

Dental Capitation Insurance Provider Compensation: A Fair Deal?

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Objective: To investigate the fairness of dental capitation insurance provider compensation amounts being paid by one of the nation's largest capitation insurance companies.

Study Design: Analysis of insurance company documents.

Methods: The article first reports and then analyzes the capitation amounts paid by one of the nation's largest capitation plans over the past 13 years as retrieved directly from the insurance company documents. The annual rates of change in the capitation amounts are then compared with the annual rates of change in the mean dental office overhead expenses across the United States, as well as with the rates of change in income and expenses of the average US worker.

Results: The compensation (capitation amount) paid to participating providers decreased dramatically every year over the past 13 years, while the mean office overhead costs of participating providers increased every year.

Conclusions: Solo general dentists with office overhead costs greater than or equal to the national mean likely find that the capitation amounts paid by insurance companies are an unfair compensation or are incompatible with their income objectives. Participation by solo general practitioners in capitation plans with such compensation levels would be problematic or unlikely.

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A primary objective of any business or company is to sell each of its individual services or products at an amount such that the income or payment received is greater than or equal to the expense to produce the service or product. Doing otherwise would incrementally hinder or prevent maximizing the overall profits of the business. The business of dental healthcare is no different. Ideally and independent of practice size, the income received for each service rendered or patient treated should be greater than or equal to the expenses incurred for rendering the service or treating the patient. This necessitates that the practitioner knows the source and amount of the income received or paid for each service provided or patient treated.

In the United States, there are 3 major sources of dental income. These include public funds (6%), out-of-pocket payments (44%), and employer-based private insurance (50%). Employer-based private insurance comprises 5 different types of dental plans. These include indemnity plans, preferred provider organization plans, discount plans, direct reimbursement plans, and capitation plans. Approximately 19% of employer-based private insurance is in the form of dental capitation plans.¹

Dental capitation insurance plans, or dental health management organizations as they are sometimes called, have been with us ever since the International Longshore and Warehouse Union-Pacific Maritime Association benefit fund was established in 1954 to provide dental care under a West Coast-wide pilot dental capitation plan.² Under dental capitation plans, participating solo general dentists are contracted by insurance companies to provide a comprehensive predetermined list of dental services for plan members. In return, the insurance companies pay each participating solo general dentist a fixed monthly payment (capitation amount) for each plan member assigned to that dentist plus copayments (if any) made by the plan member to the participating solo general dentist at the time of service.

Schoen, who developed one of the first group dental practices for the 1954 International Longshore and Warehouse Union-Pacific Maritime Association benefit fund program, was convinced that dental capitation plans could provide a fair compensation for solo general dentists who participated in the plans.³⁻⁶ However, many in the dental profession (then and now) have contested dental capitation insurance plans. They have argued that under capitation plans the capitation amounts, as calculated and paid by the insurance company, and the level of copayments earned were insuffi-

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cient to fairly compensate participating solo general dentists for the dental services rendered and the risks taken. Although early findings supported this suspicion,⁷ few if any studies used data generated from a capitation plan operating for more than a decade and involving thousands of plan members.

Take-Away Points

In addition to filling a void in the current literature of needed data about dental capitation insurance provider compensation, this study provides the following:

- Insight into the association between provider compensation and a capitation or managed care type of insurance plan.
- An explanation of how such insight may influence the size and quality of the provider network that services the plan and the quality of treatment delivered under such a plan.
- A template for providers to estimate the financial feasibility of participation within such plans.

METHODS

In an attempt to determine if dental capitation amounts paid by insurance companies represent fair compensation, this article first reports and analyzes the capitation amounts and rates paid by one of the nation's largest capitation plans over the past 13 years. The capitation amounts and rates are then compared with the annual rates of change over the past 13 years across the United States in the mean income and office overhead expenses of typical solo general dentists, as well as the rates of change in the costs of consumer goods (as measured by the consumer price index) and in the wages of civilian workers. The rates of change in the capitation amounts paid to participating solo general dentists should approximate the amount and direction of the rates of change in office overhead expenses of a typical US solo general dentist and should reflect the rates of change in expenses and income of a typical US worker.

RESULTS

Table 1 summarizes data obtained from operation of the capitation (dental health management organization) plan, unadjusted for inflation. Column 2 gives the total capitation amount paid each year. This amount ranged from a high of \$104,895 in 2003 to a low of \$1866 in 1996. Column 3 gives the mean capitation amount paid per month. This amount ranged from a high of \$8741 for each month of 2003 to a low of \$156 for each month of 1996. Column 4 gives the total copayments made each year (the amount paid directly to a solo general dentist by plan members at the time of service). This amount ranged from a high of \$17,775 in 2005 to a low of \$106 in 1997. Column 5 gives the mean copayments made per month. This amount ranged from a high of \$1481 per month in 2005 to a low of \$9 per month in 1997. Column 6 gives the sum of the total capitation amount plus total copayments made per year. This amount ranged from a high of \$115,050 in 2003 to a low of \$2161 in 1996. Column 7 gives the sum of the mean capitation amount plus copayments made per month. This amount ranged from a high of \$9587 each month in 2003 to a low of \$181 each month in 1996. Column 8 gives the number of plan members per year who were assigned to a par-

ticipating solo general dentist by the insurance company. This number ranged from a high of 18,904 plan members in 2003 to a low of 238 plan members in 1996. Column 9 gives the mean number of plan members per month who were assigned to the solo general dentist by the insurance company. This number ranged from a high of 1575 plan members each month in 2003 to a low of 20 plan members each month in 1996. Column 10 gives the mean capitation amount paid per month for each assigned plan member. This was calculated by dividing the mean capitation amount paid per month (column 3) by the mean number of plan members per month (column 9) and ranges from a high of \$7.80 for each plan member in 1996 to a low of \$4.87 for each plan member in 2008. Column 11 gives the sum of the mean capitation amount plus copayments made each month for each assigned plan member. This was calculated by dividing the mean capitation amount plus copayments made per month (column 7) by the mean number of plan members per month (column 9) and ranges from a high of \$9.05 for each plan member per month in 1996 to a low of \$5.92 for each plan member per month in 2006.

DISCUSSION

Mean Capitation Amounts Paid per Month per Member

The compensation received by participating solo general dentists for the operation of a capitation plan is generated primarily from the fixed monthly capitation amounts that are paid by the insurance company for each plan member who is assigned by the insurance company to each solo general dentist (Table 1). To a lesser degree, compensation received from patient copayments supplements this capitation amount. Even with the addition of the copayments, the combined compensation of capitation amounts and copayments increased by only 12.4% over the capitation amounts alone. Therefore, the capitation amounts paid by the insurance company are, by far, the determining factor of the profitability in operating a capitation plan by participating solo general dentists.

Ideally, the capitation amount paid for each assigned plan member by the insurance company (Table 1) should

■ **Table 1.** Capitation Plan Data

Year	Total Capitation Paid per Year, \$	Mean Capitation Paid per Month, \$	Total Co-payments Paid per Year, \$	Mean Co-payments Paid per Month, \$	Total Capitation Plus Co-payments Paid per Year, \$	Mean Capitation Plus Co-payments Paid per Month, \$	No. of Plan Members per Year	Mean No. of Plan Members per Month	Mean Capitation Paid per Month per Member, \$	Mean Capitation Plus Co-payments Paid per Month per Member, \$
1996	1866	156	295	25	2161	181	238	20	7.80	9.05
1997	9244	770	106	9	9350	779	1342	112	6.88	6.96
1998	21,762	1814	1320	110	23,082	1924	3317	276	6.57	6.97
1999	43,457	3621	1903	159	45,360	3780	6059	505	7.17	7.49
2000	73,324	6110	2637	220	75,961	6330	12,190	1016	6.01	6.23
2001	90,229	7519	4966	414	95,195	7933	15,340	1278	5.88	6.21
2002	100,302	8359	6485	540	106,787	8899	16,195	1350	6.19	6.59
2003	104,895	8741	10,155	846	115,050	9587	18,904	1575	5.55	6.09
2004	78,462	6539	11,891	991	90,353	7530	14,881	1240	5.27	6.07
2005	54,388	4532	17,775	1481	72,163	6013	10,159	847	5.35	7.10
2006	36,930	3078	5482	457	42,412	3535	7158	597	5.16	5.92
2007	26,366	2197	10,930	911	37,296	3108	5273	439	5.00	7.08
2008	15,424	1285	7700	642	23,124	1927	3168	264	4.87	7.30

show an increase to compensate for the usual increases in office overhead costs. However, as summarized in column 10 and in the **Figure**, the mean capitation amount paid for each assigned plan member per month by the insurance company not only decreased but decreased by a substantial amount from 1996 through 2008. This mean monthly capitation amount for each assigned plan member declined from \$7.80 in 1996 to \$4.87 in 2008. This was a mean annual rate of decline of \$0.25 (or 3.2%) each year per assigned plan member and a total rate of decline of 37.9% over the 13-year period.

Mean Capitation Amounts Plus Copayments Made per Month per Member

As summarized in Table 1 (column 11) and in the **Figure**, the decline in revenue when the capitation amounts and copayments are combined is from \$9.05 for each assigned plan member in 1996 to \$7.30 for each plan member in 2008. This was a mean annual rate of decline of \$0.15 (or 1.6%) each year per assigned plan member and a total rate of decline of 19.6% over the 13-year period.

Mean Annual Office Overhead Expenses and Income of a Solo General Dentist in the United States

Mean Annual Office Overhead Expenses. As reported by the American Dental Association, the mean annual office

overhead rates of a solo general dentist for 1996, 1999, 2002, 2005, and 2008 are given in **Table 2** (column 2).⁸⁻¹¹ The mean annual office overhead rates for the years not surveyed by the American Dental Association were estimated by determining the mean increase or decrease between 2 consecutively surveyed years and dividing this amount by 3 years. For example, the rate in 1996 was reported to be 71.30%, and the rate for 1999 was reported to be 67.90%. The difference between the 2 reported years was a total decrease of 3.4%. This decrease was divided by the 3-year span between 1996 and 1999 to give a 1.13% decrease for each year from 1996 through 1999. Subtracting this 1.13% amount from the 71.30% rate of 1996 gives the 1997 estimated rate of 70.17%. The same calculations were performed for 1999 through 2002, 2002 through 2005, and 2005 through 2008.

As reported by the American Dental Association, the mean annual office overhead expenses of a solo general dentist for 1996, 1999, 2002, 2005, and 2008 are given in Table 2 (column 3).⁸⁻¹¹ The mean annual office overhead expenses for the years not surveyed by the American Dental Association are estimated by determining the mean increase or decrease between 2 consecutively surveyed years and dividing this amount by 3 years. For example, the mean expenses in 1996 were reported to be \$227,510 and for 1999 were reported to be \$289,200. The difference between the 2 reported years was a total increase of \$61,690. This increase was divided by

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the 3-year span between 1996 and 1999 to give a \$20,563 increase for each year from 1996 through 1999. Adding this \$20,563 to the 1996 amount of \$227,510 gives the 1997 estimated expenses of \$248,073. The same calculations were performed for 1999 through 2002, 2002 through 2005, and 2005 through 2008. The mean annual increase in the office overhead expenses of a typical solo general dentist was \$17,500.77 (or 3.8%) each year, for a total increase of \$227,509.90 (or 46.1%) over the past 13 years.

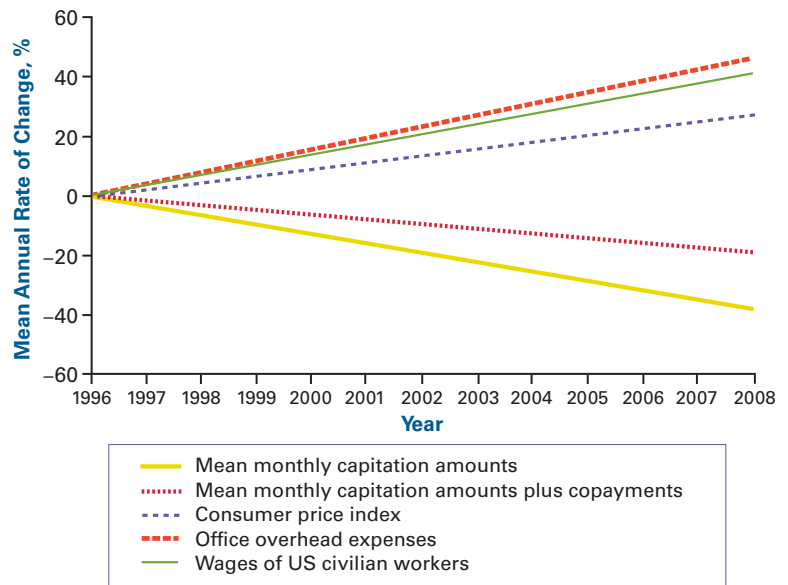
Mean Annual Income. The mean annual gross billings (income) of a solo general dentist in Table 2 (column 4) were calculated using the mean annual office overhead rate (column 2) and the mean annual office overhead expenses (column 3). For example, the mean office overhead rate in 1996 was 71.30% of the gross income. The mean office overhead expenses for 1996 were \$227,510. The mean annual income of a solo general dentist in the United States for 1996 was calculated to be \$319,088 by dividing \$227,510 by 0.713. The mean annual increase in the income of a typical solo general dentist in the United States was \$24,545.29 (or 4.0%) each year, for a total increase of \$319,088.79 (or 48.0%) over the past 13 years.

INCOME AND EXPENSES OF THE AVERAGE US WORKER

Income (wages) and expenses (as measured by the consumer price index) of the average worker in the United States are examined to dramatize and compare the rates of change in the capitation amounts paid to solo general dentists and their office overhead expenses. The Figure shows that the cost of consumer goods in the United States, as measured by the consumer price index,¹² increased at a mean annual rate of 2.3% each year, for a total increase of 27.1% from 1996 through 2008. During this same period, the wages of civilian workers¹³ increased at a mean annual rate of 2.9% each year, for a total increase of 34.4% from 1996 through 2008. Therefore, the annual incomes of consumers increased as the annual expenses of consumers increased, which is expected.

The Figure also shows that, while the office overhead expenses of a typical solo general dentist in the United States increased at a mean annual rate of 3.8% each year (for a total increase of 46.1% from 1996 through 2008), the capitation amounts paid to participating solo general dentists by the insurance company decreased at a mean annual rate of 3.2%

■ **Figure.** Mean Annual Rates of Change in Monthly Capitation Amounts, Monthly Capitation Amounts Plus Copayments, Consumer Price Index, Office Overhead Expenses, and Wages of US Civilian Workers



each year (for a total decrease of 37.9% from 1996 through 2008), and the capitation amounts plus copayments decreased at a mean annual rate of 1.6% each year (for a total decrease of 19.6% from 1996 through 2008). In short, as living expenses (costs) of the average US worker increased, so did their income (wages). In contrast, as office overhead expenses (costs) of participating solo general dentists increased, income (capitation amounts and capitation amounts plus copayments) made by the insurance company decreased.

CONCLUSIONS

Schoen believed that dental capitation insurance could be a viable and profitable alternative to other types of dental insurance plans.^{3,6} However, before this can become a reality, the capitation amounts paid by dental insurance companies should be at a level that provides participating solo general dentists with a fair compensation that at least approximates the mean rates of increase in their office overhead expenses.

In this study, the mean monthly capitation amounts paid by the insurance company for each assigned plan member declined at a mean rate of 3.2% each year, for a total decline of 37.9% from 1996 through 2008. The mean capitation amounts plus copayments declined at a mean rate of 1.6% each year, for a total decline of 19.6% from 1996 through 2008. During this same period, the mean office overhead expenses of the typical solo general dentist in the United States increased at a mean rate of 3.8% each year, for a total increase of 46.1% from 1996

■ **Table 2.** Office Overhead Rates and Expenses of Solo General Dentists in the United States

Year	Mean Annual Office Overhead Rate, %	Mean Annual Office Overhead Expenses, \$	Mean Annual Income, \$
1996 ^a	71.30	227,510	319,088
1997	70.17	248,073	353,531
1998	69.04	268,636	389,101
1999 ^a	67.90	289,200	425,920
2000	67.13	300,960	448,324
2001	66.36	312,720	471,247
2002 ^a	65.60	324,480	494,634
2003	68.33	360,293	527,284
2004	71.06	396,106	557,425
2005 ^a	73.80	431,920	585,257
2006	73.92	452,364	611,964
2007	74.04	472,808	638,585
2008 ^a	74.16	493,253	665,120

^aAs reported by the American Dental Association.⁸⁻¹¹ All other values are estimated.

through 2008. In summary, as the mean office overhead expenses of participating solo general dentists increased in the United States, the capitation amounts paid to participating solo general dentists decreased. In short, the amount of income received by the solo general practitioner for providing a capitation service or treating a capitation patient was less than the mean office overhead expense incurred for providing the service or treating the patient. During the same period, the costs of consumer goods as measured by the consumer price index increased, while the wages of civilian workers in the United States increased in tandem.

As demonstrated herein, the compensation paid to solo general dentists in the United States was not equal to or greater than their mean office overhead expenses during a 13-year period. It would be difficult to classify as fair the payment by this plan or any capitation-type plan of compensation amounts to dental practices with similar overhead expenses. However, a capitation type of dental benefit plan could be profitable if a dental practice has mean office overhead expenses that are lower than those of solo general practitioners in the United States or if any given capitation plan pays more than the office overhead expenses to treat a capitation patient. This article represents a guide by which solo general dentists can estimate or determine such compatibility before choosing to participate in a plan. Participation by dentists in plans can affect the size and quality of the provider network that services the plans and thereby influence the marketability of such plans.

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