

# RECORD, Volume 30, No. 1\*

---

Spring Meeting, Anaheim, CA  
May 19–21, 2004

## Session 100L

### Dental Insurance: New Products and Emerging Issues

**Track:** Health  
**Moderator:** Floyd Ray Martin  
**Lecturers:** Howard L. Bailit†  
James J. Crall‡

*Summary: In this session, presenters discuss the current American Dental Association (ADA) market outlook, for example: future dentist/hygienist workforce, initiatives to make services available to the uninsured, current dental procedure coverage and other current dental insurance issues.*

**MR. FLOYD RAY MARTIN:** I think this session will be something you will be really interested in today. It's less actuarial and more on the provider side of the issues, as opposed to the insurance and carrier side. I'm with the Tillinghast business of Towers Perrin. I've been with them roughly 20 years, and most of that time I've been working in the dental insurance area. The last 10 years I've been tracking the dental marketplace very extensively. We do a couple of surveys every year, and I'm going to be showing some results of those in this opening presentation.

We have two distinguished guests this morning, both non-actuaries. First I have Dr. Howard Bailit. Howard Bailit is a professor and director of the Health Policy and Primary Care Research Center at the University of Connecticut School of Medicine. Prior to this, he was senior vice president for medical policy and programs at Aetna Health Plans. He has also held academic positions at Columbia University School of Public Health and the University of Connecticut Health Center. He received his dental degree from Tufts and a Ph.D. from Harvard. He has published widely in health policy, managed care and dental health services research. He serves on

---

\* Copyright © 2004, Society of Actuaries

†Dr. Howard L. Bailit, not a member of the sponsoring organizations, is professor and director of the Health Policy and Primary Care Research Center at the University of Connecticut School of Medicine in Farmington, Conn.

‡Dr. James J. Crall, not a member of the sponsoring organizations, is professor and chairman of pediatric dentistry at UCLA in Los Angeles, Calif.

many national committees and editorial boards. He has been a member of the Institute of Medicine of the National Academies of Science since 1984. Dr. Bailit is going to be speaking on the dental supply trends and the insurance market.

Our other guest is Dr. Jim Crall. Dr. Crall received a DDS master's degree and certificate in pediatric dentistry from the University of Iowa. He is a diplomat of the American Board of Pediatric Dentistry. He was selected to be a Robert Wood Johnson Foundation Dental Health Services Research Scholar at Harvard and subsequently obtained masters and doctoral degrees in health policy and management from the Harvard School of Public Health. In 1997, Dr. Crall was appointed to be the first dental scholar in residence at the Agency for Health Care Policy and Research. He serves on numerous national advisory committees and panels and has been the director of the Maternal and Child Health Bureau National Oral Health Policy Center since 2000. He's a member of the faculty of the University of Iowa College of Dentistry, the University of Connecticut School of Dental Medicine and Columbia University School of Dental and Oral Surgery. Currently, as of January 2004, he is professor and chairman of pediatric dentistry at UCLA. Dr. Crall is going to be speaking on interventions in Medicaid dental programs for children.

I'm going to begin with a brief discussion on the marketplace as we've seen at Tillinghast based on recent surveys we've done. We do an experience survey every year, and we do a rate survey every year. We have some very interesting information by year, and I'm going to go over that. Then we'll go through each of the other presentations, and we'll have questions and answers at the end.

What I'd like to talk about today are industry loss ratios, the average employee and average child premium changes from year-to-year, what we see companies are setting as their target loss ratios, the growth in the PPO dental plan market and the growth in voluntary dental plan market. Chart 1 shows a graph we compiled on the total loss ratio of the dental industry. Each year we survey. We do get a few different companies each year, so we look at the change from one year to the next in developing this graph. You can see in 2000 there was a major drop in loss ratio. There had been a slight decrease since the mid 1990s, and then in 2000 it really dropped off the cliff.

Since 2000 there's been an increase every year in the industry loss ratio. Based on that, it looks like there was a period of time where competition was getting lighter and companies were doing well, but it looks like now the competition is starting to rise again. From what I hear, the competition in the dental industry has increased quite a bit in the last few years. We're compiling the 2003 information now, so we don't have that available at this time.

We looked at this in a little more detail on what part of the market is influencing this increase in loss ratio (Chart 2). The first major market is what we call community-rated. That's where you have one rate for all the groups, usually the smaller groups, and you're not using their experience. You can see on the bottom

they have had a marked increase since 2000. People are being more competitive in pricing those smaller group products at this time and cutting their margins. Second is the partial experience market. These are groups that are less than fully credible. We're using part of the experience and using manual rates, applying a credibility adjustment. These groups have also had a tendency to rise in the last few years.

We also look at fully credible and self-funded. Those seem to have been fairly flat and have not had this type of pattern. We think most of the influence has come from the smaller group market. For partial experience, most people probably write that up to 200-250 lives, maybe as far down as 100 for some companies. Most people are using full credibility at maybe 200-250 lives. So those markets have seemed to have gotten very competitive for dental insurance.

Chart 3 shows the national average employee rate. When we do our rate survey, we average the rates for 110 different locations for about 12 companies that submit information. To come up with the national average, we weight those 110 locations by the population in those locations. We do use a weighted version to come up with the national average, although we do not weight our initial average by, say, the size of the block of each company. Based on this, in 2002 we actually saw a decrease on the indemnity rates, roughly about \$.50 a month, and then back up in 2003. We had companies actually decreasing their rates in 2002. I think that this goes back to the competitive market that we're seeing now. I think people were kind of overestimating the trend when they were setting their rates for a while.

On the PPO side, there's been an up-and-down pattern, too. Again, companies have actually been decreasing their rates. Perhaps they've been expanding their PPO markets. They've been getting better discounts in certain areas and so forth. But it's been interesting that the rates on dental have not been monotonically increasing each year. They've been up and down. You can also see on here the differential between indemnity and PPO. This indemnity plan is the typical 100/80/50 type plan. The PPO plan that we used in this is very similar with slightly lower benefits and coinsurance for out-of-network coverage. When I say indemnity, it doesn't mean that we throw all the indemnity plans together. We looked at one particular plan that we asked for rates for.

On child you see a similar kind of pattern (Chart 4). For indemnity, we have a decrease in 2002, then a modest increase in 2003 over 2001. Again, it has been jumping around quite a bit. There hasn't been steady growth. PPO has been a little more stable for children. Again, in 2002 both on the employee and the child side, there seemed to be a marked decrease in the average rate out there in the marketplace.

I analyzed these rate changes. If we put everything together there in those four years, it shows what the annual change was for indemnity and PPO by employee and child (Table 1).

Table 1  
Annual Change 2000-2003

	Indemnity	PPO
Employee	1.8%	0.7%
Child	4.9%	2.9%

The biggest change over that period of time is the about 5 percent annual change on the child rate under the indemnity. You can also see that the PPO growth is obviously lower than the indemnity growth. The child costs seem to have been increasing faster than the employee costs. This is a per-child cost. It's not dependent on the number of children.

There is very small growth when you look at this, especially on the employee side. On the employee side, the change is a very small percentage from year to year. I think a lot of it has to do with the benefit plans. I think when you actually price a plan, the way we design our dental plans you don't get as much of an increase as you do if the actual charges have changed over that period. That has washed out a little bit. I think rates usually increase a little more slowly than the actual charges you might see in your compared charges from year to year.

We asked companies what their target loss ratios were for a 100-life case. We asked companies for each year what target they were shooting for, and in 2002 they had a very high target loss ratio. Now in 2003, that has dropped back down. In 2002, again, we saw the rise on the loss ratio. I think there's more competition. I think companies are tightening their margins more, thus their target loss ratio has increased between 2001 and 2002. Now I think companies are cutting back. In 2003 they came back down and are looking to get their margins back where they normally are.

Network growth has been pretty constant from year to year. We're seeing that almost 70 percent of the plans out there from the companies we surveyed are providing some kind of a discount arrangement. That may be a passive situation, or it may be an incentive situation where they give higher coverage of benefits to network as opposed to out-of-network. But in general, it looks like these arrangements continually increase year to year.

I think voluntary is one of the fastest growing markets out there. Everybody is trying to figure out how they can get more market share, how they can get into those groups with lower penetration. This has increased to almost 15 percent of the plans. This is, again, based on premium volume being in a voluntary arrangement. That's usually considered to be where the employer is not paying any of the premiums. Some companies may define their voluntary to be where the employer pays 50 percent or lower of the premium. But most of the plans will define their voluntary as where the employer does not pay any of the premium and the

employee pays all the premium. This has been dramatically increasing in 2002 and 2003 from around 9 percent up to about 15 percent. That's quite a growth in the percentage of business the companies are writing in voluntary.

**DR. HOWARD BAILIT:** To start off, I feel right at home with this audience. I spent some of the best years of my career working very closely with the actuaries at Aetna, who, by their own admission, are the smartest people in the company. (Laughter) In fact, I ran into two of them at breakfast today, and it's wonderful to be back. I have a great deal of respect for actuaries; in fact, I have thousands of actuary jokes, which I promise not to repeat to anybody.

I'm going to look at some of the major trends that will influence the price of dental services, your negotiating leverage with dentists and the dental insurance market.

### **Supply of Dental Services**

Chart 5 is perhaps the most important graph you'll see in my presentation. This is the dentist to 100,000 population ratio. You're looking at 1990. The population is growing faster than the number of dentists, and this is going to continue until at least 2020. These projections came from the Bureau of Health Manpower and from the American Dental Association.

During the 1980s, seven dental schools closed, and most dental schools reduced their class size. The number of graduates per year declined from about 6,500 to 4,000. One reason for this reduction is that dentists' incomes declined in the 1980s, and the number of applications to dental school plummeted. In order to maintain a qualified student body, schools reduced class size. In addition, schools reduced enrollment because federal subsidies that had previously encouraged larger classes came to an end. There's a perceived growing shortage of dentists. This shortage is not just for lower income groups but also includes middle class populations that have the financial resources to purchase private dental services.

A key question is, can this potential supply problem be solved by having dental schools increase their enrollment? This is unlikely because most dental schools are having serious financial difficulties. Both state and federal subsidies to schools have declined, and I would not be surprised if two or three schools closed within the next five years, so that's unlikely. Thus, most schools do not have the resources to substantially expand their enrollment. Two new schools have opened.

Another option for expanding the supply of dentists is to allow more foreign-trained dentists to practice in the United States. Did you know that in the United States about 30 percent of physicians are foreign-trained? In dentistry, it is just the opposite: few dentists in practice are foreign trained. This is because foreign-trained dentists who want to practice in the United States must spend at least two years in a U.S. dental school, and it is very difficult for them to get into U.S. dental schools.

This is already a public issue in California, where a bill was passed by Marco Firebaugh. He sponsored a bill that allows Mexican-trained physicians and dentists to practice in community health centers without a U.S. license. This legislation has huge implications for the medical and dental professions in California. The bill passed because a substantial portion of the California state legislature is made up of Hispanics, and the Hispanic population in California has considerable difficulty accessing dental care. For complex technical reasons the bill was never implemented, but this issue is not going to go away. Think about it! From the point of view of state legislators and taxpayers, it doesn't cost them a cent to solve the dental manpower problem. All that they have to do is sign a bill saying that foreign dental graduates can take the California licensing examination.

Further, it is not only the supply of dentists; the supply of dental services will also decline for other reasons. First, with a major reduction in the number of new entrants into the profession over the past 20 years, the average age of a dentist is almost 55 years old. There is good evidence that dentists' productivity peaks around age 45 to 50. So, the service output per unit per time is expected to decline as the average age of the dental workforce increases.

Another supply factor is the large increase in female dentists; some 40-50 percent of dental students are now female. Now why is that important? Studies indicate that female dentists spend less time in the workforce than their male counterparts. This is another reason for a growing decline in the supply of dental services.

Dentist productivity is increasing about 1.3 percent a year. This results from dentists using more treatment rooms and laboratories and hiring more allied health personnel. Overall, the factors decreasing the supply of services outweigh the increases in productivity. So for the next 10 or 15 or 20 years, the supply of dental services will decrease. To my knowledge, this is the only major health profession in this country that will experience an absolute decrease in the supply of services.

### **Demand for Dental Services**

So now how about demand? There are a lot of factors increasing the demand for services. One is that we are becoming a more educated population, and as all actuaries know, education is a major demand factor. Second, as the economy expands and personal incomes increase, so does the demand for dental care. Third, because of major improvements in oral health, which is something I'll talk about in more detail in a minute. The elderly have more teeth, and people with teeth consume more services than those with full dentures. Now, only 28 percent of the elderly have dentures, compared 60 percent 40 years ago.

A fourth factor is a likely reduction in the two large social class differences in utilization of dental services. Less than one-third of the lower income classes see their dentist annually. In 2000 the Surgeon General recently published a report on this issue, and at both the federal and state levels there is a growing investment in community clinics that serve the poor. Obviously, this will increase the demand for services.

Finally, new technologies—the big driver of utilization in both medicine and dentistry—will lead to increased demand. The impact of dental implants on demand is well known. Now, the big rush is on tooth whitening. Even though this is not a covered benefit in most insurance plans, it still increases the overall demand for services. Other technologies to watch are new methods for diagnosing oral diseases, including genetic testing. For all these reasons, the demand for dental services is likely to increase.

Some factors may lead to a decrease in demand for dental care. First, is the percentage of the employee population with dental insurance. According to the Bureau of Labor Statistics, it peaked in the middle 1980s, declined until about 1995, and then rose modestly in the booming economy of the late 1990s. I haven't seen the most recent data, but my bet is that coverage is dropping. This is especially true for private insurance plans where employers contribute to the premiums. As long as medical care premiums go up 10-15 percent a year, the population insured for dental care is going to decline.

The second factor decreasing demand is higher cost sharing. You know more about that than I do, but it is clear that employers are passing more costs on to employees.

Another factor that is assumed to decrease demand is improvements in oral health. How many times have you heard disease management companies say, "We are going to reduce your costs by making your patients healthier." Oral health has improved dramatically over the past 30-40 years. There has been a 60 percent reduction in the number of children with tooth decay. Chart 4 presents dental expenditures over the last 20 years, adjusted for population growth and changes in the dental consumer price index. You can see is that dental expenditures have continued to go up, indicating that improved oral health does not decrease the rate of growth in expenditures. Better oral health does change the mix of services patient receive. What is happening is fewer restorations and extractions and more diagnostic and preventive services, and, for some patients, more tertiary services.

### **Market Impact**

So what's the market impact of all these changes in the supply and demand for dental services? We've been seeing a decline in supply and an increase in demand for dental services. This is going to make dentists very happy and insurers and dental managed care companies unhappy.

Dental Health Maintenance Organization (HMOs) are declining. Out of about a 148,000 practicing dentists (2001), only 15,000 dentists participate in HMO networks. These 15,000 dentists are concentrated in three states: California, Florida and Texas. If you go to a state like Connecticut, where the dentists are doing very well financially, and try to build an HMO network you are wasting your time. Connecticut dentists, and those in most other areas, do not need HMO patients to stay busy. With the decline in HMOs, PPO plans are dominating the

market, but the plans that are selling have large numbers of dentists, little patient steerage and very modest provider discounts. Again, dentists are not willing to give large PPO discounts.

Another indication of dentists' increased leverage is utilization management programs. When I joined Aetna in the early 1980s, there were 40-50 full-time, dental consultants who reviewed claims. When I left Aetna about eight years ago, there were fewer than 10 dental consultants doing utilization management. In part, this reduction resulted from the need to keep network dentists from leaving.

Chart 6 shows annual increases in the dental CPI from 1990-2003 also reflects supply and demand factors. From 1995-99 the medical CPI was less than the general CPI because of the impact of managed care. Some HMOs actually decreased their premiums. In contrast, the dental CPI did not decline during this period, indicating that Medicare managed care never had a major impact on the overall growth of dental prices.

It is no surprise then that dentists are doing very well financially. The right side of this chart compares net income of general practitioners of medicine and dentistry. As you can see, there is around a \$10,000 or \$15,000 difference, and this difference is likely to increase. The average incomes of dental and medical specialists are about equal.

### **Strategic Response**

How should insurers respond strategically to the rapidly changing dental marketplace? One option is to increase member cost sharing, and this is already taking place. I suggest that you think very carefully about increasing member contributions to premiums. As I understand it, the average family claim plan now requires about a 45 percent contribution by employees. For a large segment of the insured population, it doesn't make any sense to have dental insurance. Members would be better off financially without insurance, paying for dental care totally out-of-pocket. This is an important issue that needs to be studied.

Another option, tiered networks, is unlikely to work in dentistry. First, few insurers have enough data on specific practitioners to determine their practice profile (e.g., quality and efficiency). Unlike medical insurance, there is relatively little market concentration in dental insurance, except for the few states with large Delta plans. Second, even with adequate data, it is still not clear if members and their families will accept steerage to lower-cost networks. Hershey Food Company in Pennsylvania tried tiered dental networks. I have not seen any data on this effort, which leads me to believe that it probably was not successful.

A final option is evidence-based benefit plans. The basic structure of dental benefit plans has not changed in the past 40 years, even though the oral health of the population and dental technology has changed dramatically. Clearly, the structure



of dental benefit plans needs to be reexamined, based on scientific evidence, to determine if more cost-effective plans to improving oral health are available.

### **Conclusion**

So I have not painted a very pretty picture about the future of dental insurance from the insurers' perspective. For the next 10-20 years dentists are going to have more leverage in their negotiations with insurers. This being said, most large companies are not going to drop their dental insurance, and if the economy continues to improve, more employers will add dental benefits.

I am confident that insurers and their actuaries will adapt to this new market environment for dental insurance and continue to run profitable businesses.

**DR. JAMES J. CRALL:** This is an opportunity to speak to quite a different group than I normally do. In the last few years, I've actually spent more time talking to policymakers and, to some degree, politicians as a subset of policymakers around dental care more than the clinical side.

I'm here to talk to you about an interesting subset that hasn't gotten much attention either in the policy world or in the business world until recent times. But as you'll see from some of the numbers, it's a sizable segment of the population. It potentially could become a sizable issue for policymakers, as well as in the business community. But I think that's going to depend upon a lot of things, not the least of which is the political will of our country and various states to deal with this issue.

I'm going to primarily talk to you about publicly funded programs. In the world of children, that's the Medicaid program, and then the children's health insurance program (CHIP) or the state children's health insurance program (SCHIP). This is the new program that came about in federal legislation in 1997 that really led to providing some healthcare benefits for that segment of the population just above Medicaid eligibility in terms of income.

What do we know about Medicaid? We know it's a federal/state program, so that means it's a partnership. Unlike Medicare, where you have rates that are set at a federal level, in the Medicaid program basically the rates are set on a state-by-state basis. The federal responsibility is to pay whatever proportion is decided on a formula that each state will pay, but the rate-setting really happens at the state level.

We know that in the pediatric world we're talking about probably 24 million children at least covered by Medicaid, and that's been growing of late. Roughly one-third of all the kids in the country are covered by that program alone, and then you could add SCHIP on top of that and you're probably looking at somewhere around 40 percent of kids.

We know that there are regulatory statutes and provisions in the Medicaid law that say that dental services are supposed to be a required service for kids. Now that's

very different from the adult side, because there's no requirement that dental services be included for adults in Medicaid. That's totally at the discretion of the states.

Finally, we know that in the marketplace per se, a lot of states have run their own programs. They have probably contracted out somebody to pay some claims, but they have really decided and had administration of their own programs. That's been changing. To some degree, they're tagging along with change in managed care. A lot of states went to Medicaid managed care over the last decade or decade and a half. Many of those also are looking to take dental right along with that, sometimes as part of global managed care. So the big HMOs get the dollars, and they have to subcontract out the dental piece.

Let me give you a little bit of background on the population we're talking about. The kids who are eligible for Medicaid or SCHIP have certainly benefited from some of the improvements that Howard talked about, but they probably haven't benefited nearly to the degree that your children or my children have—middle and upper income children. They're three to five times more likely to have actual dental disease that needs those restorations that Howard talked about.

Access to care has been a chronic problem, especially in dentistry and Medicaid, and I'll show you in a little bit why I think that's the case. We have reports out of essentially both sides of the political system. We have it out of the Department of Health and Human Services, the Inspector General and the Congressional General Accounting Office that this is a chronic problem. This program is really not working for the people who are supposed to be covered by this program.

We also know that dental disease is highly preventable. We know that just from epidemiological studies, and you see it in your own families and your grandkids. But we also know that it's not easily preventable. I remember being a freshman in a brand-new dental school that Howard talked about that got expanded back in the 1970s and listening to the guy from the National Institutes of Health (NIH) who told us about the caries vaccine that was just around the corner. A freshman going to dental school today is still hearing about the caries vaccine that's just around the corner. The NIH, in fact, has recently convened a group of experts who said they're not going to invest in the caries vaccine. So if it's around the corner, it's going to pop up out of somewhere we haven't really thought about in the past.

What that means is that the model for dental services for kids is kind of routine, ongoing, early and periodic—just a checkup model. And you try to catch things early and either provide services and prevent treatment needs or else you actually try to treat things while they're very small. We know it's a progressive disease and if you don't take care of it, it doesn't go away on its own. It just gets bigger, and the problems get bigger and they get more costly. Finally, we know that basically, as I mentioned before, the Medicaid program says that kids are supposed to have the full range of services, not just preventative services.

Here's what we have evolved to from an epidemiological sense; we know that about 80 percent of all the dental disease or the treatment that needs to be done in kids in this country around dental issues resides in about 20-25 percent of the kids. Who are those kids? Well, not surprisingly, they're primarily low-income kids. And within low-income kids, it's even more of a problem in racial and ethnic minority low-income kids. We know that the actuaries and the actuarial kids are the people who are beyond this bar because I saw a lot of heads nodding when Howard said your kids probably don't have caries. But when the last national survey was done, by age 17, 80-85 percent of all the kids in the country had experienced caries at least at some level, but the vast majority of them have a lot less of it than they did in the past. It's the occasional tooth that gets a cavity now. It's not that every time you go in, kids are getting cavities taken care of. So that's the change in the picture.

There has also been a lot of attention of late around the fact that what we're talking about here is now recognized to be basically a transmissible infectious disease. Children get cavities, by and large, because bacteria that's housed in the mother's mouth gets transmitted to the child. That's why it starts, and that's why it starts early. A lot of kids have protective factors going on that don't allow that disease to really take hold, but for a lot of children it does happen and it happens early, and sometimes at great cost.

Chart 7 basically shows us data from the National Health and Nutrition Examination Survey, which is the national survey we conduct periodically to really get a sense of, epidemiologically, what's going on in our population. Basically what the two sets of bars on the left hand side of the slide show you is that the likelihood that a child's going to have untreated dental disease in this country is highly related to his income, and it's consistent. You can see that inverse relationship. The left-most of those four bars in each of the sets represents kids who are below 100 percent of the federal poverty level.

The next bar takes you up to 200 percent of the federal poverty level, which, as I'm sure you know, basically is about the median income in this country. Half the kids in the country still with 25-30, and then, as they get older, 30-40 percent of those kids have untreated decay.

Interestingly, the right two sets of bars show you that the likelihood that a kid's going to have at least one filled tooth in his mouth, and you had some kind of contact with the system and had something done doesn't vary by age. But the difference is that the well-off kids get very little disease. They don't need a whole lot of restorations, and they tend to get most of it taken care of. For the low-income kids, more of them get it, they get more of it, they tend not to get treatment and, therefore, that's why they have that untreated disease. As I said, it varies by income. All those bars show you that no matter what kind of age a child you pick or what income level you pick, whether you pick below the median income or above the median income, that income matters, but race and ethnicity also matter.

African-American kids and Hispanic kids tend to have significantly higher amounts of untreated disease.

Chart 8 gets back into a world that you're a little more familiar with, which is the financial side of things. This shows the trend in financing dental care for us in the country. If I had the bar over here at the year 2000, it would touch this top bar. That would basically tell us that, in the year 2000, we spent about \$60 billion in the country collectively on dental care. Interestingly enough, by the year 2003, that number is already up to 70 percent. So you start to see some of that compounding effect. But the two shaded bars basically show you that up until 1965, there was virtually very little funding of dental care in this country other than out of people's pockets. Commercial dental insurance appeared in the mid-1960s, and you can see that it now accounts for about half of the financing of dental care. Half of the funds that go into dental care actually come out of the benefits industry.

Now the actuarial world actually has gotten involved at least in the public policy of this in recent times. I'm going to talk about a couple of studies that were commissioned by different groups. This first one was actually done by Towers Perrin, but done for the American Academy of Pediatrics (AAP), not the AAPD. The AAP, once we got this CHIP legislation passed in 1997, wanted an actuarial analysis so that they could answer the question: What should states expect to pay for a comprehensive set of health services for kids now that they have this coverage?

The Milbank Memorial Fund actually funded a second subset of this study, which was to answer a second question. Of the amount that the state should expect to pay for premiums for comprehensive health benefits, how much of that ought to go for dental care? The answer came back, overall, that in 1998 states expected to spend somewhere between \$100 and \$110 per child per month for a comprehensive set of benefits. The answer to the second question of how much of that ought to go for dental care actually was a pretty astounding figure, even to people who worked in the health policy area and knew something about dental care—about 20 percent of that child health care dollar actually should go for dental care.

That really is pretty astounding, I think, when you look at the prices of dental services relative to the prices for other kinds of health care services. But think about that model I told you about, about how kids use care. How do kids use medical care? Well, they all use a little bit up until about age 2, and that's called well child care. They get their immunizations, and then they're set until they have a few accidents and things like that. That results in a pretty low cost. There is always a small subset that uses a huge amount, and those are kids with congenital and developmental problems, some really serious system problems, just like in the adult world.

But how do the kids use dental care? Well, those that are using dental care basically get into the system and go on a regular basis. They usually go every year, and there's a cost associated with that, which relative to all health care is a pretty small

cost. But when you add it all up, it ends up being significant over the child's lifetime.

A second analysis done by PricewaterhouseCoopers was for a group called the Reforming States Group, who are state legislators. Their motto is "We're the states that couldn't wait." In many cases, they thought Washington was creating a lot of their problems in states. This used a very different kind of method. In the previous model for the dental piece, we started with a database that had utilization, but utilization from commercially insured kids. Who are commercially insured kids? They are well-off kids in this country. Their parents have some kind of health insurance through employment. They're the part that gets dental benefits on top of it and the dental is not cut out. That's fine from the dentist's standpoint because those kids tend to use services the way we professionally think kids ought to use services. They ought to get into a system, and they ought to go on a fairly frequent basis, and you catch things. It's probably not a coincidence that the kids who use care that way don't have a lot of dental disease.

Now it's not to say that that's cause and effect, because there's a lot going on in their home environments that keep those kids healthy. We know that, too. But the problem with just using those numbers out of the commercially insured kids for the publicly insured population is it doesn't account for that extra disease load that's out there and those unmet treatment needs.

In the AAP study, that's actually what was done. You took a utilization pattern of children who were in the system, paying somewhere around market rates because they're in the system in large numbers. But you made an adjustment for the extra disease levels of the children who didn't have access right now, and said that if those children got access and used care like children who were in the system, it would cost you around \$20 per child per month.

In this case, they took two years of DentiCal data. Now DentiCal is the dental piece of the Medicaid program in California. As you can imagine, that's sizable because probably one in six or one in seven low-income kids in this country resides in the state of California. This model looked at it very differently. This model took actual experience out of the California DentiCal program, but knew that the rates that California DentiCal was paying weren't enough to engage the vast marketplace, that supply side that Howard's talking about. They said, "Okay, if we look at those utilization patterns, but adjust those rates up to something that we think would actually get dentists' attention in the market, a modest discount somewhere in the neighborhood of 20 percent off of usual charges, then what would it cost?"

The answer came back about \$14.50, and that's in 1999 for services if you're just going to purchase the services. If you added anywhere from a 10-15 percent administrative cost on top of that, you're talking somewhere in the neighborhood of at least \$17 or \$18 per child per month. So two very different methodologies that basically came to the same ballpark and the same field and position actually. There

was a very close triangulation on that; maybe not by actuarial standards, but for a dentist or a policymaker that's a pretty good coincidence.

We found out from those studies, which is no great surprise, that we don't have access for these children. We don't have access for these children because states control what they'll pay for these services and, by and large, they pay a fraction of what the market demands to get services.

There is a recent example of that. Howard mentioned the HMO situation around dental in Dade County in Florida. Well, recently the state of Florida put the dental Medicaid benefits for kids for Dade County out for a contract. And what did that contract say they were willing to pay? It said they were willing to pay about \$5 per child per month. You're talking about a group of children that we know have more treatment needs, and they're going to need more services than the general population, and you're saying you're going to put one-fourth of the resources in that. Now I know of no empirical evidence that says that there's that much efficiency in the system that you can actually get reasonable care to those children at those kinds of prices and, in fact, that's what happens.

I have a California example (Table 2). I've picked about 15 procedures that cut across the gamut from diagnostic and preventative, some basic treatment kinds of things, and it includes things like a root canal and getting a tooth extracted. These are things that are common procedures that children need, or need now and then, but they're higher ticket. You have a mix of the high-frequency, low-cost kinds of procedures and high-cost, low-frequency kinds of procedures.

Table 2

<i>CA Medicaid Rate Comparisons</i>					
Procedure Code	Procedure Description	CA Medicaid Rates	Pac Region 2001 Avg. Fees	Pac Region 2001 75th %-ile Fees	CA Medicaid vs Pac Region Fees (percentile)
<b>Diagnostic</b>					
D0120	Periodic Oral Exam	\$ 15.00	\$ 35.11	\$ 40	2nd
D0150	Initial/Comprehensive Oral Exam	\$ 25.00	\$ 49.23	\$ 56	2nd
D0210	Complete X-rays, with Bitewings	\$ 45.00	\$ 88.04	\$ 95	<1st
D0272	Bitewing X-rays – 2 Films	\$ 10.00	\$ 33.73	\$ 40	<1st
D0330	Panoramic X-ray Film	\$ 25.00	\$ 74.44	\$ 83	<1st
<b>Preventive</b>					
D1120	Prophylaxis (cleaning)-Child	\$30/\$40	\$ 55.61	\$ 62	<1st/5th
D1203	Topical Fluoride (excluding prophylaxis).	NL	\$ 28.30	\$ 32	
D1351	Dental Sealant	\$ 22.00	\$ 39.42	\$ 45	1st
<b>Restorative</b>					
D2150	Amalgam, 2 surfaces, permanent tooth	\$ 48.00	\$ 109.45	\$ 126	<1st
D2331	Resin , 2 surfaces, anterior tooth	\$55/\$85	\$ 141.27	\$ 162	<1st/3rd
D2751	Crown, porcelain fused to base metal	\$ 340.00	\$ 662.54	\$ 720	<1st
D2930	Prefabricated Steel Crown, primary tooth	\$ 75.00	\$ 161.79	\$ 185	<1st
<b>Endodontics</b>					
D3220	Removal of tooth pulp	\$ 71.00	\$ 105.82	\$ 125	10th
D3310	Anterior Endodontic Therapy	\$ 215.00	\$ 449.37	\$ 500	<2nd
<b>Oral Surgery</b>					
D7110	Extraction, single tooth	\$ 45.00	\$ 101.53	\$ 115	<1st

Pac Region = AK, CA, HI, OR, WA

This column shows what California is paying for these rates. Here are the average fees charged by dentists in the Pacific region. I took that information from the ADA survey of fees, which they put out about every two years. I've discovered that these are remarkably close to what is on the books and databases of third-party carriers about what dentists actually charge. So there's no sandbagging going on to the extent I can tell in this thing.

Here's the 75th percentile of fees, which means that basically, if you pay at that level, at least 75 percent of the dentists out there would see that as something that is comparable to their usual set of fees. You could look at that ratio and, in many cases, basically what Medicaid is paying is one-half or less of what the average fee is and maybe one-third of what the 75th percentile is. We recently worked with the ADA a little bit and looked in more detail at the survey. I didn't pick these procedures before I knew what the percentiles were going to be. I picked the procedures because we've used these in many other studies, including the General Accounting Office studies. But for 10 of the 15 procedures here, the California Medicaid program is paying beneath the first percentile. I don't know technically if, in the actuarial world that's even something that can exist. There is a first percentile, and they're paying less than that. That says that there's no dentist out there that sees that as a reasonable fee and, in fact, it's a fraction of what the lowest charging dentist out there asks for. So it's no wonder you can't get a supply, and it's no wonder you can't get services to these children.

There's a group of people out there that run these programs in the states. I've heard it straight from the mouths of people who are in these Medicaid programs, "I don't care what you pay those dentists; they won't see these people." There is that attitude out there that the market somehow doesn't apply to dental services and Medicaid. But here are some examples from maybe nine states that have used what I think are some innovative approaches to actually financing this program at something that comes close to a market rate, uses some kind of a market benchmark.

Alabama, which is not a wealthy state, still knew they had enough of a problem that they chose to take as a benchmark 100 percent of the Blue Cross rates that were being paid in Alabama. You have other states like Indiana, Georgia and South Carolina that said, "We'll buy this argument about 75th percentile. If you have that many children that need services, we know you need a significant percentage of the providers to be in this program, and so we'll pay up to the 75th percentile level." You have other states like Michigan that actually went out and contracted with Delta Dental of Michigan and put in something called the Healthy Kids Dental Program. In 33 counties in Michigan right now, kids covered by Medicaid actually have a Delta Premier plan. And in another four counties they have a discounted PPO plan.

Then you have the state of Delaware that decided not to go the consultant route and figure out what the fee schedule ought to be. They only had one dentist participating in the Medicaid program, and they were kind of publicly embarrassed when the federal program came out. They said, "We have to change that. How are we going to do it?" They said, "Okay, dentists, if you treat one of these kids that's covered by Medicaid in Delaware, you send us your usual charge. We'll pay you 85 percent of whatever your individual usual charge is." So that's a 15 percent discount off of every dentist. It doesn't look for a segment of the market, but it says we'll apply that consistent discount all the way.

The increases on the supply side are anywhere from 39 percent to 300 percent in the case of Michigan, because Michigan essentially bought a network of providers overnight. Those dentists were contracted as Delta Premier providers. They couldn't say, "No, I won't treat a Medicaid child who's covered by this, but I'll treat a child who's covered by General Motors or the state of Michigan." That's the provider side of it.

Then there is the utilization side. Alabama had a substantial increase, but their rates aren't as high as some of these other states. They go from 1998, with 41,000 kids getting services, to 105,000 in 2001. This continues. I think the last one that I had seen was somewhere in the neighborhood of 140,000 or 150,000. You can get more than a tripling of the number of children getting services, but that's consistent with economy theory.

Indiana, with its 75th percentile plan, went from around 50,000 children getting services to three years later over a 150,000 children getting services. I think that



pretty well discounts that argument that it doesn't matter what you pay people, they won't see Medicaid clients.

Michigan basically took the old program where about one in four kids was getting dental service in a year, and Howard mentioned that phenomenon. If you look at Medicaid in general and kids, and if you look at the federal statistics, in any given year 70-80 percent of children on Medicaid will have a contact with a physician. But fewer than one in five in 1996 had even a single preventative dental service, one service out of the dental system, let alone comprehensive services. But Michigan put this program in place, and in 12 months, they closed half of the gap between that one in four children getting services in the old state-run program and commercially insured Delta children in the 22 counties that they were keeping track of at that time. That was a pretty dramatic increase in utilization.

Obviously, that comes with a cost. In the current economic times, often the success of these programs leads to attention and then to changes. They start looking at it as a substantial increase in the dental budget, but if you look at the entire Medicaid budget, it is literally the decimal dust. Dental services in Medicaid currently are about 2 percent of all the pediatric healthcare expenditures. So they're an order of magnitude off the general health care pediatric dental services to overall.

But the issue is often that we don't have enough money for that. We can't afford that. But I'll point out that, unfortunately, we are seeing way too many children, and we're talking fairly substantial numbers now, when they don't get dental care, it spills over. And where does it spill over? It spills over into emergency rooms, and it spills over into operating rooms. You don't buy a lot of services in emergency rooms and operating rooms at very low cost. The unfortunate thing around the emergency room is that this child is not going to get even any kind of definitive care in most emergency rooms. She may get some pain medication. She may get some antibiotics to try to control this infection that's spreading up into her eye, but she's not going to get anything done for her tooth in most of those emergency rooms. A lot of this stuff is preventable, and you take a child like this who has this infection, has to go to an operating room, get a drain put in there and get the infection all drained out. We can literally spend thousands if not tens of thousands of dollars on these individual children. I think that that diminishes somewhat this argument that we can't afford this, because we are going to pay for the care of these children one way or the other. The question is what's their quality of life going to be and what's their health status going to be when they hit employment age. They're covered by the commercial firms who are going to be out there in the future.

In summary, this Medicaid program looks good on paper on the legal side of it, but because of a lot of the things that I've tried to highlight here, I don't think it's been implemented particularly well over the history of time. We have millions of kids out there who have these problems. There is some evidence for promising models, but it's going to take that political will, as I said, to convince states that this is probably a prudent way to approach the care for these children. You can't continue to ignore

what has been pretty much a silent epidemic, as the Surgeon General called it, for quite some time.

I also have a little update. Howard mentioned the dental supply issue. The latest I just heard this week is that basically we're well on the way in California to actually allowing a dentist from not accredited, but at least schools that have been deemed to be the equivalent of accredited schools around the world to take an examination to practice and get a license in the state of California. So that's another indication of this supply side and the demand dynamics that are happening out there.

**MR. WILLIAM T. BILLARD:** I'm from Delta Dental of Michigan. Thanks for the pitch, Jim, I appreciate that a lot. For everyone's information, those 37 counties in Michigan are now up to 52 counties. I think after about six months they moved to 52. There are 83 counties in Michigan, and these are mostly outlying counties that have fewer dentists involved in the Medicaid program. But the program has been a great success, and we're just proud to be a part of it.

**DR. BAILIT:** Where were your premiums at for that program?

**FROM THE FLOOR:** They're around \$14 to \$15.

**MR. RICK S. PAWELSKI:** I wanted to combine something that Dr. Bailit said with something that Dr. Crall said: the idea that the HMO is going south and fast. My question is what about in the Medicaid environment? When you're fighting the battle for state funding, \$5 or \$6 per month capitation can actually do something, I would think, toward providing access. Do you see the HMO, perhaps, continuing as a viable product in the Medicaid area?

**DR. CRALL:** I guess my observation would be that it's quite similar to the situation that Howard talked about. You're likely to see it where there is any kind of existing network. And if you want to expand beyond Dade County, some parts of southern California, Dallas and Houston, I don't know how you're going to get that done with an HMO around a Medicaid population, because it's at least strike two or almost strike three. There are inadequate resources, a more difficult and challenging set of the population to deal with and a huge demand from other large growing segments of the population.

This is a personal opinion. I'm not sure that \$5 to \$6 per member per month (PMPM) actually gets a child much. What it can do is to create a revenue stream for some entrepreneurs, but it's certainly not adequate enough to even provide the most basic of care in any kind of comprehensive fashion.

**DR. BAILIT:** Here's another twist on your question. Once you set up a dental HMO network, you could understate the kinds of HMO rules and regulations, and this drives administrative costs up considerably. The state of Connecticut just did away with Medicaid dental HMOs.

**MR. GREGG E. LITTLEFIELD:** I just wanted to ask a question about regional variances in supply. I think you alluded to the fact that there are definite variations, particularly between rural and urban, but even between urban areas, say, the Mountain West versus the Midwest or the Northeast. Also, along those lines, if there are regional variances in supply, do you see that over time dentists will figure out if there's a bit of an oversupply in one area, they might move somewhere else where they can make another \$40,000 or \$50,000 a year? Do you think you'll see where it won't be perfectly balanced out possibly over time, and five or 10 years from now will there still be some regional variances?

**DR. BAILIT:** You asked a number of questions, and let me try to respond to a couple of them. The first thing you learn in this business is that medical care and dental care are local businesses, and you must understand local markets. If you try to come up with nationwide market strategies, you will be in a lot of trouble. So my answer is, yes, there are huge differences in local markets on the supply of dental services. I think that insurers would have a substantial competitive advantage, if they had that local information.

To your second question, there are big demographic shifts taking place in this country, e.g., people are leaving the Northeast and going to the Southwest, et cetera. The American Dental Association (ADA) has done studies of how long does it take the dental workforce in an area to adjust to demographic changes in the population. I can't give you exact numbers, but member demand and all these other things, and it takes years before the workforce adjusts to changes in demand for care. However, the market does work, and the supply of dentists does accommodate to changes in demand.

The best predictors of where dentists are going to locate their practices have nothing to do with dental disease levels and the need for care. Location is based on actual demand—where dentists can make a living. This is the reason why dentists are concentrated in areas where the population has adequate purchasing power to buy dental services. So, if you brought up Medicaid reimbursement rates up to parity with commercial rates, in time you would see more dentists move into underserved inner-city and rural areas.

And after saying this, dentists are educated people, and like all educated people, they want the advantages of urban and suburban living. This is the reason for the large concentration of dentists and physicians in San Francisco. It is a great place to live. Every country, regardless of their delivery system, struggles to get health professionals to rural communities.

**DR. CRALL:** I'd just augment that by saying I think you still you have to consider the major overall supply that Howard has talked about. I think there was a time in the 1970s and 1980s when change in dentist business wasn't just a result of the increase in supply of dentists. You'll hear that from some elements of organized dentistry, but there were also huge economic changes in the early 1980s. If you will

remember, we had incredible inflation rates in the late 1970s and early 1980s. Dentistry being a discretionary expenditure, it can be put off to some degree.

But the big overriding factor is the declining dentist-to-population ratio and rising demand. That is combined with the culture of young people. I deal with them on a fairly regular basis as graduates coming through dental school. My perception is they are much less likely to leave those bright lights than they were in the past.

**MR. JEFFREY D. MILLER:** Perhaps another factor in the supply of dentists to provide basic care is the number of dentists going to cosmetic dentistry practices. I wonder if that has an impact on the supply of dentists for basic care.

**DR. BAILIT:** It's part of the same picture. Dentists go where there's a demand for their services and provide service with higher profit margins. They can make a lot of money in cosmetics, and there's great demand for it. My 82-year-old sister looked at me the other day, and said, "Why don't you get your teeth whitened?" We did an interesting study in Wisconsin for the Wisconsin Dental Association that addressed the question: If you increase the number of dentists in the state, would it distribute the dentists more to outlying rural areas? The answer is no. Demand is greater in major cities and suburban areas. That's where the money is and that's where dentists would go.

**MR. JAMES PAUL BAKER:** You mentioned briefly the evidence-based approach. We hear a lot about that going on and all the different people trying to say evidence-based is coming. But whenever we talk to a lot of dentists, it's not quite as rosy a picture. I'm wondering when you're talking about the supply issue that there's just not as many dentists. I also get the impression that dentists can do whatever they want. Do you really think that the evidence-based thing is really going to take over in the dental world? And if so, what kind of timeframe are we looking at?

**DR. BAILIT:** Okay, I lose may lose my membership in the ADA, but it's not clear to me why everybody has to see a dentist every six months. A large segment of the population that visits dentists semi-annually is very healthy and, perhaps, don't need to be seen so frequently. As such, d they may not need all those diagnostic and preventative services that they are getting.

But, I've learned something else in this business; science is one thing and culture is another. I was with Aetna when the Blues had an in-depth study of whether there was any benefit to circumcisions. Their medical experts decided there was minimal, if any value, and they decided not to cover this service. Their customers went absolutely berserk and that decision literally lasted about three weeks. So there is a large cultural component to what patients expect and believe, and they care less a about science. It's what they were brought up to believe. Even if you do have science on your side, this does not mean you can make radical changes in benefit

plans. These types of plan changes require careful planning and adequate periods of time to educate employers and members.

**DR. CRALL:** I'll risk my ADA membership as well as my AAPD membership, but I more or less agree with Howard. It's going to be slower. I think there's room for movement there, but we have to invest in a few things, not the least of which is some additional science. The academic world always called for additional studies, but the reality is that about the mid 1980s, at the same time this dental supply thing was going on, we got the perception because of the interpretation of the epidemiological data in this country, that literally dental disease in children was not going to be a problem anymore. People were being counseled not to go to dental school, not to go to pediatric dentistry. That would be the last place you would want to go. Well, I could tell you the residents coming out of my program and every other pediatric dentistry program in this country right now are making substantially more than that kind of average per-dentist revenue, and that's coming straight out of the program.

Now they have \$200,000 of educational debt that they didn't have back in my generation. At the start of the previous century, dentistry was not even a profession. Basically, it dealt with extracting teeth and dealing with infections. Then it came into this mode of where we could restore teeth a lot more and a lot faster because we invented something called the high-speed handpiece. But then in the 1970s we got into the prevention mode, but we got into what is basically a one-size-fits-all prevention mode, which is everybody goes every six months with no scientific basis for what needs to happen.

I think the movement, but it's going to be slower, is toward risk assessment and tailoring care around risk. Right now, we don't have any great models, but if you go to [www.aapd.org](http://www.aapd.org), which is the AAPD's Web site, in the policies area you'll see something called the "caries risk assessment tool." I think those of us in the academic world are trying to move those in the practitioner world that way. But basically we're not going to be able to substitute a set of underfunded services for a set of well funded services unless the funding issue is addressed. You have to sit there as a dentist and figure out how much time you're going to spend talking to that mom about why her child doesn't need to come twice a year now. And then the time you're going to spend explaining when Johnny or Susie gets that first cavity that, you know, never should have happened, and we all know whose fault it was.

There is a professional supply side, and there is a kind of a demand side of that particular issue. It will come with time, and right now we're dealing with very low technology around that risk assessment. But there's a lot being done out there to develop the quick and easy dipstick equivalent test that could say this is a child who's going to get a lot of decay, and be able to identify that early on and then change the balance of services so that this child gets a more intensive kind of care. And some of the kids who are at very low risk actually get less care. That's easy to do in the scientific world, and it's a little tougher to do in the practicing world.

Chart 1

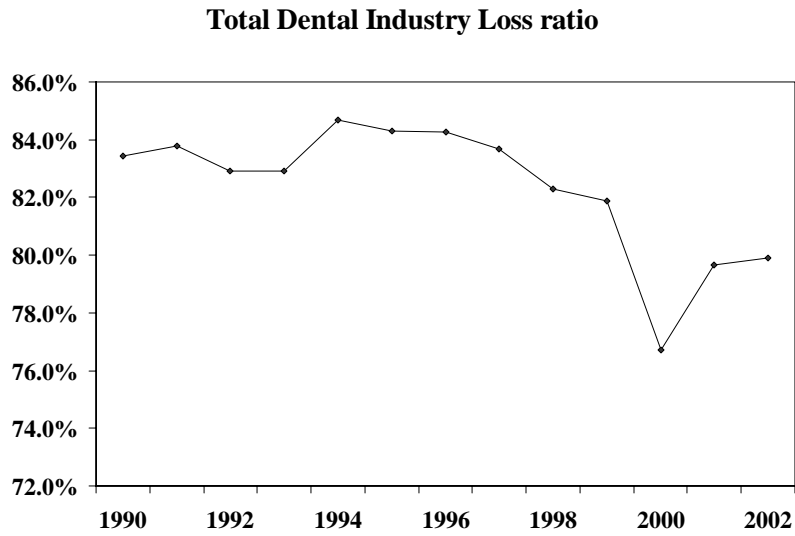


Chart 2

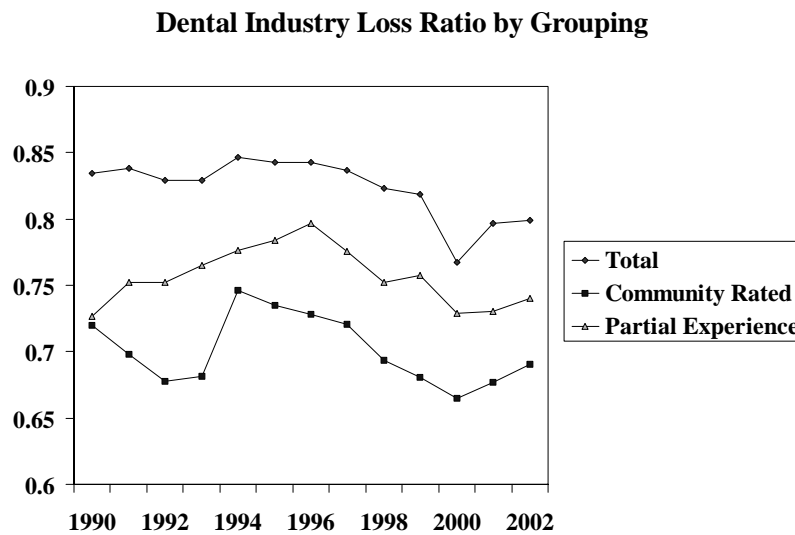


Chart 3

National Average Employee Rate

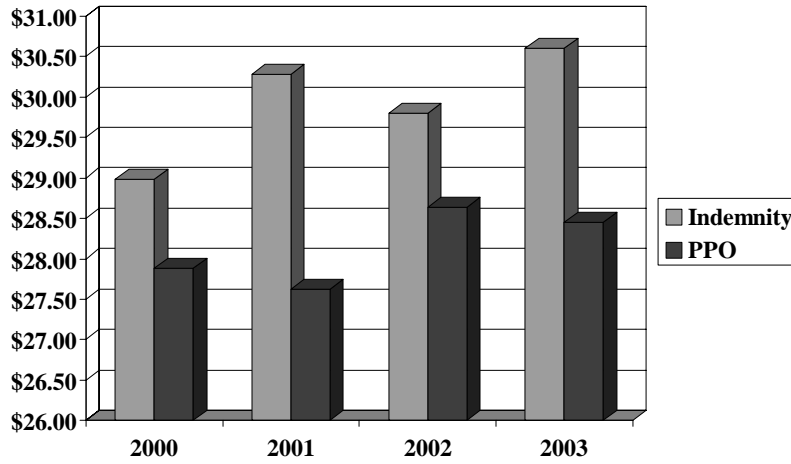


Chart 4

National Average Child Rate

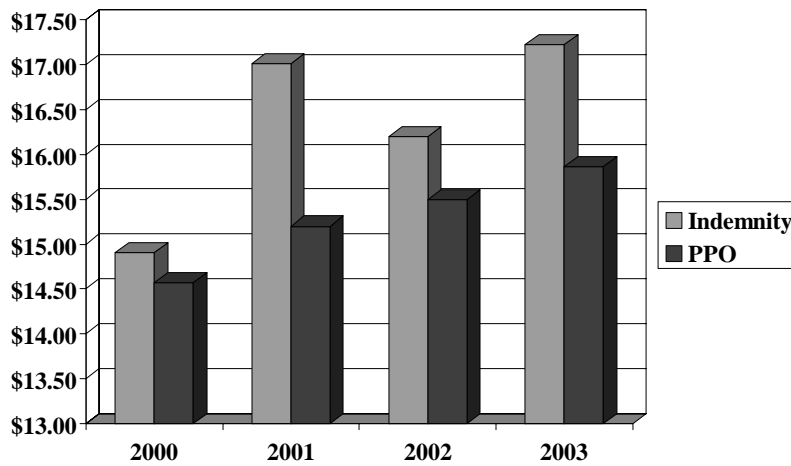


Chart 5

## SUPPLY: *Dentists*

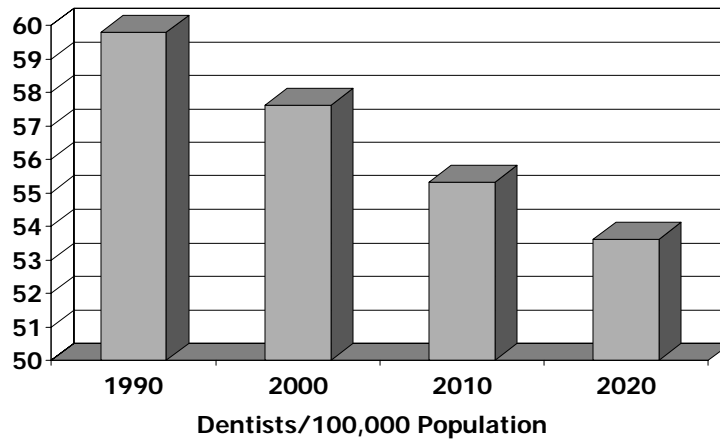


Chart 6

## Market Impact: *D-CPI, Income*

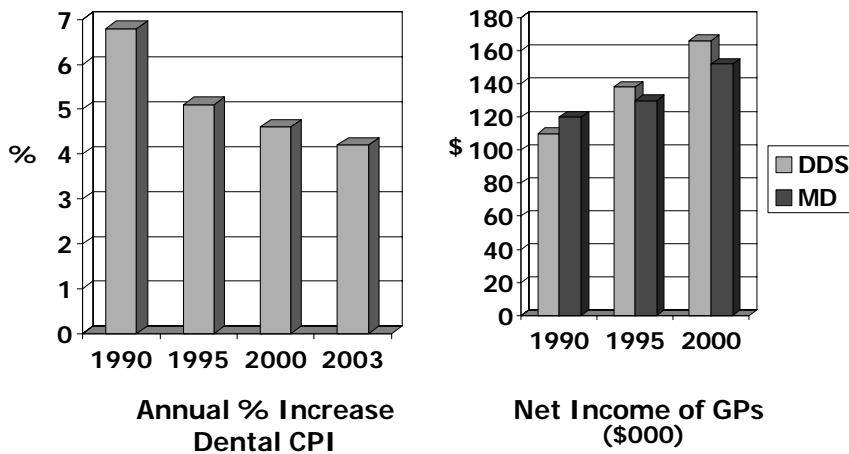
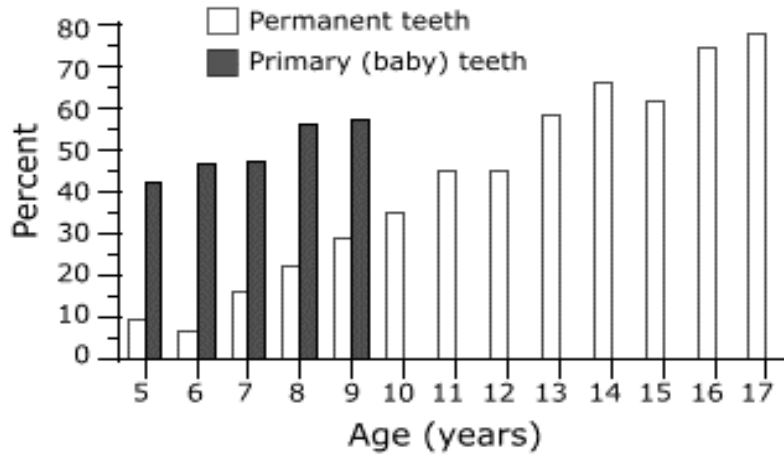




Chart 7

*Percent of U.S. Children Who Experience Decay by Age*



Source: National Center for Health Statistics, CDC. Third National Health and Nutrition Examination Survey, 1988-1994

Chart 8

*U.S. Dental Care Financing Trends: Sources of Private Funds (\$ M)*

