

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

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

June 28, 2005

Presented by

OMPRO

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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 asthma care received by OHP enrollees.

As indicators of the quality of asthma care, OMPRO assessed estimated hospitalization rates for adults (ages 18–64), children (5–17), and a combined sample of adults and children (5–64). In addition to assessing asthma 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 analysis showed variation among FCHPs in terms of asthma admission rates for adults and for children. Some plans' admission rates were higher than the Agency for Healthcare Research and Quality benchmarks, but comparisons to these benchmarks 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.

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[®], will provide a comprehensive evaluation of each FCHP's performance.

This comparative assessment focuses on the quality of asthma care received by enrollees. According to the National Health Interview Survey, in 2002, 30.8 million Americans (111 per 1,000) had been diagnosed with asthma during their lifetime. Among adults age 18 and older, 106 per 1,000 had a lifetime asthma diagnosis (21.9 million), compared to 122 per 1,000 children under age 18 (8.9 million).¹

Statewide data for Oregon show that 8.1 percent of adults reported having asthma and 7.5 percent of children suffer from asthma.² While asthma affects people of all income levels and children and adults alike, it disproportionately affects households with lower income levels. Responses to the 2004 Health Risk Health Status Survey indicated that 26 percent of adult OHP enrollees have been diagnosed with asthma.³

¹ Centers for Disease Control and Prevention, National Center for Environmental Health. Asthma: National Health Interview Survey data. Available at: <http://www.cdc.gov/asthma/NHIS/NHIS2002Data.htm>. Accessed June 8, 2005.

² Self-Reported Asthma Prevalence and Control Among Adults—United States, 2001. *MMWR* 2003;52(17): 381–384.

³ Oregon Medical Professional Review Organization. 2004 Oregon EQRO Health Risk Health Status Survey Report of Results. Portland, OR, June 2005.

According to the National Asthma Education Program, asthma is readily treatable and can be managed effectively in the outpatient setting.⁴ Adherence to the guidelines for asthma management has been associated with lower admission rates. Observational studies offer evidence that inhaled steroids may decrease risk of admission by up to 50 percent.^{5,6} Therefore, asthma-related hospitalizations and emergency department use can serve as a proxy for how well people are controlling their asthma. In fact, Healthy People 2010 has set a goal to reduce the admission rate to 7.7 per 10,000 population for people ages 5–64. In the United States in 2002, there were 1.9 million visits to emergency departments for asthma, 484,000 asthma hospitalizations, and 4,261 deaths from asthma.⁷ The current annual rate of hospitalization for asthma in Oregon is 7.0 per 10,000.⁸

Although high numbers of asthma-related hospital admissions are undesirable, some admissions with asthma are unavoidable and appropriate. Environmental factors such as air pollution or other exposure to allergens have been shown to increase hospitalization rates or exacerbate asthma symptoms.^{9,10} Studies also have shown that asthma hospitalization rates are associated with household income and area of residency.^{11,12}

Objectives and scope

OMPRO assessed estimated hospitalization rates for asthma as indicators of the quality of outpatient asthma care. Using claims data submitted by 13 FCHPs that participate in OHP, OMPRO calculated the estimated asthma admission rates for

- adults, ages 18–64
- children, ages 5–17¹³
- combined sample, ages 5–64

⁴ National Heart, Lung, and Blood Institute/National Asthma Education and Prevention Program. Expert Panel Report 2: Guidelines for the diagnosis and management of asthma. In: National Institutes of Health pub. no. 97-4051. Bethesda, MD; 1997.

⁵ Blais L, Ernst P, Boivin JF, et al. Inhaled corticosteroids and the prevention of readmission to hospital for asthma. *Am J Respir Crit Care Med* 1998;158(1):126–132.

⁶ Donahue JG, Weiss ST, Livingston JM, et al. Inhaled steroids and the risk of hospitalization for asthma. *JAMA* 1997;277(11):887–891.

⁷ Centers for Disease Control and Prevention, National Center for Health Statistics. Asthma prevalence, health care use and mortality, 2002. Available at: <http://www.cdc.gov/nchs/products/pubs/hestats/asthma/asthma.htm>. Accessed June 1, 2005.

⁸ Oregon Department of Human Services. A view of asthma in Oregon: hospitalization for asthma. Available at: <http://www.oregon.gov/DHS/ph/asthma/view/hosp.shtml>. Accessed June 6, 2005.

⁹ Oyana TJ, Rogerson P, Lwebuga-Mukasa JS. Geographic clustering of adult asthma hospitalization and residential exposure to pollution at a United States-Canada border crossing. *Am J Public Health* 2004; 94(7):1250–1257.

¹⁰ Rabinovitch N, Zhang L, Murphy JR, et al. Effects of wintertime ambient air pollutants on asthma exacerbations in urban minority children with moderate to severe disease. *J Allergy Clin Immunol* 2004; 114(5):1131–1137.

¹¹ Litonjua A, Carey V, Weiss S, et al. Race, socioeconomic factors, and area of residency are associated with asthma prevalence. *Pediatr Pulmonol* 1999;(28)394–401.

¹² Lin S, Fitzgerald E, Hwang S, et al. Asthma hospitalization rates and socioeconomic status in New York State (1987–1993). *J Asthma* 1999;(36)239–251.

¹³ Although other organizations, such as AHRQ, examine admission rates for all children under 18, this study examined only those aged 5–17, as research has documented asthma diagnoses of children under 5 to be unreliable. Skoner DP. Outcome measures in childhood asthma. *Pediatrics* 109: 393–398. California Health Care Foundation (2002). Improving quality of care for Californians with pediatric asthma. Available at: <http://www.chcf.org/documents/chronicdisease/ImprovingQualityPediatricAsthma.pdf>. Accessed June 1, 2005.

The adult and pediatric indicators originally were developed by Billings et al.¹⁴ in conjunction with the United Hospital Fund of New York. They have been adopted by the Institute of Medicine and used widely in studies of avoidable hospitalizations. OMPRO used the Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators to define the specific measures used in this study.

Some published studies combine admission rates for children and adults. For example, the Healthy People 2010 goal for asthma admission rates is based on people aged 5–64 years. Therefore, the combined sample of OHP adults and children was analyzed and compared to this national goal.

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

Estimated plan admission rates that are significantly above the OMAP managed care (MC) aggregate or significantly above national rates should be examined further.

¹⁴ Billings J, Zeital L, Lukomnik J, et al. Analysis of variation in hospital admission rates associated with area income in New York City. Unpublished report.

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 considered eligible for inclusion in the study if they

- were 5–64 years old as of June 1, 2004 (adults ages 18–64, children ages 5–17)
- had been enrolled continuously for six months in one FCHP during the measurement year

Numerator—admissions

- hospital discharges with ICD-9-CM principal diagnosis codes for asthma: 49300, 49301, 49302, 49310, 49311, 49312, 49320, 49321, 49322, 49381, 49382, 49390, 49391, 49392

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 separate asthma admission rates (adult, pediatric, and combined) 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. OMPRO also used benchmark data from AHRQ and Healthy People 2010 to compare aggregate and plan performance to national performance rates and goals. These benchmark comparisons, however, were not analyzed for statistical difference.

In addition to assessing asthma admissions for FCHPs and the aggregate, OMPRO assessed admission rates by the following demographic categories:

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

Finally, OMPRO examined differences between admissions of enrollees in the MC and 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 asthma per 100,000 population. In this study, the denominator for the OHP MC aggregate for all enrollees is greater than 100,000, but 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, 147,295 persons aged 5–64 were continuously enrolled in MC during the measured time frame. Of those, only 169 met the criteria for an asthma admission using the AHRQ definition. Given the low number of incidents used for measurement, the following results are to be interpreted with caution. In addition, the number of enrollees in each plan required OMPRO to project the rate of admissions per 100,000; thus, all rates are estimates.

Plan comparisons

Adult admission rate

One plan, Douglas County Independent Physicians Association (DCIPA), had a significantly higher rate of adult asthma admissions than the state aggregate. (See Table 1.)

Table 1. Estimated asthma admission rates for adult OHP managed care enrollees, by FCHP.^a

FCHP	Eligible enrollees	Enrollees admitted with asthma	Estimated rate per 100,000	Significant difference
CareOregon, Inc.	23,493	47	200.1	
Cascade Comprehensive Care, Inc.	2,356	0	0.0	
Central Oregon Individual Health Solutions	4,286	9	210.0	
Doctors of the Oregon Coast South	3,151	7	222.2	
Douglas County IPA	3,076	13	422.6	↑
FamilyCare, Inc.	4,015	6	149.4	
InterCommunity Health Network	5,765	4	69.4	
Lane Individual Practice Association	10,657	13	122.0	
Marion Polk Community Health Plan	10,335	12	116.1	
Mid-Rogue IPA	2,316	3	129.5	
Oregon Health Management Services	2,052	5	243.7	
Providence Health Plan	3,047	2	65.6	
Tuality Health Alliance	1,316	2	152.0	
Aggregate of FCHPs	75,865	123	162.1	

^a Includes enrollees 18 to 64 years old.

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

The estimated aggregate MC rate of adult asthma admissions was 162.1 per 100,000. The AHRQ benchmark for adult asthma admissions is 98.4 per 100,000. As shown in Figure 1, all but three plans had estimated rates above this benchmark.

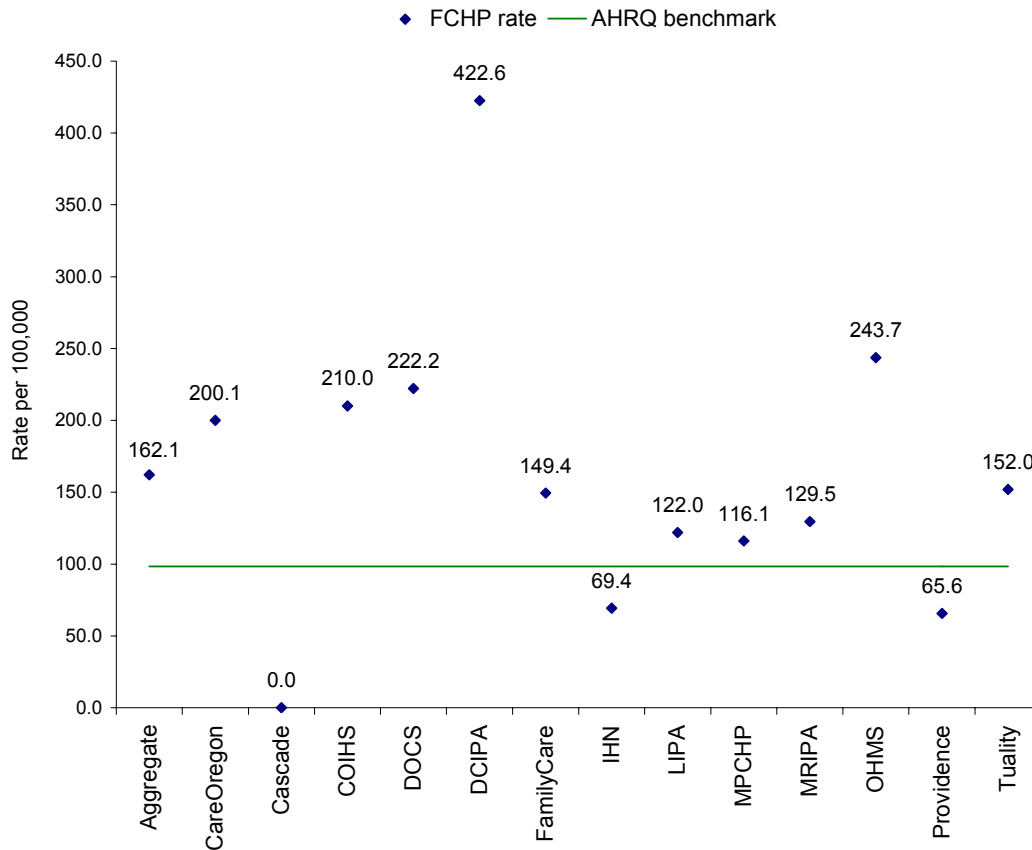


Figure 1. Estimated adult asthma admission rates, by FCHP, compared to AHRQ benchmark.

Pediatric admission rate

One plan, Cascade Comprehensive Care, had a statistically significantly higher rate of pediatric admissions than the state aggregate. (See Table 2.)

Table 2. Estimated asthma admission rates for child OHP managed care enrollees, by FCHP.^a

FCHP	Eligible enrollees	Enrollees admitted with asthma	Estimated rate per 100,000	Significant difference
CareOregon, Inc.	28,371	19	67.0	
Cascade Comprehensive Care, Inc.	1,678	6	357.6	↑
Central Oregon Individual Health Solutions	4,826	2	41.4	
Doctors of the Oregon Coast South	1,696	0	0.0	
Douglas County IPA	2,840	4	140.8	
FamilyCare, Inc.	4,333	1	23.1	
InterCommunity Health Network	4,020	1	24.9	
Lane Individual Practice Association	7,388	4	54.1	
Marion Polk Community Health Plan	9,542	4	41.9	
Mid-Rogue IPA	1,274	1	78.5	
Oregon Health Management Services	1,455	0	0.0	
Providence Health Plan	2,152	2	92.9	
Tuality Health Alliance	1,855	2	107.8	
Aggregate of FCHPs	71,430	46	64.4	

^a Includes enrollees 5 to 17 years old.

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

The estimated aggregate MC rate of pediatric asthma admissions was 64.4 per 100,000. The AHRQ benchmark for pediatric asthma admissions is 164.6 per 100,000. As shown in Figure 2, only Cascade Comprehensive Care’s estimated rate was above the AHRQ benchmark.

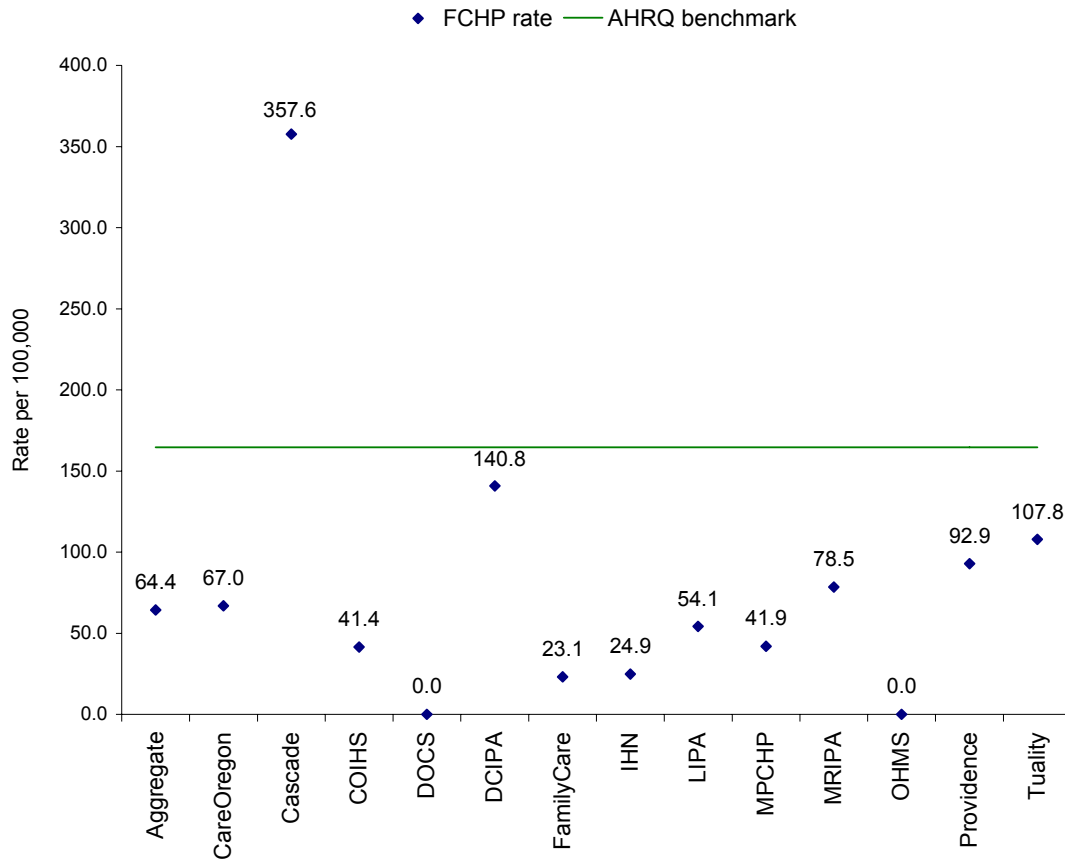


Figure 2. Estimated pediatric asthma admission rates, by FCHP, compared to AHRQ benchmark.

Combined admission rate

One plan, DCIPA, had a statistically significantly higher rate of combined admissions than the state aggregate. (See Table 3.)

Table 3. Estimated asthma admission rates for all OHP managed care enrollees, by FCHP.^a

FCHP	Eligible enrollees	Enrollees admitted with asthma	Estimated rate per 10,000	Significant difference
CareOregon, Inc.	51,864	66	12.7	
Cascade Comprehensive Care, Inc.	4,034	6	14.9	
Central Oregon Individual Health Solutions	9,112	11	12.1	
Doctors of the Oregon Coast South	4,847	7	14.4	
Douglas County IPA	5,916	17	28.7	↑
FamilyCare, Inc.	8,348	7	8.4	
InterCommunity Health Network	9,785	5	5.1	
Lane Individual Practice Association	18,045	17	9.4	
Marion Polk Community Health Plan	19,877	16	8.0	
Mid-Rogue IPA	3,590	4	11.1	
Oregon Health Management Services	3,507	5	14.3	
Providence Health Plan	5,199	4	7.7	
Tuality Health Alliance	3,171	4	12.6	
Aggregate of FCHPs	147,295	169	11.5	

^a Includes all enrollees aged 5 to 64.

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

AHRQ has no benchmark for a combined adult-pediatric population. However, Healthy People 2010’s goal for asthma admission rates for people aged 5–64 is 7.7 per 10,000. OMAP’s overall rate equates to 11.5 admissions per 10,000. One plan had an estimated rate below the Healthy People 2010 objective (InterCommunity), and one plan had an estimated rate exactly at the objective (Providence). The rest of the plans had estimated rates above 7.7 per 10,000. (See Figure 3.)

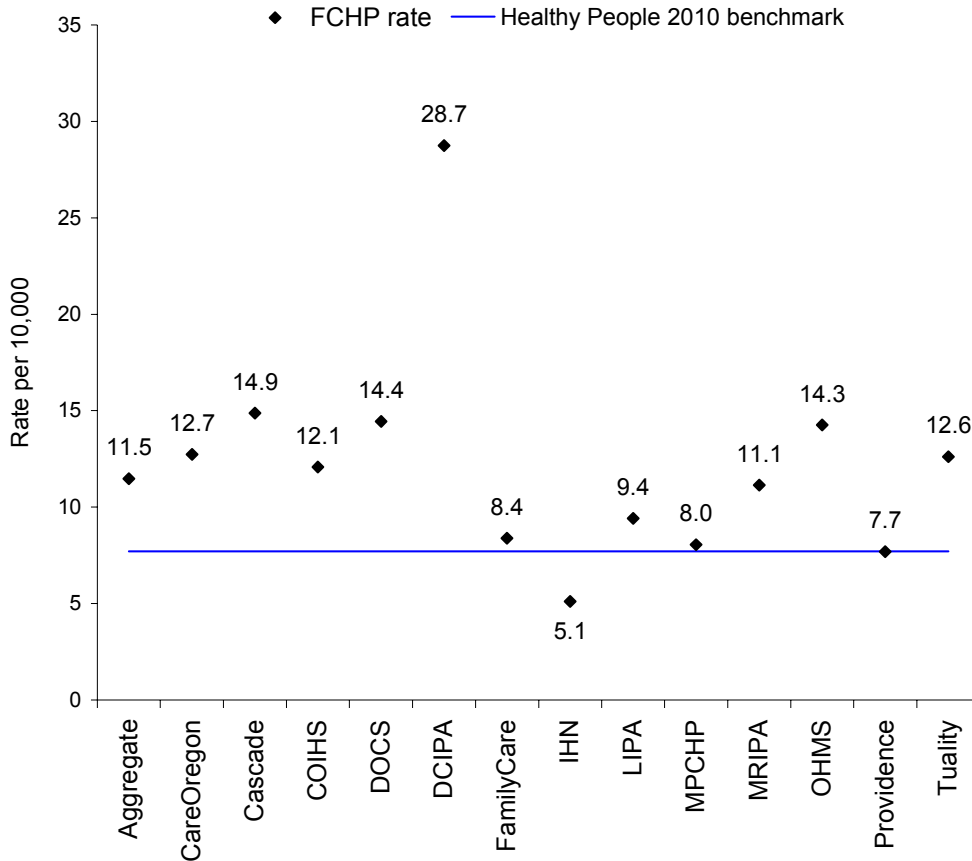


Figure 3. Combined adult-pediatric asthma estimated admission rates, by FCHP, compared to Healthy People 2010 benchmark.

Medicaid enrollment category comparisons

Comparing the estimated adult asthma admission rates of OHP Plus and OHP Standard, the estimated rate for OHP Plus enrollees was significantly higher (Table 4). MC had a significantly higher estimated rate of asthma admissions than FFS for the adult sample and a significantly higher rate in combined samples (Tables 5 and 6). There was no significant difference in pediatric asthma estimated admission rates between MC and FFS (Table 7).

Table 4. Estimated asthma admission rates for adult OHP managed care enrollees, by benefit program.^a

Benefit program	Eligible enrollees	Enrollees admitted with asthma	Estimated rate per 100,000	Significant difference
OHP Plus	62,180	117	188.2	*
OHP Standard	13,685	6	43.8	

^a Includes enrollees 18 to 64 years old.

* Indicates $p < 0.05$.

Table 5. Estimated asthma admission rates for adult OHP enrollees, by MC and FFS.^a

Category	Eligible enrollees	Enrollees admitted with asthma	Estimated rate per 100,000	Significant difference
MC	75,865	123	162.1	*
FFS	43,880	37	84.3	

^a Includes enrollees 18 to 64 years old.

* Indicates $p < 0.05$.

Table 6. Estimated asthma admission rates for all OHP enrollees, by MC and FFS.^a

Category	Eligible enrollees	Enrollees admitted with asthma	Rate per 100,000	Significant difference
MC	147,295	169	114.7	*
FFS	62,888	47	74.7	

^a Includes all enrollees aged 5 to 64.

* Indicates $p < 0.05$.

Table 7. Estimated asthma admission rates for child OHP managed care enrollees, by MC and FFS.^a

Category	Eligible enrollees	Enrollees admitted with asthma	Estimated rate per 100,000	Significant difference
MC	71,430	46	64.4	
FFS	19,008	10	52.6	

^a Includes enrollees 5 to 17 years old.

Demographic comparisons

There was only one significant demographic difference in estimated asthma admission rates. In the combined sample, females had a higher estimated admission rate than males (205.0 vs. 75.6 per 100,000, respectively). See Appendix B for tables showing estimated asthma admission rates for adults, children, and the combined sample by gender, race, and geographic area.

Discussion

In terms of estimated admission rates for asthma, the analysis showed variation among FCHPs in comparison to the AHRQ benchmarks for adult and pediatric admission rates. However, comparisons to the AHRQ benchmarks 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 enrollees aged 18–64 to avoid dual eligibility. For children, AHRQ examines all children under 18; this report examined children aged 5–17. In addition, due to relatively low sample size, rates per 100,000 were estimates, not actual rates.

The combined adult/pediatric OMAP sample can be compared to the Healthy People 2010 goal for asthma admission rates. This external benchmark may provide a better comparison than those from AHRQ because the OMPRO study and Healthy People 2010 use the same sample age frame of 5–64 years. In this study, one plan's estimated admission rate was below the Healthy People goal, and another plan was exactly at this goal. However, because the Healthy People standard represents a goal rather than an actual incidence rate, holding current FCHP rates to such a standard may not be realistic.

Conclusions and Recommendations

This study attempted to measure FCHPs' hospital admission rates for OHP enrollees with asthma. However, the low number of actual 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 asthma.

Table A-1. Data elements requested for analysis.

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

Appendix B. Estimated Asthma Admission Rates by Demographic Category

Table B-1. Estimated asthma admission rates for adult OHP managed care enrollees, by gender.

Table B-2. Estimated asthma admission rates for adult OHP managed care enrollees, by race.

Table B-3. Estimated asthma admission rates for adult OHP managed care enrollees, by geographic area.

Table B-4. Estimated asthma admission rates for child OHP managed care enrollees, by gender.

Table B-5. Estimated asthma admission rates for child OHP managed care enrollees, by race.

Table B-6. Estimated asthma admission rates for child OHP managed care enrollees, by geographic area.

Table B-7. Estimated asthma admission rates for all OHP managed care enrollees, by gender.

Table B-8. Estimated asthma admission rates for all OHP managed care enrollees, by race.

Table B-9. Estimated asthma admission rates for all OHP managed care enrollees, by geographic area.

Table B-1. Estimated asthma admission rates for adult OHP managed care enrollees, by gender.^a

Gender	Eligible enrollees	Enrollees admitted with asthma	Estimated rate per 100,000	Significant difference
Female	50,733	104	205.0	*
Male	25,132	19	75.6	

^a Includes enrollees 18 to 64 years old.

* Indicates $p < 0.05$

Table B-2. Estimated asthma admission rates for adult OHP managed care enrollees, by race.^a

Race	Eligible enrollees	Enrollees admitted with asthma	Estimated rate per 100,000	Significant difference
Asian	1,939	2	103.1	
African American	3,911	10	255.7	
Hispanic	4,115	3	72.9	
American Indian or Alaskan Native	1,241	2	161.2	
Other (other or multiple races)	337	0	0.0	
Native Hawaiian or Pacific Islander	35	0	0.0	
Undeclared	107	0	0.0	
White	64,179	106	165.2	
Aggregate	75,864	123	162.1	

^a Includes enrollees 18 to 64 years old.

Table B-3. Estimated asthma admission rates for adult OHP managed care enrollees, by geographic area.^a

Geographic area	Eligible enrollees	Enrollees admitted with asthma	Estimated rate per 100,000	Significant difference
Rural	30,815	51	165.5	
Urban	43,983	71	161.4	

^a Includes enrollees 18 to 64 years old.

Table B-4. Estimated asthma admission rates for child OHP managed care enrollees, by gender.^a

Gender	Eligible enrollees	Enrollees admitted with asthma	Estimated rate per 100,000	Significant difference
Female	34,704	19	54.7	
Male	36,726	27	73.5	

^aIncludes enrollees 5 to 17 years old.

Table B-5. Estimated asthma admission rates for child OHP managed care enrollees, by race.^a

Race	Eligible enrollees	Enrollees admitted with asthma	Estimated rate per 100,000	Significant difference
Asian	1,970	1	50.8	
African American	4,943	3	60.7	
Hispanic	13,552	11	81.2	
American Indian or Alaskan Native	1,544	1	64.8	
Other (other or multiple races)	434	0	0.0	
Native Hawaiian or Pacific Islander	66	0	0.0	
Undeclared	809	0	0.0	
White	48,112	30	62.4	
Aggregate	71,430	46	64.4	

^aIncludes enrollees 5 to 17 years old.

Table B-6. Estimated asthma admission rates for child OHP managed care enrollees, by geographic area.^a

Geographic area	Eligible enrollees	Enrollees admitted with asthma	Estimated rate per 100,000	Significant difference
Rural	29,007	24	82.7	
Urban	41,445	22	53.1	

^aIncludes enrollees 5 to 17 years old.

Table B-7. Estimated asthma admission rates for all OHP managed care enrollees, by gender.^a

Gender	Eligible enrollees	Enrollees admitted with asthma	Estimated rate per 10,000	Significant difference
Female	85,437	123	14.4	*
Male	61,858	46	7.4	

^aIncludes all aged 5 to 64.

* Indicates $p < 0.05$

Table B-8. Estimated asthma admission rates for all OHP managed care enrollees, by race.^a

Race	Eligible enrollees	Enrollees admitted with asthma	Estimated rate per 10,000	Significant difference
Asian	3,909	3	7.7	
African American	8,854	13	14.7	
Hispanic	17,667	14	7.9	
American Indian or Alaskan Native	2,785	3	10.8	
Other (other or multiple races)	771	0	0.0	
Native Hawaiian or Pacific Islander	101	0	0.0	
Undeclared	916	0	0.0	
White	112,291	136	12.1	
Aggregate of FCHPs	147,294	169	11.5	

^aIncludes all enrollees aged 5 to 64.

Table B-9. Estimated asthma admission rates for all OHP managed care enrollees, by geographic area.^a

Geographic area	Eligible enrollees	Enrollees admitted with asthma	Estimated rate per 10,000	Significant difference
Rural	59,822	75	12.5	
Urban	85,428	93	10.9	

^aIncludes all enrollees aged 5 to 64.

