

# Copayment Levels and Their Influence on Patient Behavior in Emergency Room Utilization in an HMO Population

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## Summary

Emergency departments across the United States have long been overcrowded and burdened for myriad reasons including utilization by insured populations for non-emergent conditions. We report the Henry Ford Medical Group experience with increased copayment levels for emergency room visits for 136,526 health maintenance organization members cared for by over 1,000 Henry Ford Medical Group physicians in southeast Michigan. In 2005, 45 percent of the Medical Group-assigned HMO members had \$0 ER copayments; rate changes negotiated by the HMO decreased members' \$0 copayment level to 41 percent in 2006 and to 31 percent in 2007. HMO members' ER copayments varied from \$0 to \$150. Analysis of ER visits in 2006 and 2007 showed that patient behavior in seeking emergency care for non-emergent conditions correlated with copayment levels. The \$50 copayment appears to be the minimum required fee to significantly reduce patient demand for non-emergent ER care. Compared to patients with \$0 copayment, those with \$10 to \$40 copayments showed an 11 percent decrease in ER visits for non-emergent conditions. Patients with copayments of \$50, \$75, and \$100 to \$150 sought non-emergent ER care 42 percent, 51 percent, and 62 percent less frequently. Emergency room visits for emergent conditions demonstrated similar copayment level dependence.

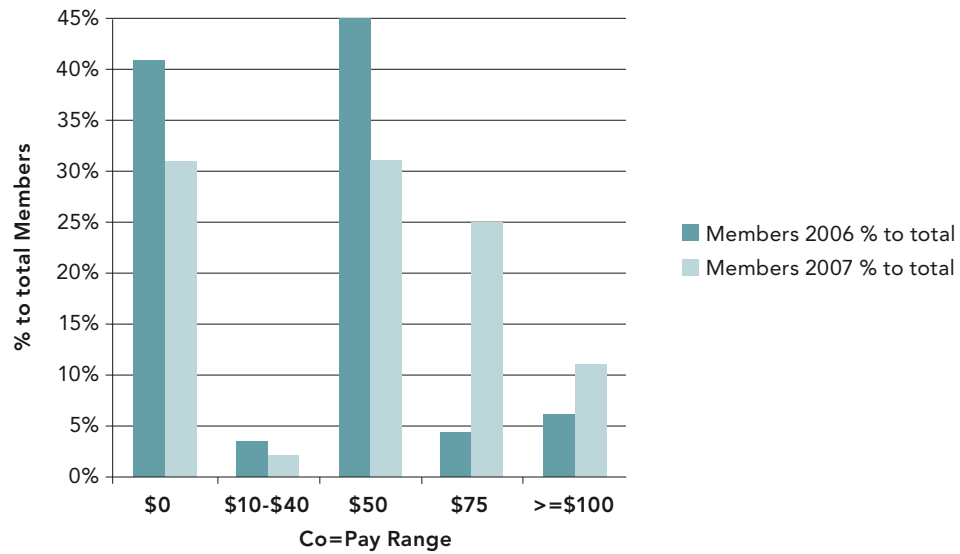
## Key Points

- HMO members with \$0 copayment utilize the ER for non-emergent conditions at a consistently higher rate than members assigned nominal or higher copayments for ER visits.
- Higher ER visit copayments correlate with larger decreases in utilization for both non-emergent and emergent conditions.
- The \$50 fee level appears to be the copayment at which patient demand for ER services is significantly impacted, reducing ER utilization by 42 percent for non-emergent conditions and by 30 percent for emergent conditions in the HMO population studied.

THE OVERCROWDING OF AMERICA'S emergency rooms remains a crisis unresolved. Managed care rose to prominence in the 20th century among insurers and employer groups as a means to curtail rising health care costs by emphasizing preventive medicine with regular health maintenance, appropriate diagnostics and therapies, and referrals to ERs and specialists only when warranted. In this way managed care utilized primary care physicians as gatekeepers to staunch the flow of non-emergent cases into the ER. However, managed care insurance promoted the benefit of zero to nominal co-

payment fees for physician visits and ER visits, which served to retain current and attract new members who would be required to access specific physicians, hospitals, and ERs based on their network management rules and decisions. Despite the millions of consumers receiving health care from managed care networks, patients with non-emergent conditions continue to be one part of the burden on ERs today. Studies have confirmed that the overwhelming majority of increased ER visits, accounting for much of ER overcrowding in the United States, can be accounted for by patients with private

**Exhibit 1: HMO Study Population and Emergency Room Copayment Levels 2006-2007**



**Exhibit 2: 2007 ER Utilization by Copayment Levels**

Co-Pay	2007 % to total members	Visits Per Thousand		
		2007 emergent visits/1,000	2007 non-emergent visits/1,000	2007 All visits/1,000
\$0	31%	297	113	411
\$10-\$40	2%	249	101	350
\$50	31%	208	65	274
\$75	25%	179	56	235
\$100-\$150	11%	165	43	208

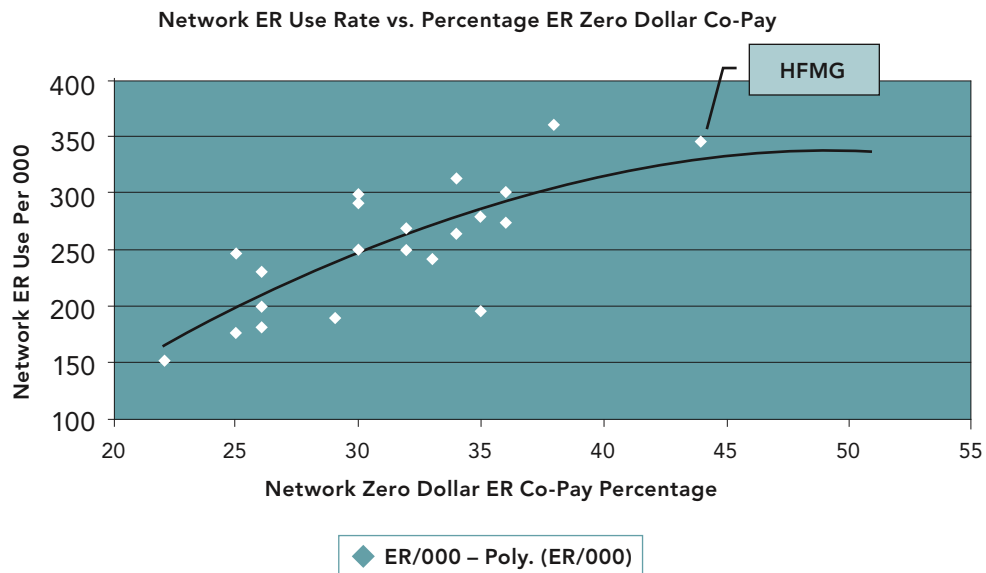
insurance. The majority of these patients rated the care received in this setting as good or excellent, and one third waited 15 minutes or less for their care.<sup>1</sup>

Non-emergent conditions, such as a sore throat or urinary tract infection, cost more to care for in the emergency setting. Since the patient is new to the provider, more tests than necessary may be ordered to ensure a complete evaluation of a problem, especially when the patient's medical records are not available to the treating physician. The evaluation and management (E&M) charges for an ER visit are significantly higher than for outpatient office visits with an identical ICD-9 code.

The reasons why patients use an ER for services

instead of visiting a physician's office are multifactorial. Physician's clinic appointments correlate to traditional daytime office hours when many people are at work. This makes it difficult for patients to obtain an appointment without impacting their employment. Although a condition such as strep throat is not an emergency, patients may be unable to obtain an appointment at a time that meets their perceived medical needs. Even when appointments are offered, the time may not be convenient to patients, making an ER visit more attractive to them. When children are at daycare or school, parents often do not learn of the child's illness until they come home from work and physicians' offices are closed. Pediatric utiliza-

Exhibit 3: Figure: HAP Networks: 2005 ER Use Rate versus Percentage \$0 Copayment



tion of ERs are usually double that of adult usage.

Economic struggles by manufacturing in south-eastern Michigan have been linked with the high cost of health care and attractive employee benefits. Various strategies to limit the economic burden have been discussed by industry, insurance companies, and providers. Pharmaceutical costs, radiology costs, and ER utilization have been specifically targeted as opportunities for savings.

In 2005, the Henry Ford Medical Group received ER utilization data from Health Alliance Plan (HAP), the largest health maintenance organization in Michigan. A majority of these HAP patients were assigned zero to nominal copayment fees for physician visits, ER visits, and pharmaceutical prescriptions. A comparison of Henry Ford Medical Group HAP network patients to 21 other HAP networks in southeast Michigan revealed the Medical Group HAP patients to have one of the highest ER utilization rates (346 visits per 1,000 members) with the largest percentage of patients with \$0 ER copayment (44 percent) (Exhibit 1).

### Methods

Starting January 1, 2006, purchasers adjusted benefits for employees to reflect an increase in copayments for medical services. ER visit copayment levels for Henry Ford Medical Group HAP patients were reassigned to \$0, \$10, \$25, \$30, \$40, \$50, \$52, \$75, \$100, or \$150, with copayments being waived when the ER visit resulted in a hospital admission. Medical Group HAP patients' copayment levels for physician office visits also increased in 2006, ap-

proximately an additional \$5 to \$10 per member visit. The shift in costs to patients reflected an overall increase in copayments for ER visits (Exhibit 2).

Henry Ford Medical Group HAP patients were informed of copayment increases through the insurance company via several communication vehicles: annual membership enrollment newsletters, website enrollment instructions, and individual letters with new insurance cards reflecting the copayment fees on the insurance card.

Emergency room utilization of all Henry Ford Medical Group assigned commercial HAP members (health maintenance organization category) was used in this analysis. Patients may utilize any ER at any time and are encouraged to go to the closest ER when an emergency arises. Preauthorization for ER visits is not required.

### Data Analysis

Claims from ER visits were analyzed by the ICD-9 discharge diagnosis. ICD-9 codes were classified according to categorization of non-emergent or emergent. Examples of common ICD-9 codes in the non-emergent categories include cough, pharyngitis, or rash. The definition of emergent was generous; there were 9,722 diagnoses categorized as "emergent" and 3,371 diagnoses categorized as "non-emergent." It is possible that inaccurate coding by an emergency physician could result in placing a visit in an incorrect category. For example, a lung transplant patient with pneumonia could receive a discharge diagnosis of cough when in fact the condition is truly emergent because of the patient's medical history. This element of under-

coding or over-coding the visit, however, is likely to be consistent across all providers, and with a large sample size will not impact the results being reported.

Emergency room utilization is described as the total number of claims for ER visits divided by the number of assigned members.

Emergency room utilization by Henry Ford Medical Group HAP patients was analyzed by non-emergent versus emergent conditions based on ER copayment level. Only ER visits not resulting in hospital admission were included in the analysis. Data for January 1 to September 30, 2006, and January 1 to September 30, 2007 reflecting the increase in ER copayment levels were compared to data for the same groups in 2005 before the fee increase.

## Results

Of the HMO members who utilized the ER for emergent and non-emergent conditions not requiring hospitalization, copayment category distribution included 31 percent with \$0 copayment, 2 percent with \$10 to \$40 copayment, 31 percent with \$50 to \$52 copayment, 25 percent with \$75 copayment, and 11 percent with \$100 to \$150 copayment.

Over a nine-month period of 2007, 75 percent of ER visits were for emergent conditions and 25 percent for non-emergent conditions. The greatest number of ER visits per 1,000 members across all copayment levels occurred in the \$0 copayment groups (72 percent for emergent conditions versus 28 percent of visits for non-emergent conditions).

Compared to 2005, Henry Ford Medical Group HAP membership with \$0 copayment for ER visits decreased overall from 44 percent to 31 percent over the two-year period. Total ER utilization for the \$0 copayment group, however, increased from 346 visits per 1,000 members in 2005 to 411 visits per 1,000 members in 2007. Emergency room utilization rates per 1,000 members in 2007 did not decrease to remain below the 2005 rate until copayment reached the \$50 level (274 visits per 1,000 members). This decreased utilization rate showed consistent reductions as the copayment level rose from \$50 to \$150.

Emergency room utilization for non-emergent and emergent conditions for the HAP population studied showed decreased utilization as the copayment level increased from categories of \$10 to \$40, \$50, \$75, and \$100 to \$150 (Exhibit 3). Compared to those with \$0 copayment, significant influence on patient behavior began to occur at the \$50 copayment category with an overall 33 percent decrease in ER utilization and a 42 percent decrease in ER use for non-emergent conditions.

The copayment level at which patient behavior is most likely to be influenced in an effort to decrease ER utili-

zation appears to be approximately \$50 in this HMO population. This fee demonstrates a cost differential between physician visit (average of \$15 to \$20 copayment per visit) and the ER visit copayment (over 50 percent higher fee) that resulted in decreased ER utilization.

## Discussion

The burden on emergency medicine departments to provide timely, effective, and cost-efficient care to anyone who enters for treatment is a multifaceted, decades-old problem. Issues involve not only the rising uninsured, underinsured, and intermittently insured populations who have no other place to go for medical help, but also the insured populations seeking emergency care for conditions deemed suitable for treatment in physician offices. For the insured populations, urgent care centers separate from and within emergency rooms as well as extended hours in primary care and specialty physician clinics have arisen as part of the solution to stem the influx of patients with non-emergent conditions into emergency rooms. The recent rapid rise in “minute clinics” demonstrates the consumer’s choice of convenience over traditional health care settings.

In the 1970s, the RAND study documented for the first time that introduction of ER copayments decreased ER utilization by 20 percent.<sup>2</sup> Subsequent studies over the past few decades have confirmed that increased ER copayments lead to decreased ER use.<sup>3-6</sup> A Kaiser Permanente HMO study in northern California in 1996 showed a 15 percent decline in ER utilization after introducing copayments of \$25 to \$35 per ER visit.<sup>6</sup> Ten years later, Kaiser Permanente reported a 12 percent decrease in ER visits for patients with a \$20 to \$35 copayment and a 23 percent decrease for those with a \$50 to \$100 copayment compared to the \$0 copayment group.<sup>4</sup>

Other studies have reported that increased PCP financial incentives lead to decreased ER use,<sup>3</sup> as do larger copayment fee differences between office visits and ER visits.<sup>5</sup> Several reports conclude that increased ER copayments did not lead to an increase in unfavorable events and that patients do find alternatives to medical care.<sup>2,5-7</sup>

With evidence in the literature documenting the correlation of cost-sharing for ER use to reduce ER utilization without adverse medical events in the community, the problem of insured populations seeking care for non-emergent conditions in the ER still plagues the system. Insurers vying for increased market penetration and employer groups trying to entice members into more controlled health maintenance managed care plans did not promulgate copayments for ER visits significantly above physician office visit copayments as member benefits. With ER and physi-

cian office visit copayments set at equal or nominal rates, patients with non-emergent conditions may consider convenience as a major factor when choosing where to receive non-emergent care.

Most patients do not prefer the ER as first choice for non-emergent care when the negative perception of ER wait time exceeds the anxiety, fear, or pain of the non-emergent condition. However, some employers frown upon work interrupted by physician office visits, and these patients may more readily seek ER care because many physician offices lack evening or weekend access. Direct to consumer advertising by hospitals promote guaranteed low wait times for ER visits, making ERs more attractive to patients with non-emergent conditions who do not want to use “sick days” or “vacation days” for medical care, especially when ER visits carry zero to minimal copayment fees. Hospitals experience significant profit margins for low acuity visits by insured patients.

As long as the perceived value of the ER visit outweighs that for a visit to a physician’s office, patients with insurance will continue to seek medical care in the ER. The value to the consumer may be convenience, zero to low cost, avoidance of employment penalty, lower out-of-pocket cost than a physician’s office visit, and parental satisfaction for immediate medical care for sick children.

Patient perception has been studied in relation to cost of ER visit versus actual ER copayment. Hsu et al<sup>7</sup> found that underestimations of ER copayment fees were common, with over 50 percent underestimating the actual copayment by \$20 or more. Another study by Reed et al<sup>5</sup> reported that only 41 percent of patients surveyed reported the correct copayment amount. Both of these studies found that patients do change their behaviors by avoiding ER for medical care when faced with a known ER copayment.<sup>5,7</sup>

An assessment of ER utilization by another Michigan HMO (Blue Care Network of Michigan) in 2000 found that their HMO patients in southeast Michigan showed higher ER utilization rates than other Blue Care Network regions in the state.<sup>3</sup> They reported that southeast Michigan had a tenfold higher facility density, assuming greater access to ERs than other state regions. The Blue Care Network study focused on the ability of physicians to influence patient behavior, finding that influence is successful if physicians are financially motivated and carry a large enough panel of patients under contract to affect the financial incentive.

To influence insured patient behaviors in seeking ER care for non-emergent conditions, the best mix of factors include physician office copayments markedly less than ER visit copayments, ready access for patients to physician offices after normal working

hours and on weekends, continuing education to patients regarding symptomatic relief for common non-emergent conditions, and an ER copayment level significant enough to make patients think twice before heading to the ER for non-emergent conditions.

The \$50 ER copayment category in our study of HMO patients marked the level at which patients began to change behaviors in seeking ER care. With a 30 to 45 percent reduction in emergent visits, a 42 to 62 percent reduction in non-emergent visits, and overall ER reduction of 33 to 49 percent for patients with ER copayments from \$50 to \$150, other payers and employer groups’ consideration of increasing ER copayments at least to the \$50 level may serve to continue needed reductions in ER visits for non-emergent conditions.

This study examined the impact of demand for emergency services when patients faced a relatively low out-of-pocket expenditure compared to the cost of the care they received. It demonstrated significant cost-sensitivity for both non-emergent and emergent services. Future research will need to be conducted on the impact of such demand and variation when patients are responsible for a much greater portion of their health care cost. **JMCM**

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