 to 64	30,973	109	351.9	
Hypertension				
19 to 40	41,292	3	7.3	*
41 to 64	30,973	17	54.9	

\* Indicates  $p < 0.05$ .

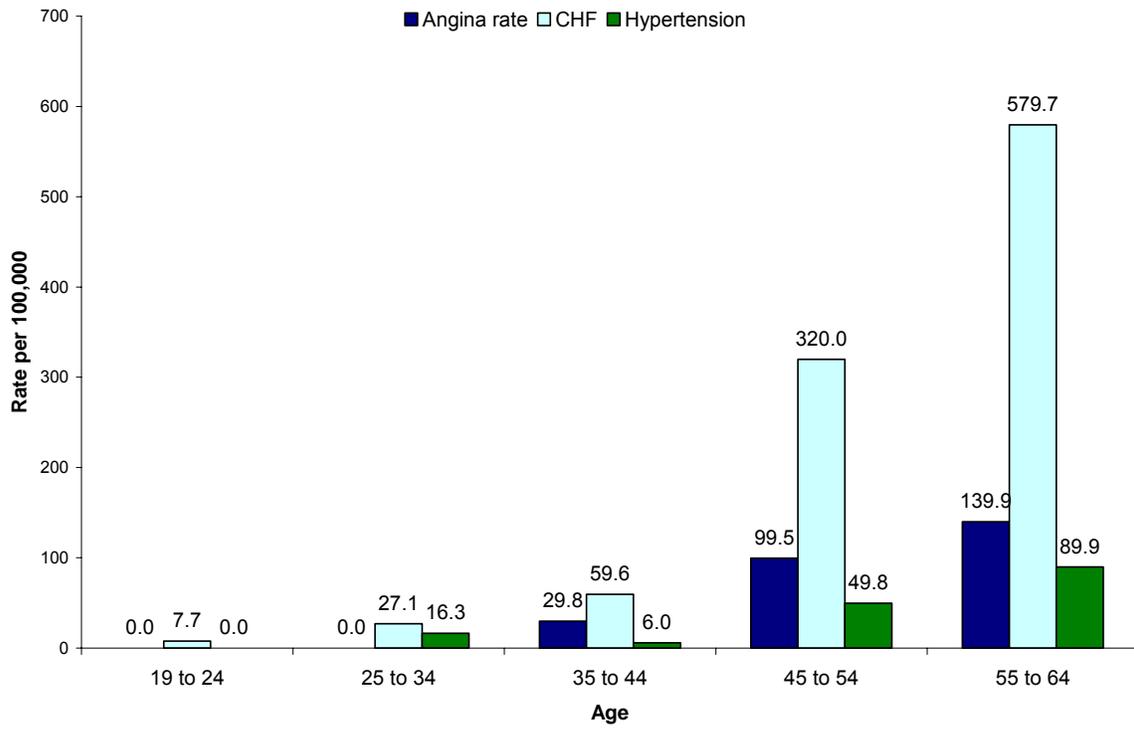


Figure 4. Estimated cardiovascular disease admission rates by age group.

## Discussion

In comparing individual FCHPs' estimated admission rates with the FCHP aggregate, the analysis showed statistically significant variations with regard to angina and hypertension admissions, but not with regard to CHF admissions.

Comparing FCHPs' estimated admission rates to the AHRQ benchmarks, four plans' angina admission rates were higher than the AHRQ benchmark and three plans' hypertension admission rates were higher than the AHRQ benchmark. However, comparisons to the AHRQ measures should be made with caution, as the samples used are not identical. For adults, AHRQ examines all people over 18 years old; this report examined only those aged 19–64 to avoid dual eligibility. Therefore, FCHP estimated admission rates, especially for CHF, may be relatively low compared to the AHRQ area benchmarks, as hospital admissions related to CVD increase with age. In addition, due to the low number of admissions, plan rates per 100,000 were estimates, not actual rates.

Even with our younger sample, age was significantly related to admissions for all three heart conditions. In addition, African Americans had higher admission rates for CHF and hypertension than did whites.

## Conclusions and Recommendations

This study attempted to measure FCHPs' hospital admission rates for OHP enrollees with angina, CHF, and hypertension. However, the low number of admissions made the data difficult to interpret. This measure has neither the sensitivity nor the specificity to enable valid measurement of FCHP performance in terms of quality of care. No corrective action plans are recommended because no FCHPs were identified as outliers.

Given the low number of admissions, OMPRO does not recommend using this measure for future FCHP comparative assessments. However, this measure could prove useful to track the overall quality of care provided to OHP members over time. For future studies, OMPRO recommends using the same age groups as used by AHRQ to allow for more accurate comparisons with the AHRQ benchmarks.

## Appendix A. Data Elements Requested for Analysis

Table A-1 lists the data elements requested for the analysis of OHP enrollees with cardiovascular disease.

**Table A-1. Data elements requested for analysis.**

<b>Element</b>	<b>Data fields</b>	<b>Comments</b>
Enrollee identifier	<ul style="list-style-type: none"> <li>• Prime ID</li> <li>• First name</li> <li>• Middle initial</li> <li>• Last name</li> </ul>	
Unique ID for demographic data		
Enrollee length of enrollment in FCHP or FFS plan		
Program code for each member	<ul style="list-style-type: none"> <li>• Program Eligibility Recording Code (PERC): 2 characters</li> </ul>	OHP Plus or Standard
Enrollee age as of June 30, 2004		
Enrollee demographics	<ul style="list-style-type: none"> <li>• Gender</li> <li>• Race/ethnicity</li> <li>• ZIP code</li> </ul>	
Individual encounter or claim identifier for each visit	<ul style="list-style-type: none"> <li>• Encounter or claims ID number</li> </ul>	
Diagnostic and procedure codes for each visit	<ul style="list-style-type: none"> <li>• ICD-9 code—Include all procedures</li> <li>• Current Procedural Terminology (CPT)<sup>®</sup> code</li> </ul>	
Plan identifier for each enrollee	<ul style="list-style-type: none"> <li>• Plan name</li> </ul>	

## Appendix B. Diagnosis Codes Included In and Excluded From Admission Measure Numerators

### Angina without procedure

#### Included:

- discharges with ICD-9-CM principal diagnosis code for angina:
  - 4111 INTERMED CORONARY SYND
  - 41181 CORONARY OCCLSN W/O MI
  - 41189 AC ISCHEMIC HRT DIS NEC
  - 4130 ANGINA DECUBITUS
  - 4131 PRINZMETAL ANGINA
  - 4139 ANGINA PECTORIS NEC/NOS
- all non-maternal/non-neonatal discharges of patients age 18 years and older

#### Excluded:

- discharges with a surgical procedure in any field (010-8699)
- transfer from other institution
- MDC 14 (pregnancy, childbirth, and puerperium) and MDC 15 (newborns and other neonates)

### Congestive heart failure (CHF)

#### Included:

- discharges with ICD-9-CM principal diagnosis code for CHF:
  - 39891 RHEUMATIC HEART FAILURE
  - 40413 BEN HYP HRT/REN W CHF&RF
  - 40201 MAL HYPERT HRT DIS W CHF
  - 40491 HYPER HRT/REN NOS W CHF
  - 40211 BENIGN HYP HRT DIS W CHF
  - 40493 HYP HT/REN NOS W CHF&RF
  - 40291 HYPERTEN HEART DIS W CHF
  - 4280 CONGESTIVE HEART FAILURE
  - 40401 MAL HYPER HRT/REN W CHF
  - 4281 LEFT HEART FAILURE
  - 40403 MAL HYP HRT/REN W CHF&RF
  - 4289 HEART FAILURE NOS
  - 40411 BEN HYPER HRT/REN W CHF
- all nonmaternal/non-neonatal discharges of patients age 18 years and older

#### Excluded:

- discharges with cardiac procedure codes in any field:
  - 3601 PTCA-1 VESSEL W/O AGENT
  - 3619 HRT REVAS BYPS ANAS NEC
  - 3602 PTCA-1 VESSEL WITH AGNT
  - 375 HEART TRANSPLANTATION
  - 3605 PTCA-MULTIPLE VESSEL
  - 3770 INT INSERT PACEMAK LEAD
  - 3606 INSERT CORONARY ART STENT OCT95-
  - 3771 INT INSERT LEAD IN VENT
  - 3610 AORTOCORONARY BYPASS NOS
  - 3772 INT INSEER LEAD ATRI-VENT
  - 3611 AORTOCOR BYPAS-1 COR ART
  - 3773 INT INSEER LEAD IN ATRIUM

3612 AORTOCOR BYPAS-2 COR ART  
3774 INT OR REPL LEAD EPICAR  
3613 AORTOCOR BYPAS-3 COR ART  
3775 REVISION OF LEAD  
3614 AORTCOR BYPAS-4+ COR ART  
3776 REPL TV ATRI-VENT LEAD  
3615 1 INT MAM-COR ART BYPASS  
3777 REMOVAL OF LEAD W/O REPL  
3616 2 INT MAM-COR ART BYPASS  
3778 INSER TEMP PACEMAKER SYS  
3617 ABD-CORON ART BYPASS OCT96-  
3779 REVIS OR RELOCATE POCKET

- transfer from other institution
- MDC 14 (pregnancy, childbirth, and puerperium) and MDC 15 (newborns and other neonates)

## Hypertension

### Included:

- discharges with ICD-9-CM principal diagnosis code for hypertension:
  - 4010 MALIGNANT HYPERTENSION
  - 40310 BENIGN HYP HRT DIS W/OUT RF
  - 4019 HYPERTENSION NOS
  - 40390 HYPERTEN HEART DIS W/OUT RF
  - 40200 MAL HYPERTEN HRT DIS W/OUT CHF
  - 40400 MAL HYPER HRT/REN W/OUT CHF/RF
  - 40210 BEN HYPERTEN HRT DIS W/OUT CHF
  - 40410 BEN HYPER HRT/REN W/OUT CHF/RF
  - 40290 HYPERTENSIVE HRT DIS W/OUT CHF
  - 40490 HYPER HRT/REN NOS W/OUT CHF/RF
  - 40300 MAL HYPERT HRT DIS W/OUT RF
- all non-maternal/non-neonatal discharges of patients age 18 and older

### Excluded:

- discharges with cardiac procedure codes in any field (see under CHF, above)
- transfer from other institution
- MDC 14 (pregnancy, childbirth, and puerperium), and MDC 15 (newborns and neonates)

