

The Effect of Participation in eDocAmerica on Health Care Costs

eDocAmerica White Paper

Prepared for: eDocAmerica
Little Rock, AR

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 **eDocAmerica.com**
"There is a doctor in the house."

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Executive Summary

The eDocAmericaSM Cost Comparison Study is an independent statistical study sponsored by MD Online, LLC (dba eDocAmericaSM) and produced by HISTECON Associates, Inc. a regional firm based in Little Rock, Arkansas. eDocAmericaSM is the nation's largest third-party provider of physician-consumer online communication. In compliance with the HIPAA Privacy Regulations, the study of the UofA claims data was accomplished with de-identified data only. At no time was personally identifiable health information accessed. The research project was initiated to test the assumption that utilization of eDocAmerica's services would lead to lower doctor and hospital costs and generally lower the health-care costs of participating corporate clients.

Although guidelines for physician-consumer e-mail have been published in recent years, there has been limited research to date measuring the impact on costs by online-communication between the physician and consumer. In recognizing the need for better outcomes documentation on the relationship between on-line usage and health-care costs, eDocAmericaSM contracted with HISTECON Associates, Inc. to develop baseline data and perform analysis on that data. With the cooperation of client University of Arkansas System (UA) and QualChoice of Arkansas, the third party administrator of the UA self-funded health plan, HISTECON analyzed the client's historical claims data covering the two year time period of January 1, 2004 to December 31, 2005. The claims data represented approximately 1.45 million paid claims for medical care and prescription drugs for more than 18,000 employees and dependents during this time period.

The study analyzed and answered three primary research questions: First, is there a discernable difference in the paid claims records of those using eDocAmerica's on-line services and those who don't; Second, what is the dollar and percentage savings experienced; Thirdly, what level of participation would allow the on-line plan to pay for itself. The study concluded that there was a statistically significant reduction in health-care costs to the client when the eDocAmericaSM system was used by consumers. In particular, UA achieved claims savings of \$355,400 that exceeded the cost of the program by more than \$103,300 during the two-year period. Users of the eDocAmericasm system experienced annual claims that averaged \$89 less than non-users. These savings were achieved with only 16% of eligible employees using the eDocAmericaSM system, which infers that breakeven occurred when utilization hit 11%.

eDocAmericaSM has sought to reduce if not eliminate the barrier of access to the most valued form of healthcare information; the capable, concerned physician. Serving clients in all 50 United States and 26 foreign countries, eDocAmericaSM has been setting the standard for streamlining health information transfer to concerned clients since September 1999. A copy of the **“The Effect of Participation in eDocAmericaSM on Health Care Costs”** can be requested by going to www.eDocAmerica.com/report or contacting:

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Introduction

Since August 2003, employees participating in the University of Arkansas System's (UA) self-funded health plan have been eligible to use an on-line medical information service supplied by eDocAmerica. Knowing that this computer-based approach is a readily available and lower-cost alternative for the employees, it was assumed that this service would lead to lower doctor and hospital costs and generally lower health-care costs for the UA health plan.

To assess the return on investment (if any) derived from actual utilization of the eDocAmerica program, eDocAmerica contracted with HISTECON Associates, Inc., to analyze paid medical claims during the two-year period from 2004 and 2005. In compliance with the HIPAA Privacy Regulations, the study of the UofA claims data was accomplished with de-identified data only. At no time was personally identifiable health information accessed. HISTECON is a regional firm based in Little Rock, with more than 25 years of experience in analyzing economic and social trends in Arkansas. QualChoice of Arkansas (QCA) functioned as third party administrator for UA during the two-year period under study and is the repository of UA health plan claims data.

With the cooperation of QCA and eDocAmerica's management, the HISTECON study team was able to retrieve the records of all full-time employees of the UA system who worked during the two-year period (and their dependents) and participated in the eDocAmerica program.¹ As a comparison group, all full-time employees of UA (and their dependents) who worked during the same two-year period, but did not participate in eDocAmerica, were selected.

Approximately 18,000 (10,000 female and 8,000 male) employee and dependent records were reviewed,

¹Participation means that eDoc records indicate that the on-line access was used at least one time during the two-year period.

representing a total of about 1.45 million claims filed for medical care and prescription drugs. Of these, 3,100 had registered to use the eDocAmerica service.

Table 1 shows the number of employees and the accompanying claims in the analysis. The eDocAmerica groups comprise about 11.3 percent of the total workforce; however, many of these were not registered for the entire two-year period. To control for time-in-program effects, only the two-year groups were used for the comparisons.

Table 1.

Distribution of Long-Term Members and Their Claims Used in Study

Status	Members	% of Total	Claims	% of Total
eDocAmerica, full two years	1,131	6.4	33,513	8.0
eDocAmerica, partial period	863	4.9	26,043	6.2
Never used eDocAmerica	15,650	88.7	357,651	85.7
Totals	17,644	100.0	417,207	100.0†

† Totals may not sum to 100 percent due to rounding.

To focus the study on long-term effects of using the on-line service, several adjustments were made to the data. First, members were selected who had participated in the UA health plan and eDocAmerica for the two-year period from January 1, 2004 to December 31, 2005. Second, a small number of individuals were removed from the study because their total amount claimed during this period was extremely high and were, thus, considered to be outliers. Only those with less than \$325,000 in claims during the two-year period were included in the study.²

²Of these, five were eDoc registrants and 22 were not. As an example of members who had an unusually high claim amounts during this period, one person had 474 claims during this period, with an average claim of

Study Objectives

The study team focused on three primary research questions. First, is there a discernible difference in the claims record of members who used eDocAmerica services when compared to a similar group of non-participating members? Second, if such a difference exists, what is the magnitude of the dollar and percentage savings by the participating members? Lastly, if the savings are measurable, what level of participation by the health-plan members would allow the eDocAmerica benefit to pay for itself over time? We will answer these questions in that order.

\$1,545, and a two-year total of \$732,000. Other members had total claims exceeding \$1 million. See Appendix B for more details on this group.

Analysis of the Claims Records, 2004-2005

The data on employees who worked during the entire period of 2004-2005 demonstrate a discernible difference between the eDocAmerica registrants and the UA health plan members who never used the eDocAmerica service. By looking at three key measures of benefit experience during this period, we can observe that the eDocAmerica group has lower claim amounts, lower claim totals per member-month, and fewer claims per member-month. As the following tables illustrate, this pattern is apparent in both the medical benefits and the prescription drug areas.

To begin with an overview, Table 2 shows a comparison of average claim amounts for 2004-2005 for most members (excepting those with large claim totals for the two years). In the employee category, the eDocAmerica registrants have average claims that are about 10 percent less than those of the other UA health plan employee-members. Spouses also demonstrate this pattern; although the average differences are less stable because of the relatively small number in these groupings (see Table 3).

Table 2.

Comparison of Average Claim Amounts, 2004-2005
without Members with Large Claim Totals (>\$325,000 in two
years)

Status	eDocAmerica Registrant, 2004-05	Non- Registrant	Percentage Difference
Female Employee	\$174.38	\$197.93	11.9%
Male Employee	\$215.52	\$236.59	8.9%
Female Spouse	\$124.14	\$194.40	37.1%
Male Spouse	\$230.84 †	\$265.93	13.2%
Female Children	\$41.63 †	\$167.21	75.1%

† n=1; not registered for entire two years.

Table 3.

Number of Members in Comparison of Average Claim Amounts, 2004-2005 without Members with Large Claim Totals (>\$325,000 in two years)

Status	eDocAmerica Registrants, 2004-05	Non-Registrants
Female Employee	800	4,205
Male Employee	329	3,422
Female Spouse	11	2,142
Male Spouse	1†	1,669
Female Children	1†	974

† not registered for entire two years.

Note: 27 members had an unusually high amount of claims during this period, and are not included in this study. Of these, five were eDocAmerica registrants and 22 were not.

A number of different analyses were conducted on the QCA data. In Appendix A, more detailed analysis of medical benefits, including physician visits, hospital care, and prescription drug claims are presented in a series of tables.

Is There Evidence of Self-Selection Bias?

In cases like the eDocAmerica program where joining requires an affirmative choice by the participants, there is the possibility of “self-selection bias.”³ If this occurs, the people who chose the program are in some way predisposed to behavior that favors (or impedes) the outcome in question. For this study, that would mean that eDocAmerica registrants might be healthier, or more concerned about their health, in some way that reduces their use of health care resources **even in the absence** of the eDocAmerica program.

To test for self-selection bias, we have analyzed the UA claim histories of 2,108 eDocAmerica members for the time period 2002-2005. Each member’s hospital, medical, and prescription claims per month were compared for two long-term periods: pre-eDocAmerica registration and post-eDocAmerica registration. If the average claim pattern is relatively the same during both periods, this would support the finding that selection bias was present in the data, and the effect of the eDocAmerica service should be discounted.

On the other hand, if the average claim pattern is different for these periods – especially if the average claim amounts per member per month declined after entering the eDocAmerica program – this would support the finding that selection bias, if present at all, was not the only factor explaining the lower claims record of the eDocAmerica participants that was demonstrated in section 3.

In Table 4 below, four types of services are reviewed: hospital in-patient, hospital out-patient, doctor’s office visits, and prescription drugs. The two indicators used are the number of claims made by the employee per month, and the amount billed by the employee per month. Each person’s claim history was divided into a pre-registration period and a post-registration time when they were eDocAmerica

³James Heckman, “Sample Selection Bias as a Specification Error,” *Econometrica*, 1979.

members. The histories were compared by creating a ratio of the earlier period's monthly claims and billings to the later period. A ratio of 1.00 would mean that, on average, no difference could be found between the pre and post periods. A ratio of less than 1.00 would mean that the number of claims or billing amounts increased after eDocAmerica registration.

Neither of those outcomes would support the conclusion that no selection bias occurred, since it would show little or no improvement happened after joining eDocAmerica. **However, the data demonstrate just the opposite: all of the ratios are greater than 1.00. That means that, on average, the behavior of eDocAmerica members changed notably after they became members.**

For example, these employees averaged 1.17 office visits per month before they joined the eDocAmerica program, and billed claims for office visits of \$197.38 per month. After beginning the program, claims fell by one-third on average (a ratio of 1.50) and claim amounts dropped by almost one-half (a ratio of 1.90). Other comparisons vary even higher than this grouping. Moreover, the overall the pattern is clear: eDocAmerica members were not simply healthier (and therefore less expensive) both before and during their program participation. A definite difference is evident in their claims histories when one analyzes the before-and-after record.

Table 4.

Comparison of Average Claim Numbers and Amounts per Member per Month, without Members with Large Claim Totals (>\$325,000 in two years)

Employees with more than one month in status before registering for eDocAmerica program

Type of Service	Avg. Monthly Claims Before Registered	Avg. Amount Claimed Before Registered	Claims: Ratio* of Before-to-After eDocAmerica Registration	Claim Amounts: Ratio* of Before-to-After eDocAmerica Registration
Hospital In-Patient	1.33	\$2,559.67	2.56	6.64
Hospital Out-Patient	0.80	\$318.07	2.27	4.19
Office Visit	1.17	\$197.38	1.50	1.90
Prescription	3.08	\$176.60	1.75	2.23

*This ratio is a measure of the multiple that the pre-eDocAmerica claims and amounts represent when compared to the post-registration record of the U of A employees. Specifically, the ratio equals the group average of each employee's

Pre-registration claims or amounts/months in that status
Post-registration claims or amounts/months in the eDocAmerica program

Break-even Analysis

Because the earlier comparisons found consistently lower claim amounts and average claims per member-month, a final question for the study remains. In this section, we explore what level of participation by the health-plan members would allow the on-line plan to pay for itself over time.

This analysis seeks to determine how readily the costs of a growing program of eDocAmerica service would create enough medical-benefit cost savings so that the net effect of the service would generate more savings than costs.⁴ It is based on the projected cost savings using this study's lower average claims by eDocAmerica employee members, the subgroup that constitutes the majority of the two-year data group. It also uses the eDocAmerica program costs from 2004 and 2005, which became the basis for the projected future costs of the on-line program.

According to this analysis, the 1,130 UA employees who registered for the eDocAmerica service during all of 2004-2005 had an average annual claim amount (billed) that was \$232 less than those who did not register for the service. In addition, another 850 employees were registered for the program during this period, but not for the complete two years. Thus, looking forward we have about 2,000 eDocAmerica registrants who may benefit from the service and achieve lower claim amounts totaling \$464,000 annually. On average, the amount paid by QCA on these claims was 38.3 percent of the amount billed, so the amount of payment for these claims would be approximately \$177,700 per year.

The cost of the program for 2004 was about \$135,000, based on the total number of employees in the UA system. For 2005, the cost was about \$118,000 under a new, reduced billing rate. To adjust for the billing rate change, we have recalculated the 2005 total according to the standard rate, for an adjusted total of \$147,000. This indicates that, for the

⁴Technically, the methodology is a cost-benefit analysis where the break-even point is the participation level where the present values of the future benefit stream and the future cost stream form a ratio of 1:1.

purpose of our breakeven analysis for the period 2004-05, the average (adjusted) cost of the eDocAmerica program each year was about \$141,000.

Using a per-member savings on claims paid of about \$89 per year, the indicated breakeven point for eDocAmerica registrants is 1,515 employees. That represents approximately 11.5 percent of the total UA workforce during this period.

Conclusions

The study endeavored to answer three primary research questions:

- **Is there a discernable difference in the claims record of members who used eDocAmericasm services when compared to a similar group of non-participating members?** Conclusion: The study concluded that there was a statistically significant reduction in health-care costs to the client when the eDocAmericasm system was used by consumers and that no adverse selection was present in the data.
- **If such a difference exists, what is the magnitude of the dollar and percentage savings by the participating members?** Conclusion: The study revealed that the client achieved claims savings of \$355,000 that exceeded the cost of the program by more than \$103,300 or for every \$1.00 spent the client saved \$1.41 or 41%. Users of the eDocAmericasm system experienced annual claims that averaged \$89 less than non-users.
- **If savings are measurable, what level of participation by the health-plan members would allow the eDocAmericasm benefit to pay for itself over time?** Conclusion: These savings were achieved with only 16% of eligible employees using the eDocAmericasm system, which infers that breakeven occurred when utilization hit 11.5%.

Appendix A

Additional Analysis of Medical and Pharmacy Claims and PMPM Measurements of eDocAmerica Users and non-eDocAmerica Users.

Tables 2-4 showed the average claim for all types of services, including medical benefits such as doctor's office visits and hospital visits, and prescription benefits. The cost of these claims ranged from \$5.00-10.00 for incidentals to several hundred thousand dollars for complicated surgical procedures. (For this reason, the differences in Tables 2-4 are not statistically significant.) To gauge whether a difference existed between these types of benefits, additional analysis was conducted to demonstrate that the same pattern held for these distinct categories. Table 5 addresses the claims for medical benefits, and Table 6 shows the claims for prescription drugs.

In the first instance, the eDocAmerica registrants have average claims that are 13-15 percent less than the average of the "never used" employee groups. The differential is greater for the spouse groups, although the number in the eDocAmerica comparison is small and the results more volatile.

For the prescription benefits, the reduced claim averages are less pronounced and, in one comparison the trend is reversed. With that exception, the average claim for pharmaceuticals is about five percent less for the eDocAmerica groups (see Table 6).

Table 5.

Comparison of Average Claim Amounts, 2004-2005 without Members with Large Claim Totals (>\$325,000 in two years)

Medical benefit claims only; average of all claims is \$410.97

Status	eDocAmerica Registrant, 2004-05	Non-Registrant	Percentage Difference
Female Employee	\$343.28	\$395.71	13.3%
Male Employee	\$412.27	\$487.35	15.4%
Female Spouse	\$224.84	\$387.36	42.0%
Male Spouse	\$364.45	\$566.22	35.6%
Female Children	\$41.63†	\$236.00	82.4%

† n=1; not registered for entire two years.

Table 6.

Comparison of Average Claim Amounts, 2004-2005 without Members with Large Claim Totals (>\$325,000 in two years)

Prescription benefit claims only; average of all claims is \$66.66

Status	eDocAmerica Registrant, 2004-05	Non-Registrant	Percentage Difference
Female Employee	\$58.05	\$61.49	5.6%
Male Employee	\$78.96	\$73.55	-7.3%
Female Spouse	\$62.51	\$65.29	4.3%
Male Spouse	\$8.16 †	\$70.70	88.5%
Female Children	n.a.	\$79.82	n.a.

† n=1; not registered for entire two years.

In Table 7 we compare the average monthly claim of the eDocAmerica registrants for medical benefits with that of the non-registrants, using the claim amounts per member per month. Next, in Table 8 we compare the average per member per month claim of the eDocAmerica registrants for prescription benefits with that of the non-registrants. In both cases, the pattern of lower costs for the eDocAmerica group appears again. For medical benefits, the average claim of the eDocAmerica employees is about \$375.00 to \$450.00, or about 6-15 percent less than the employees who did not use the service. Incidentally, the differences for the per-member comparisons are statistically significant beyond the normal possibility of a random or chance occurrence. P-values for the female and male comparisons were from 0.01 to 0.10, depending on the grouping. This relates to probabilities from 99 to 90 percent that these differences are reliable estimates.⁵

⁵Throughout the report, we use the convention that values marked with a single star (*) are statistically significant at the 0.10 level, values marked with a double star (**) are significant at the 0.05 level, and those with a triple star (***) are significant at the 0.01 level.

Table 7.

Comparison of Average Claim per Member per Month, 2004-2005 combined, without Members with Large Claim Totals (>\$325,000 in two years)

Medical benefit claims only; average of all members is \$498.50

Status	eDocAmerica Registrant, 2004-05	Non-Registrant	Percentage Difference	Sig. Level
Female Employee	\$468.45	\$496.89	5.7%	***
Male Employee	\$370.25	\$435.17	14.9%	**
Female Spouse	\$381.54	\$512.78	25.6%	***
Male Spouse	\$ 75.93 †	\$532.84	85.8%	*
Female Children	\$6.94 †	\$144.73	95.2%	*

† n=1; not registered for entire two years.

The trend for prescription claims is not as definitive, however, for several reasons. Note that in Table 8, for employee groups the male eDocAmerica registrants have \$110 in average monthly claims, about five percent less than their comparison group. Yet, female eDocAmerica registrants have \$120 in average monthly claims, about one percent more than their comparison group. And the female spouse group also has a larger monthly average than their comparison group.

Several explanations are possible for this inconsistent pattern in prescription-drug use. The most important is that the selection criteria for the prescription-drug group required that the person had used at least one prescription during the two-year period. So the effects of many non-users, and their zero-dollar expenditures, are not captured in this set of tables.

Table 8.

Comparison of Average Claim per Member per Month, 2004-2005 combined, without Members with Large Claim Totals (>\$325,000 in two years)

Prescription benefit claims only; average of all members is \$103.35

Status	eDocAmerica Registrant, 2004-05	Non-Registrant	Percentage Difference	
Female Employee	\$119.78	\$118.42	-1.1%	* * *
Male Employee	\$110.34	\$116.52	5.3%	* *
Female Spouse	\$173.33	\$132.73	-30.6%	* * *
Male Spouse	\$1.02 †	\$117.85	99.1%	*
Female Children	n.a.	\$45.27	n.a.	

† n=1; not registered for entire two years.

eDocAmerica participants did not show any clear pattern when average numbers of claims per member per month were analyzed. As Tables 9 and 10 demonstrate, some groups had more claims than non-participants, and others had fewer.

Table 9.

Comparison of Average Number of Claims per Member per Month, 2004-2005 combined, without Members with Large Claim Totals (>\$325,000 in two years)

Medical benefit claims only; average of all members is 1.0 claims per month

Status	eDocAmerica Registrant, 2004-05	Non-Registrant	Percentage Difference
Female Employee	1.36	1.26	-8.7%
Male Employee	0.90	0.89	-0.60%
Female Spouse	1.70	1.32	-28.2%
Male Spouse	0.21 †	0.94	77.9%
Female Children	0.17 †	0.61	72.8%

† n=1; not registered for entire two years.

Table 10.

Comparison of Average Number of Claims per Member per Month, 2004-2005 combined, without Members with Large Claim Totals (>\$325,000 in two years)

Prescription benefit claims only; average of all members is 1.55 claims per month

Status	eDocAmerica Registrant, 2004-05	Non-Registrant	Percentage Difference
Female Employee	2.06	1.93	-7.1%
Male Employee	1.40	1.58	11.8%
Female Spouse	2.77	2.03	-36.4%
Male Spouse	0.13 †	1.67	92.5%
Female Children	n.a.	0.57	n.a.

† n=1; not registered for entire two years.

Technical Note

Although the study began with a UA health plan membership of more than 18,000 employees and their families, obviously the more sub-groups that were analyzed the fewer numbers were involved in the study. After the filtering for large total claim amounts and two years of longevity in the eDocAmerica program, about 13,300 individuals were actually analyzed in the comparisons. As Tables 11 and 12 show, the largest groups were the employees who were not registered with eDocAmerica. However, more than 1,000 persons were analyzed from the eDocAmerica group, providing an ample sample from which to draw statistically valid comparisons for both medical and prescription-drug analyses.

Table 11.

Number of Members in Comparison of Average Claim Amounts, Amount Claimed by Average Member, and Average Number of Claims, 2004-2005, without Members with Large Claim Totals (>\$325,000 in two years)
Medical benefit claims only

Status	eDocAmerica Registrants, 2004-05	Non-Registrants
Female Employee	797	4,163
Male Employee	323	3,330
Female Spouse	11	2,124
Male Spouse	1†	1,629
Female Children	1†	961

† not registered for entire two years.

Note: 27 members had an unusually high amount of claims during this period, and are not included in this study. Of these, five were eDocAmerica registrants and 22 were not.

Table 12.

Number of Members in Comparison of Average Claim Amounts,
Amount Claimed by Average Member, and Average Number of Claims, 2004-2005, without Members with Large Claim Totals (>\$325,000 in two years)
Prescription benefit claims only

Status	eDocAmerica Registrants, 2004-05	Non-Registrants
Female Employee	765	3,932
Male Employee	299	2,885
Female Spouse	11	1,988
Male Spouse	1†	1,414
Female Children	n.a.	814

† not registered for entire two years.

Note: 27 members had an unusually high amount of claims during this period, and are not included in this study. Of these, five were eDocAmerica registrants and 22 were not.

A further breakdown demonstrates the cost effect of several different types of medical expenses. The next series of tables shows the detailed costs of eDocAmerica members and other members for four categories: hospital in-patient, hospital out-patient, physician office visits, and prescription drugs. Note that these costs are based on the UA health plan members who had at least one claim in a category during this period, so the average costs in these tables are noticeably higher than the ones reported in the above tables.

Table 13.

Comparison of Average Claim Amounts, 2004-2005 without Members with Large Claim Totals (>\$325,000 in two years)
Hospital in-patient claims only; average of all claims is \$2,170.99

Status	eDocAmerica Registrant, 2004-05	Non-Registrant	Percentage Difference
Female Employee	\$2,148.05	\$1,897.00	-13.2%
Male Employee	\$4,115.45	\$2,078.52	-98.0%
Female Spouse	\$3,262.04	\$2,252.55	-44.8%

Table 14.

Comparison of Average Claim Amounts, 2004-2005 without Members with Large Claim Totals (>\$325,000 in two years)
Hospital outpatient claims only; average of all claims is \$606.22

Status	eDocAmerica Registrant, 2004-05	Non-Registrant	Percentage Difference
Female Employee	\$522.94	\$556.26	6.0%
Male Employee	\$568.14	\$654.76	13.2%
Female Spouse	\$264.65	\$507.79	47.9%

Table 15.

Comparison of Average Claim Amounts, 2004-2005 without Members with Large Claim Totals (>\$325,000 in two years)

Office visit claims only; average of all claims is \$159.26

Status	eDocAmerica Registrant, 2004-05	Non-Registrant	Percentage Difference
Female Employee	\$142.88	\$161.47	11.5%
Male Employee	\$180.77	\$168.41	-7.3%
Female Spouse	\$140.23	\$159.04	11.8%

Table 16.

Comparison of Average Claim Amounts, 2004-2005 without Members with Large Claim Totals (>\$325,000 in two years)

Prescription benefit claims only; average of all claims is \$66.74

Status	eDocAmerica Registrant, 2004-05	Non-Registrant	Percentage Difference
Female Employee	\$57.92	\$61.77	6.2%
Male Employee	\$78.96	\$73.39	-7.6%
Female Spouse	\$62.51	\$65.84	5.1%

What stands out in each comparison are the relatively large in-patient expenses of the eDocAmerica groups when compared to the non-registered groups. When we control for this effect by removing the hospital in-patient costs, the pattern of lower costs for the eDocAmerica members continues except for the male employees. For example, female employee claims for hospital in-patient services average 13.2 percent more for the eDocAmerica members than those of the non-registrants. However, female employee claims for the other three services average between 6.0 and 11.5 percent less for the members than those of the non-registrants. To the extent that hospital in-patient care can be considered less “elective” than the other services, these data support the finding that eDocAmerica users have lower costs on average as a group when compared to non-users.

Appendix B.

Participants with Large Claim Amounts

Interestingly, a comparison of the 27 members who were not included in the study because of their large claim amounts demonstrated some similar patterns for eDocAmerica registrants, albeit at higher dollar amounts. For example, the average amounts paid are lower for eDocAmerica members, as shown in Table 17 for the employee category (the only meaningful groups, given the small number of observations).

The average amounts paid by QCA are used for these large claimants to concentrate on the claims responsibility of the company, since many of these members also received payments from the reinsurance plan that is used when annual claim totals exceed \$325,000.

Table 17.

Comparison of Average Amounts Paid per Claim, 2004-2005
Members with Large Claim Totals (>\$325,000 in two years)
Medical benefit claims only

Status (numbers)	eDocAmerica Registrant, 2004-05	Non-Registrant	Percentage Difference
Female Employee (2,3)	\$458.98	\$523.55	12.3%
Male Employee (1,9)	\$497.76	\$513.72	3.1%

An alternative approach to eliminating the upward bias of these large claim records would be to truncate the amount of the annual claims per member at the reinsurance limit of \$325,000. The advantage of this approach is that it retains the use of the data on all members with two-year histories. The disadvantages were more numerous, however, and included: 1) increasing the claim averages of certain sub-groups while leaving others unchanged – because of the uneven distribution of the large claimants; 2) entering an artificial dollar amount into the comparisons, which could create a “plateau effect” in the data distribution; and 3) complicating the calculations of standard deviations (and the statistical significance) of the distributions in an unnecessary fashion.

The truncation procedure becomes unnecessary because including these additional 27 cases does not change the resulting differences in any appreciable way. As an example, Table 18 shows the increased average amounts of claims for the employee groups. Even though the actual dollar amounts have increased as the higher claim averages for females and males are added into these sub-groups, the percentage differences of 8.4 and 5.6, respectively, are the same direction and relatively the same magnitude as those reported in Table 2 of section 3.

Table 18.

Comparison of Average Claim Amounts, 2004-2005
 All Members Including Those with Large Claim Totals
 (truncated at a maximum of \$325,000 in two years)
 Medical benefit claims only

Status (numbers)	eDocAmerica Registrant, 2004-05	Non- Registrant	Percentage Difference
Female Employee (2,3)	\$358.59	\$391.52	8.4%
Male Employee (1,9)	\$445.20	\$471.43	5.6%

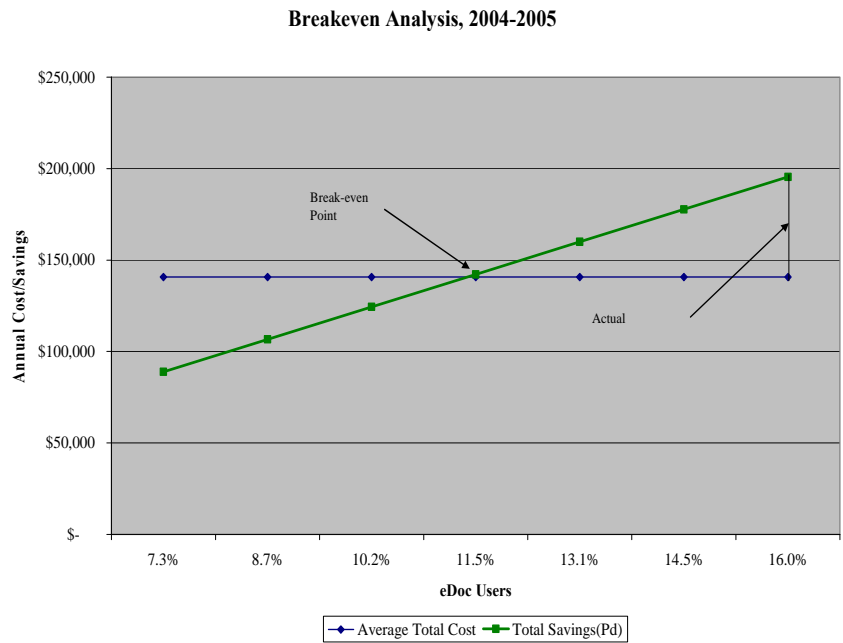
Appendix C.

Chart of Breakeven Analysis

Chart 1.

Break-even Analysis of eDocAmerica Program at the UA System

In Chart 1, the average annual cost of the eDocAmerica program for the UA system during 2004-2005 is analyzed relative to the annual savings from the lower medical benefit claims of those registered in the program. Using a per-member savings on claims paid of about \$89 per year, savings are estimated to outstrip total costs when membership in eDocAmerica exceeds 1,515 employees. That represents approximately 11.5 percent of the total UA workforce during this period.



Three key factors could affect the breakeven point in the future. First, the PMPM cost could increase, although the recent trend has been decreasing PMPM costs for the eDocAmerica program. Second, employee size could continue to increase – it was increasing at a 4.7 percent rate during 2006. While this could increase the total cost of the program, it should also increase the benefit savings, assuming that similar numbers of the new employees register for the program, and the breakeven point should not be affected greatly. Third, medical costs will continue to increase and will have offsetting effects on the breakeven point. Higher costs will generate larger claim amounts, but the eDocAmerica savings should increase proportionately, also. In the end, none of these factors should have a large negative impact on the key intersection point in Chart 1.