

Disclaimer: Some of this material is obsolete yet is provided to aid in historical analysis.

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NATURE OF THE INDUSTRY

According to the American Dental Association (ADA), approximately 10,000 new dentists have entered the dental field since 1979. More than 132,000 dentists practice in the United States, and the growth rate in numbers appears to be unevenly distributed among states. California, for example, has attracted approximately 12 percent

of the new dentists within the last 10 years. Specific numbers of dentists in any state can be determined by contacting the state's licensing agency.

The number of dental school graduates has remained stable at 5,400 per year since 1982 and is expected to stay the same unless new dental schools open in the future. The annual number of dental school applications was not available, but some reports expected it to flatten out. Limitations on the space available in dental schools and the increasing competition within the industry were cited as reasons.

The number of dentists has grown steadily over the years. In 1965, there were about 49 dentists for every 100,000 people, and this number climbed to 66 per 100,000 people in 1984. By 1995, it is projected to reach 73 dentists for 100,000 people.

Most dental practices are small businesses. Over 70 percent are operated by a single dentist (called a solo practice), with assistance from a few support personnel. Even the larger practices display many of the characteristics found among entrepreneurial concerns.

In nearly all dental practices, the dentist is the owner, manager and key employee without whom the business would not exist. Accordingly, the dentist must exhibit a wide range of business skills, typically handling most internal operations and all marketing activities.

Accounting and billing (including insurance claims processing) may be done internally or by outside firms, but the dentist must control them closely. Because of the high percentage of credit sales, dentists, like most smaller businesses, periodically face serious cash flow problems when insurance

companies are slow in paying for services. Financing tends to be a major issue since the costs of equipment and supplies (as described later in this profile) can be high. As a result, it is common for dentists to apply for loans under the Small Business Administration's loan guarantee program.

Because the dentist is the key person and the service is very labor intensive, the growth of the practice is somewhat limited to the capabilities of the entrepreneur. As with many types of smaller firms, customers patronize the business because of the owner's personal skills and personality.

With the number of dentists continuing to grow, competition is expected to be severe in the major metropolitan and suburban areas where concentrations are already high. Coupled with private and public efforts to control the rising costs of health care programs, competitive pressures will affect the industry's ability to generate acceptable profit margins.

HISTORICAL PERFORMANCE

Expenditures on dental services were \$15.4 billion in 1980 and \$24.6 billion in 1986. This increase represents a compounded annual rate of 12.4 percent.

Annual receipts of dentists went from \$12.6 billion in 1980 to \$21.4 billion in 1986, representing a compound annual rate of 9.2 percent. The number of dental establishments increased from 85,700 in 1980 to 98,400 in 1985. This increase represents a compound annual rate of 3.5 percent. Revenues for an average dental establishment, therefore, were just over \$210,000 in 1986.

The number of dental employees increased from 351,000 in 1980 to 445,000 in 1985. This increase represents a compound annual increase of 6.1 percent.

Recipients of Medicaid increased from 4.6 million people in 1980 to 5.1 million in 1986. Medicaid payments for dental services were \$526 million in 1986, up from \$462 million in 1980.

The number of dental students decreased to 19,600 in 1985, from 22,500 in 1980. If this trend continues, the number of students will be 17,100 in 1990 and 14,870 in 1995. Should this reduction continue, it might have some impact on the number of graduates in future years. As will be shown in Table 5, however, declines in the number of students from 1980 through 1985 did not diminish the number of students completing their dental programs. Accordingly, the effect of this trend on the industry is not expected to be significant, especially given the abundance of dentists in practice and the slow growth rate in the U.S. population.

Projections of the numbers of active dentists indicate a steady annual increase from 1977 through 1990, with the number of active dentists projected to increase to almost 171,000 by the end of 1990 an increase of about 36,000, or 31 percent above the number in 1977 (HEW, 1977).

Expenditures for dentists are expected to reach \$42 billion in 1990 and \$90 billion in the year 2000. These figures are up from \$30 billion in 1986. The average annual growth rate from 1986 to 2000, which is 8.2 percent, is considerably below the 12.1 annual rate for the 1970 to 1986 period. This is because the earlier period was one in which substantial growth in dental

insurance occurred, in which economy-wide inflation was higher and in which a rapid increase in the number of dentists per capita developed. In the projection period, private health insurance is expected to finance a relatively constant share of outlay, and the number of dentists per capita is expected to remain fairly constant (HHS, 1987).

TRENDS

The future trends of dental services are shown in Figures 1 and 2. Total real expenditures for dental services are expected almost to triple between 1978 and 1994, as shown in Figure 1. This same development is shown in Figure 2 as an increasing rate of consumption of dental services per person. The visit rate, however, will stay about the same. This difference may be because the composition of dental visits will become more service intensive over time. The number of services performed per visit is projected to rise at the same rate as it has in the past, and historical data show that the consumption of these services per visit has risen continuously over time.

Many dentists today believe that the trend is away from restoring teeth and toward maintaining teeth. This trend is due to fluoridation, increased patient education and improved dental hygiene. As a result of this trend, some specialties (such as endodontics, pedodontics and restorative dentistry) may decline among certain age groups. The approach of the future is expected to be toward medicine of the whole mouth instead of the past emphasis on the single tooth (Bank of America, 1985). As a result, professionals and consultants predict that there will be more oral surgeons, more orthodontists and more practitioners of diagnostic and preventive dentistry. Computers may be

used more to diagnose diseases and to analyze data in the selection of treatment. New equipment is likely to be designed and manufactured for new dental techniques and specialized procedures.

Another trend is that dentists will begin to give patients advice on nutrition and the care of the mouth. Individual counseling will be part of the increased personalization of service that the solo dentist may wish to provide patients in order to compete with other private practitioners and with the convenience, economy and speed of retail and store-front dentistry.

Cavity filling has always been the main business for most dentists. Tooth decay, however, has declined about 50 percent since the mid-1960s. According to the ADA, one out of three people of college age has never had a cavity (Greene, 1984). There are two reasons for this change. First, Americans eat better□

Source: Forecasts of Employment in the Dental Sector to 1995.

Source: Forecasts of Employment in the Dental Sector to 1995.

than before, which leads to improvements in their teeth. Second, fluoridation of drinking water, started in Grand Rapids, Michigan, in 1946, has helped to lessen tooth decay.

Dentistry is advancing fast. The future will see implants, bonding, sealing, temporomandibular joint (TMJ) treatment and rebuilding jaws. Implants are artificial teeth anchored in the gums or jawbone. With screw implants the dentist actually drives a screw, made of lightweight titanium, into the jawbone. After the bone has a chance to grow around the screw, the dentist attaches a gold and porcelain tooth to its head. Implants are done only when other procedures are not feasible, such as when a patient lacks strong teeth to support a bridge.

Bonding is simpler than crowning, and any dentist can do it. First, the dentist lightly etches the surface of a chipped, cracked or separated tooth with acid to make it rough. Then the dentist applies a liquid resin and finally shapes on, hardens and polishes a tooth-colored composite resin.

Sealants are used in children's teeth to fill natural microscopic pits and fissures on the chewing surfaces of back teeth. After etching, the dentist brushes on a clear or lightly shaded plastic. This sealant will need to be replaced approximately every five years, and it may need touching up more often.

TMJ disorder is a term for jaws that are out of alignment, which can result in symptoms including headaches, muscle spasms, ringing ears, popping jaws, dizziness and sinus pain. Treatments, which may be performed by dentists, neurologists or other doctors, include surgery, muscle relaxants, bite plates or splints, orthodontic appliances, selective tooth grinding and even biofeedback training to relax jaw muscles.

Rebuilding a shriveled jaw is done with bone putty. A jaw will deteriorate over time; now it can be restored by applying granules of a mineral much like natural bone to the deteriorated surface.

In the future, there will also be laser beams to replace sealants in smoothing down pits and fissures, improved plaque-dissolving toothpastes and mouth rinses, and drugs to prevent gum disease. Further in the future, there may even be an anticavity vaccine in pill form.

SMALL BUSINESS FACTORS

Owner Profile

The 1987 Survey of Dental Practice conducted by the ADA revealed the following general characteristics of dentists. Approximately 19 percent of all private dental practitioners are under the age of 35 and 52.1 percent are under the age of 45. About 60 percent of current practitioners

graduated from dental school since 1975, and 13.2 percent graduated since 1980.

The mean age of all private practitioners is 46.1 years. For dentists graduating since 1980, the mean age is 30.6 years. The solo practice is the most typical size of private practice,

comprising 70.5 percent of the dentist population. Most of the nation's private practitioners practice dentistry on a full-time basis. Over half, 56.1 percent, of nonowner dentists graduated from dental schools since 1980. Nearly three-quarters, 73.1 percent, graduated since 1975 and 27 percent graduated before 1975 (ADA, 1987).

Types of Practices

The types of dental practices are the solo practice, the associate practice, the group practice and the solo-group practice. In a solo practice, the dentist is responsible for every detail of planning and managing the office. The dentist must decide where to locate; whether to rent, buy or build; what equipment to purchase; how much to spend; how many employees to hire and how much to pay them; and how to finance start-up costs. The dentist in a solo practice must work hard to attract patients and to become known in the community. In addition, a dentist in this position has difficulty taking time off for vacations or meetings. Working alone, however, the dentist has the advantage of not being burdened with personality conflicts or smothered by partner supervision.

An associate dentist works under a more experienced dentist for a specified period. An associate earns a salary based on an agreed-upon formula, such as a percentage of the practice's gross earnings. This relationship could lead to a partnership in the practice. The drawbacks of an associate position are communication difficulties and personality conflicts, as well as difficulty complying with policies and procedures set by someone else. Associates also may not like having patients assigned to them by the senior dentist. The advantage of an associate position is that it gives the new dentist an immediate income and the opportunity

to learn from someone who is experienced.

A group practice is a formal association of two or more dentists. Dentists going into a group practice take advantage of a lower initial financial investment and reduced cost because the costs are shared. Also, dentists in a group practice can make better use of office space and auxiliary staff. Finally, absences can be covered much more easily, and responsibility is divided among the members in the practice. The major drawbacks of this type of practice are personality or philosophical conflicts, loss of individuality and the difficulty of withdrawing invested capital if one of the partners leaves the practice.

The solo-group practice combines the advantages of two types. Two or more dentists share specific costs but retain complete autonomy over their separate practices. The shared costs include rent and utilities, janitorial services, purchases or equipment and possible advertising expenses. In some cases, the dentists may also share employees. The dentists enjoy having their own patients while having other dentists close by for consultation, referrals and to cover emergencies when they are gone. Many dentists find this type of practice to be an effective means of handling increased expenses and growing competition in the dental profession.

Table 1 breaks out some of the ratios for dental practices by solvency, efficiency and profitability. The ratios shown in Table 1 are standard computations that are described in detail in most any basic finance or managerial accounting text. Because of length limitations, the descriptions in this profile are general. Solvency ratios include measures of

liquidity and leverage. Liquidity measures the ability of the firm to meet its short-term obligations (those due within one year) with its short-term assets (cash and other assets that are converted to cash within one year). These include the first two ratios under Solvency in Table 1.

If, for example, all short-term creditors were to demand payment, the issue would be how the entrepreneur would repay them. If sufficient cash were not available, the entrepreneur would have to sell receivables, inventory, etc., to meet those demands thereby hurting the firm's ability to continue operations. Firms that do not have sufficient liquidity are in danger of experiencing serious cash flow problems.

Leverage ratios examine a firm's ability to obtain financing and to use debt profitably. They are measured by the last four ratios under Solvency in Table 1. The central issues are the extent to which the firm can borrow additional funds, whether it would generate greater profits by doing so. The formulas for the ratios are as follows:

- Quick: $(\text{current assets} - \text{inventory}) / \text{current liabilities}$.
- Current: $\text{current assets} / \text{current liabilities}$.
- Current liabilities to net worth: $\text{current liabilities} / \text{net worth}$.
- Current liabilities to inventory: $\text{current liabilities} / \text{average inventory}$.
- Total liabilities to net worth: $\text{total liabilities} / \text{net worth}$.
- Fixed assets to net worth: $\text{fixed assets} / \text{net worth}$.

Generally, the quick ratio should be at least 1:1 and the current ratio 2:1 if the firm is to remain liquid. Having more assets especially other than inventory

than liabilities provides the entrepreneur with a buffer should creditors all require payment at once.

No general rules apply to leverage

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Table 1 -- Financial Ratios

| | 1983 |
|--------------------------------------|-------|
| | 1984 |
| | 1985 |
| | 1986 |
| | 1987 |
| Solvency | |
| Quick(times) | 1.1 |
| Current (times) | 1.4 |
| Current liabilities to net worth (%) | 36.5 |
| Current liabilities to inventory (%) | 606.5 |
| Total liabilities to net worth (%) | 87.2 |
| Fixed assets to net worth (%) | 78.2 |

1.6
2.3
33.2

301.9

54.7

53.6

2.5
3.0
16.4

315.7

44.5

66.2

1.7
2.1
30.0

152.3

67.9

69.5

1.8
2.5
31.4

287.1

53.9

51.7

Efficiency
 Collection
 periods (days)
 Sales to
 inventory
 (times)
 Assets to sells
 (%)
 Sales to net
 working capital
 (times)
 Accounts
 payable to sales
 (%)

60.2

42.4

42.6

7.7

1.8

68.2

67.1

33.1

7.1

1.9

124.4

85.9

62.1

4.5

2.5

62.4

45.9

39.8

6.6

2.7

66.1

92.4

34.7

8.5

2.0

Profitability
Return on sales
(%)
Return of
assets (%)
Return on net
worth (%)

9.8

14.6

29.2

6.0

8.5

17.7

13.8

16.9

35.5

8.2

8.9

20.3

4.5

7.4

14.5

Source: Dunn & Bradstreet.

ratios. Normally, however, as these four ratios increase (i.e., as the percentages get larger), the firm's ability to borrow on favorable terms diminishes. As shown in Table 1, solvency has improved for the average dental practice from 1983 through 1987. Liquidity has grown, and the leverage has been reduced providing practices with greater debt capacity.

Efficiency ratios examine the firm's ability to convert assets into sales and sales into cash. In the most basic sense, every firm converts its resources into sales and cash. The formulas for these five ratios are as follows:

□Collection period: $365 \frac{\text{days}}{(\text{net sales}/\text{average accounts$

receivables).

□Sales to inventory: $\frac{\text{net sales}}{\text{average inventory}}$.

□Assets to sales: $\frac{\text{total assets}}{\text{net sales}}$.

Sales to net working capital:
 net sales/(current assets
 minus current liabilities).
 Accounts payable to sales:
 average accounts
 payable/net sales.

The collection period is both a measure of the entrepreneur's ability to obtain payment from customers who purchase on credit and a measure of liquidity the longer it takes to obtain payment, the less cash the firm has to work with. For sales to inventory, sales to net working capital and accounts payable to sales ratios, the higher the number, the more efficient the firm is in the conversion process. The assets to sales ratio, on the other hand, should be low, meaning that fewer assets are needed to generate sales.

In the case of the dental industry, the collection period is somewhat long because many patients are covered by insurance programs that pay the dentist directly. It is quite common for these programs to pay very slowly. The sales to inventory and sales to net working capital ratios have improved from 1983 through 1987, showing that the average practice is operating on a relatively small asset base. This is further reflected by the fact that the assets to sales ratio has been declining. Accounts payable to sales is quite low, indicative of small businesses that must pay creditors relatively quickly for the inventory they purchase.

Profitability ratios measure the firm's ability to generate profits from the sale of assets. These are computed by the following formulas:

- Return on sales: net profits
 before taxes/net sales.
- Return on assets: net profits
 before taxes/total assets.
- Return on net worth: net

profit before taxes/net
worth.

Return on sales is a measure of the entrepreneur's ability to earn profits on sales. If this ratio is very low, the firm's costs are too high for the volume of revenue it generates. Accordingly, expenses need to be reduced or greater volumes of sales achieved.

Return on assets (ROA) and return on investment (ROI) are the most frequently used measures of profitability. They analyze the amount of profit the firm can generate from the assets it employs (ROA) and the owner's investment (ROI).

As shown in Table 1, dental practice profits have declined from 1983 through 1987 as measured by all three ratios. This decline is consistent with increasing competitive pressures and efforts by insurance companies to control health care costs.

Buying a Practice

As an alternative to setting up a new practice, dentists can buy an existing practice. This alternative is advantageous because the patient base of old practices helps new dentists start their own practices. Also, it allows dentists to avoid certain start-up expenses. Dentists look to state dental societies, professional journals, dental society chapters, management consultants and professional sales organizations to help them find an available practice. Dentists should consider the following factors before buying a practice.

1. Why is the practice for sale?
2. How many patients does the dentist have?
3. Is there a pattern of increase in gross income large enough

- to offset inflation?
4. Are new families becoming patients? Are they staying with the practice?
 5. How desirable is the location?
 6. Does the practice maintain a recall system?
 7. Does the office need remodeling?
 8. What is the condition of the fixtures and equipment?
 9. Is the fee schedule up to date? Will you have to increase fees (and risk losing over the practice?) when you take over the practice?
 10. Do most patients pay their bills? Is there an established pattern?
 11. Will the current owner and work in the practice to help ease the transition? If so, for how long? In what capacity?
 12. Are the dental records complete enough to be useful after the transition?
 13. Has the dentist had an associate in the past five years who is no longer there? If so, why did the associate leave?
 14. Can you purchase the outstanding accounts that are less than a year old at a discount to allow for uncollectible debts? Or does the dentist prefer you to collect the outstanding accounts and send them less a collection fee to him or her?
 15. What are the conditions and terms of the lease? Is it assumable and renewable, and at what rate?
 16. Will net profit from the

practice be adequate to
 repayments if the purchase is
 financed? (Bank of
 America, 1985).

The purchase price of a practice is usually based on the value of physical assets (the fair market value of the furniture, fixtures, inventory and equipment) plus an estimated amount for intangibles, such as goodwill and a covenant not to compete. A professional accountant usually looks at the practice's account records for the previous three years to measure profits and determine if the selling price is reasonable.

An attorney usually helps prepare the buy-sell agreement, because many considerations can go into creating a legally binding agreement. Fewer problems arise later if as many details as possible are committed to paper. Items in a buy-sell contract include a description of the items being sold, payment terms and the phase-out period. When the selling dentist is retiring, a definite retirement date is written into the contract.

Franchising Opportunities

Dental franchisers are starting to gain a larger market share. In May 1984, Modern Healthcare counted 140 franchised dental offices nationwide operated by seven franchisers. This figure was up from 101 in 1983 and more than triple the 1982 count of 37.

In general, dental franchisers take three forms. An example of the first form is the traditional franchiser Dental Health, which is operated by Health-Tech Management in Phoenix. DentaHealth sells franchise rights to dentists who open offices of their own.

An example of the second style of franchise is the three-office Dental Store, based in Elk Grove Village, Illinois. This franchise is located in malls or stores and uses limited (mostly print) advertisements.

The third and newest franchising system is called Smiles Inc., headquartered in Darien, Connecticut. Smiles Inc. is a brand name and an ad campaign for purchase by dentists who wish to continue practicing on their own. According to the ADA, 95 to 98 percent of dental work is still being performed by dentists in traditional settings, despite the increase in franchises.

THE BUSINESS PLAN

The business plan helps dentists to describe who they are, what their practice is about, what they want to do, how much money they need and why and how they will be able to repay the money lent to them (or invested in them). The business plan reveals the risks that a dentist faces, and it describes in realistic terms what the dentist intends to do to adjust to those risks.

A business plan is a long-range planning tool that benefits any dentist, regardless of any immediate financing need. A sample business plan outline follows (Bank of America, 1988).

1. Cover Sheet
 2. Statement of Purpose
 3. Table of Contents
 4. Executive Summary
-
- I. The Business
 - A. Business description
 - B. Business history
 - C. Marketing
 - D. Competition
 - E. Operating Procedures
 - F. Personnel

G. Business Insurance

H. Financial Data

II. Financial Data

A. Loan applications

B. Capital Equipment and Supply List

C. Balance Sheet

D. Breakeven Analysis

E. Pro-Forma Income Projections
(Profit & Loss Statements)

- Three year summary

- Detail by month first year

- Detail by quarters, second and third years

- Assumptions upon which projections were based

F. Pro-Forma Cash Flow

- Follow guidelines for letter E.

III. Supporting Documents

-Tax returns of principals for last three years

- Personal financial statement (all banks have these forms)

- Copy of proposed lease of purchase agreement for building space

- Copy of licenses and other legal documents

- Copy of Resumes of all Principals

- Copies of letter of intent from suppliers, etc.

Checklist for Setting Up a Practice

1. Choose the type of practice.

2. Decide on the legal form of the business.

3. Obtain dental license and return Certificate of Registration of

Dentist to the State Board of Dental Examiners.

4. Obtain necessary state and local licenses and permits.

5. Select the community and the office site.

6. Determine the extent of
 necessary leasehold
 improvements
 and whether the dentist
 or the landlord will pay for
 them.

7. Consult with a supply house
 and/or dental
 management firm
 regarding equipment and
 supplies.

8. If buying an established
 practice, evaluate its
 prospects for
 continued or improved
 success.

9. Consult with insurance
 carrier and buy necessary
 insurance coverage.

10. Determine how much
 capital is needed.

11. Prepare a loan package and
 seek financing.

12. Decide what staff will be
 needed and how to
 locate the applicants.

13. Work with specialists
 (banker, consultant,
 accountant, attorney,
 insurance agent) to set
 up financial records and
 office operations procedures,
 including billing and
 collections (Bank
 of America, 1985).

Licenses and Permits

Dentists are licensed by every state and
 the District of Columbia. Each state
 requires that every applicant for
 licensure pass both a written and a
 clinical examination. In all states except
 Alabama and Delaware, applicants for
 licensure may entirely or partially meet
 their state's written examination
 requirement by passing a written
 examination administered by the
 National Board of Dental Examiners of

the American Dental Association. The clinical examinations for dental licensure may be given by the boards of dentistry of the individual states or by the regional licensure testing boards. These regional boards administer clinical examinations simultaneously at locations in one or more states. The four regional testing boards are as follows:

1. Northeast Regional Board 14 states and the District of Columbia.
2. Central Regional Dental Testing Service 11 states.
3. Southern Regional Testing Agency 4 states.
4. Western Regional Examining Board 3 states.

Out-of-state licenses may be accepted as qualifications for licensure in a new or additional state. Licensure is through evaluation and acceptance of the credentials of the applicant. It may also be through interstate agreements to recognize licenses issued by certain states. Licensure by credential is granting a dental license to dentists currently licensed in another state, without examination, if their credentials meet the professional criteria established by the state board of dentistry to which they have applied for licensure.

Some states require specialists' licenses. In these states a general practitioner may perform any dental operation, but only dentists with the required specialty study may use the titles orthodontist, endodontist or other special titles. The state dental society has information on the requirements for specialists' licenses.

Dentists who plan to prescribe narcotics or use anesthesia or hypnotism must

obtain the appropriate licenses to do so. Usually licenses are required from both the federal government and the state's regulatory agencies. Dentists who prescribe narcotics must obtain a license from the Drug Enforcement Administration of the U.S. Department of Justice. The same agency licenses dentists to practice hypnotism.

State regulations vary with respect to controlled substances. However, most states control direct dispensing of, or writing prescriptions for, narcotics and other medications. Usually, the dentist must comply with special recordkeeping and reporting requirements. In addition, some states undertake audits to evaluate dentists' dispensing or prescription-writing practices. In California, for example, dentists are required to use prescription forms prepared by the Bureau of Narcotic Enforcement. Dentists who will be using general anesthesia must obtain a permit from the California State Board of Dental Examiners. The board requires evidence that the dentist has completed specific training in anesthesiology. California state law also requires any dentist who plans to operate x-ray equipment to pass a radiation safety examination. Furthermore, the x-ray machines and other radiation equipment must be registered with the State Department of Health Services.

Some cities and counties also require that dentists obtain a professional or occupational license before they begin practice. In addition, some cities may require a zoning permit if dentists plan to establish their practices in residential areas. City hall or the county clerk's office has details on the specific local requirements.

Examples of the forms that dentists must fill out to obtain various licenses and permits are available from

individual states. Key information that must be provided to regulatory agencies in most states concerns the applicant's qualifications (e.g., graduation from dental school), specialty, location of practice, etc.

FINANCING

To start a new practice, most dentists need to borrow at least part of the initial investment cost as well as a little extra to help them through the first six to nine months. Before dentists go to a financial institution, they need to determine their total loan needs. This is done by calculating how much money they will need to set up practice and to cover operating and living expenses.

A dentist's initial investment requirement includes things such as deposits, licenses, professional fees, leasehold improvements, fixtures and equipment. In addition to these start-up costs, dentists will have to cover their operating expenses until they break even. They should develop a cash flow projection to determine cash needs, and they should do this every month for the first year. This projection needs to be as accurate as possible, without overestimating income or underestimating expenses. In fact, dentists should assume a minimum income for the first six months to be on the safe side.

Table 2 shows a sample of operating ratios for a dental practice. The samples show the average percentage of revenues consumed by various expense categories.

After dentists estimate their financial needs, they plan and organize a loan request. A professional accountant or a reputable loan brokerage firm should help in preparing the financial

information that is required along with the loan application.

Lenders look at the dentist's capital, credit worthiness, character and capabilities, and they attempt to determine the practice's chance of success in the proposed market and location. Most lenders require the following documents as a means to evaluate the dentist's ability to repay the loan:

1. A resum, of the dentist's education, professional licenses, work experiences and references.
2. A personal financial statement showing the dentist's net worth, plus federal income tax statements for the previous

- three years.
3. An equipment list and start-up costs, including leasehold improvements and detailed descriptions and prices of equipment and furnishings.
 4. A projected monthly income statement, a cash flow projection and a projected balance sheet for the first year of business, plus an explanation of how loan proceeds will be used.
 5. Credit references.
 6. A copy of any lease agreement.

If the dentist is buying an existing practice, the lender will also want a copy of the purchase agreement and complete financial records of the practice, including tax returns and financial statements for the previous three years, a current balance sheet and income statement, and a breakdown of the sale price.

Every financial institution has its own requirements. Some lenders require the borrower to support a loan with personal guarantees or pledge stocks and bonds, real estate, equipment or accounts receivable as collateral. Other lenders require that the borrower purchase a life insurance policy assigned to the bank for the amount and term of the loan.

Dentists who are establishing a practice usually shop around before choosing a lender. Financing is available through commercial banks and other lending institutions. Also, many banks make Small Business Administration (SBA)-guaranteed loans. When choosing a bank or lending institution, dentists also look at the range of services and the convenience of the

location. Dentists need to find loan officers who are willing to discuss their financial needs and who will make the appropriate arrangements.

FINANCIAL CONTROL AND PLANNING

Recordkeeping systems in dental practices range from simple and inexpensive manual procedures to more costly computer systems.

A one-write, or pegboard, system is often used by solo practitioners who are starting a new practice. This system allows a dentist to enter a business transaction onto several forms at the same time by using carbon or NCR paper. The forms are aligned on a board and held in place with pegs. This system minimizes the number of steps required for each transaction, reduces errors and saves time.

A computerized system provides almost the same information as the manual recordkeeping system does. Some of the computerized services available include accounts receivable management, recall notices, payroll management services, general ledger services and customized management information reports.

The most common use of computer systems in dental practices is to process accounts receivable billing. The system prints and sends out itemized bills computed from data that the dentists supply on treatments, fees and payments. Some systems also compute a weekly total of charges and payments and monthly total of patients seen, provide an analysis of delinquent accounts and handle insurance claims.

MARKETING

Customer Characteristics

In 1980, 158 million males and 297 million females visited a dentist. In 1983, these figures were 183 million males and 239 million females. In 1980, 333 million dental patients were white and 26 million patients were black. In 1983 these figures rose to 382 million whites and 31 million blacks.

Table 3 shows the number of dental visits per person in 1980 and 1983; Table 4 shows dental visits by age.

Competition

Dental service markets are expected to remain competitive in the future as a result of several factors. Technological innovations give a competitive edge to dentists who are trying to improve the efficiency of their practices. The Health Resources Administration has forecast a continuation of the technological advance that has characterized dentistry in the past.

Also, marketing techniques such as advertising will most likely intensify competition in the industry. Advertising, which was not historically used by the dental profession, was approved by the Federal Trade Commission in 1976. Competition will increase as the health manpower legislation of the 1960s and 1970s stimulates a steadily increasing dentist-to-population ratio. The effect of this legislation on the number of dentists and the dentist-to-population ratio is shown in Table 5. The model forecasts that the rate of return to dental education will remain high enough over the period to produce a persistent excess of applicants for dental school; therefore, the output of dentists will be governed by aggregate dental school

capacity.

Site Analysis and Selection

Many dentists find that economic, professional and personal factors determine where they will locate their practices. Increased competition in certain areas causes dentists to move to locations where there is more demand for their services. In considering economic factors, dentists evaluate a community's current population, its growth potential and its level and sources of income.

The professional factors that dentists look at when deciding on a location have to do with the number of dentists and dental personnel in the community. Dentists analyze the dentist-to-resident ratio, the supply of trained or trainable auxiliary personnel, the availability of quality dental labs and the proximity to educational facilities for postgraduate work. After narrowing their choices, dentists analyze the communities in terms of their personal preferences. They consider aspects such as housing, educational facilities and recreational and cultural activities.

□ TABLE 3 - Dental Visits per Person

| | Year |
|------|--------|
| | Male |
| | Female |
| | White |
| | Black |
| 1980 | 1.5 |
| | 1.8 |
| | 1.8 |
| | 1.0 |
| 1983 | |

1.6
2.0
1.0
1.1

TABLE 4 - Dental Visits by Age

| Year | Under 6 |
|------|---------|
| | 6-16 |
| | 17-24 |
| | 25-44 |
| | 45-64 |
| over | 65 and |
| 1980 | .5 |
| | 2.3 |
| | 1.6 |
| | 1.7 |
| | 1.8 |
| | 1.4 |
| 1983 | .5 |
| | 2.6 |
| | 1.6 |
| | 1.9 |
| | 2.0 |
| | 1.5 |

□

Most consultants and professionals maintain that the right site is more important than either expensive equipment or luxurious decor. Site

selection is largely determined by what is available, what is economically feasible and what kind of patient will be treated (Bank of America, 1985). A good location is easily accessible to the patients, such as on a well-traveled street, with parking space available in or near the building.

The trend today is for dentists to set up practices in downtown or suburban dental/medical buildings. Some dentists, however, establish practices inside department stores or as freestanding dental centers in shopping malls. According to the ADA, approximately 60 percent of all dentists locate in professional buildings, 25 percent in commercial buildings and the remaining 15 percent either at home or in shopping centers (ADA, 1987).

Dental Rates

Fee schedules for dental services are determined mostly by the going market price and the location of the practice. Another factor that affects dental fees is fluctuations in the cost of providing services. Most dentists keep their fees within the range of other dentists in the immediate areas.

A key consideration in fees received is the percentage of business coming from federal or state reimbursement programs. Rates set by government agencies tend to be below usual or customary charges to private-pay patients. In addition, many insurance programs peg their reimbursement schedules to the rates paid by government agencies.

Promoting the Practice

The Bureau of Advertising, New York, reports that medical and dental services spending for advertising rose to an all-time high of more than \$62 million in

1984. Kleisley-Cole, the Phoenix-based publisher of Advertising Physician and Advertising Dentist, estimates that between 25,000 and 35,000 dentists use advertising defined as the use of expanded Yellow Page listings in combination with at least one other vehicle. A 1983 study by Kleisley-Cole found that the dentist who advertises is usually a general dentist in solo or group practice, between the ages of 25 and 45, who wants new patients and who worries about losing current patients to new competition (Bank of America, 1985).

Effective communications skills and public relations are essential in promoting a dental practice. Dentists need to make their office routines convenient for their patients for example, by accommodating patients who need to come in before or after work or on weekends.

□□ TABLE 5 - Projected Number of Dental Graduates,
Total Stock of Dentist and Dentist - Population Ratio, 1980--1995

| | Year |
|------|----------------------------------|
| | Number of New Graduates |
| | Total Stock of Dentist |
| | Dentists per 1,000 Population |
| 1980 | |
| 1981 | |
| 1982 | |
| 1983 | |
| 1984 | |
| 1985 | |
| 1986 | |
| 1987 | |
| 1988 | |
| 1989 | |
| 1990 | |

1991
1992
1993
1994
1995

5150
5320
5400
5400
5400
5400
5400
5400
5400
5400
5400
5400
5400
5400
5400
5400
5400
141,272
144,258
147,313
150,353
153,340
156,336
159,306
162,259
165,200
168,110
170,978
173,835
176,660
179,488
182198
184,901
63.6
64.6
65.1
65.8
66.5
67.1
67.8
68.4
69.0
69.6
70.2
70.8
71.4

72.0

72.6

73.2

Source: U.S. Department of Health, Education, and Welfare: Forecasts of Employment in the Dental Sector to 1995.

□

Referrals and community involvement are ways that dentists build up their patient base. Satisfied patients send new patients to the practice. Community involvement, such as newspaper articles to educate the public about dental health or visits to daycare centers, can bring in new patients.

Most states permit dentists to advertise, but it is a relatively new phenomenon. In California, for example, advertising was first allowed in 1976. Professional and ethical considerations tend to determine the kind of advertising that is acceptable. The Yellow Pages and local newspapers, as well as television guides and shopping center papers, are effective places to buy advertising space.

Most states have established some guidelines for dental practice advertising. Generally, they are similar to traditional statutes affecting truth in advertising. The California State Board of Dental Examiners, for example, uses the following set of guidelines:

1. Dentists may not advertise free dental services because the word tends to be misleading.
2. Dentists must substantiate any statement about low fees.
3. Dentists may advertise a discount as long as they list the regular fee and either the dollar amount or the percentage of the discount. They must also state who qualifies for the

discount and how long it
will be honored.

4. Dentists may use a picture
of themselves or
another dentist in an
advertisement, but not as
a testimonial or to illustrate dental
treatment (ADA, 1987).

Franchisers have affected the market
for health care advertising. Exposure to
the franchisers' slick, emotional or
humorous spots tends to break down
consumer resistance to health care ads.
Also, the competition feels compelled to
respond to the advertisements. Finally,
chain advertising motivates people to go
visit a dentist, but not necessarily the
office that was advertised. In this sense,
marketing does a service to the public.

MANAGEMENT

Employment of Dental Practice Personnel

The 1987 Survey of Dental Practice
revealed the following statistics about
the employment of dental practice
personnel.

Most independent dentists (96 percent)
employed at least some dental practice
personnel on a full- or part-time basis in
1987. Furthermore, 53.7 percent
employed at least one dental hygienist,
86.1 percent employed at least one
chair side assistant and 9.1 percent
employed at least one dental laboratory
technician.

Among independent dentists who
employed dental practice personnel, the
average number of full- or part-time
dental hygienists per dentist ranged
from 1.00 for independent solo dentists
graduating since 1980 to 1.76 for solo
specialists. The average number of full-
or part-time chair side assistants per

dentist ranged from 1.4 for independent dentists graduating since 1980 to 2.12 for independent solo specialists.

Among independent dentists, 28.5 percent employed full-time dental hygienists and 34.3 employed at least one hygienist on a part-time basis. Over three-fourths of independent dentists (77.4 percent) employed at least one full-time chair side assistant, and 25.9 percent employed at least one on a part-time basis. Only 6.0 percent employed at least one full-time dental laboratory technician, and 3.4 percent employed at least one on a part-time basis.

Some apparent differences exist in the employment of dental practice personnel between independent general practitioners and independent specialists. Among the general practitioners, 30.8 percent employed at least one full-time hygienist, while 15.4 percent of specialists did. Over three-fourths (76.3 percent) of the general practitioners employed at least one full-time chair side assistant, while 83.3 percent of the specialists did. Finally, 5.0 percent of the general practitioners employed at least one full-time dental laboratory technician, while 11.5 percent of specialists did (Bank of America).

Types of Personnel Needed

Many dentists start their practice with no staff at all or with only a part-time person. As their practice grows, however, additional staff is needed. A basic staff includes a dental assistant/receptionist, a dental assistant, a hygienist, and a lab technician.

Dental assistants/receptionists handle all appointments and billing procedures. In addition, they manage insurance

claims, accounts receivable, accounts payable and supply ordering.

A dental assistant is required to handle a heavier patient load. Using an assistant allows the dentist to raise productivity enough to more than cover the additional personnel expenses.

A hygienist is a highly trained, state-licensed professional with two to four years of college training. Most hygienists work for several dentists, and they work on a commission basis. A number of dentists have started to employ hygienists for a set number of hours each day.

Most dentists have their lab work done outside the office. If the workload is heavy, however, dentists may hire an in-office laboratory technician. These people usually work on a salary-plus-commission basis or on a percentage basis.

Insurance

Dentists' insurance coverage often depends on more than one carrier. Using one broker, rather than several companies' representatives, prevents duplication or gaps in total coverage. Many group plans are available through the ADA and some state dental associations. Coverage should be reviewed periodically.

Professional liability or malpractice insurance protects a dentist against financial loss from claims for alleged damages when rendering, or failing to render, professional services to a patient.

Owners, landlords, and tenants liability insurance protects dentists against financial loss from any property damage or personal injury that occurs on the premises.

Fire, theft and burglary insurance

protects against the loss of personal property, professional equipment and important records such as accounts receivable.

Business interruption insurance guarantees that dentists will receive an income in case of damage to or destruction of their building or professional equipment.

Overhead insurance provides dentists with income to help cover fixed expenses if they are incapacitated for a long time.

Worker's compensation insurance, which is required in some states, reimburses employees who are injured on the job for medical expenses and wages lost.

Specific provisions can be determined by contacting the state's employment development department, tax board or attorney general.

Personal disability insurance provides dentists with an income if they are disabled from an accident or illness.

Major medical, surgical and hospital insurance helps dentists meet the costs of routine and major medical expenses.

Life insurance protects dentists' families against financial loss if the dentists die. This type of insurance is required by most lending institutions to protect their investment.

Employee health and life insurance gives workers and their dependents financial benefits in case of illness or death. Individual policies can be taken out for each employee if a staff is too small to qualify for group benefit policies.

Fidelity bonds are placed on employees

with access to cash receipts or other company funds, protecting dentists against financial loss from embezzlement.

Equipment and Supplies

The basic equipment needed to open a dental office is a fully equipped treatment room, an air compressor, a vacuum system and an x-ray machine. Table 6 shows approximate average price ranges for new equipment, furnishings and supplies for a solo practice.

Dental supply houses offer a single source for all equipment. Major supply houses, called full-service supply houses, offer a variety of services: scouting locations, planning office layout, supervising office renovation and installation of equipment, financing, repairing equipment and taking inventory of supplies. Some

□

dentists, however, combine the services of a supply house with the expertise of an independent consultant.

Developments in technology have made it vital for dentists to acquire late-model equipment; therefore, dentists must trade in old equipment when a new piece will do the job more efficiently. Many companies offer leasing plans, and some financial institutions offer leasing packages. Leasing can help

dentists' cash flow, and it provides some tax benefits. Furthermore, leasing allows dentists to retain flexibility to update leased equipment by trading it in.

□□

TABLE 6 - Equipment, Furniture and Supply Costs

| Item | Price Range |
|---|---------------|
| Item | Price Range |
| Basic Operating Equipment | |
| X-ray | \$3000 - 5500 |
| Autoclave (sterilizer) | 800 - 1700 |
| Air Compressor | 1200 - 2200 |
| Air dryer | 400 - 900 |
| Vacuum system | 1200 - 3000 |
| Ultrasonic prophylaxis unit | 1000 - 1500 |
| X-ray illuminator | 50 - 125 |
| Emergency oxygen unit | 100 - 300 |
| Pulp tester | 100 - 300 |
| Laboratory equipment | 500 - 2500 |
| Darkroom equipment and x-ray supplies | 200 - 1000 |
| Auto processor | 1000 - 3500 |
| Surgical instruments | 750 - 1500 |
| Nitrous oxide equipment | 1300 - 3000 |
| Operatory and Lab supplies | 3000 - 6500 |
| Subtotal | 14600 - 33525 |
| Equipment need for each treatment room | |
| Contour chair | 2700 - 5500 |
| Dental Unit | 1700 - 6000 |
| Modular cabinetry | 800 - 1450 |
| Operating stool (dentist's) | 200 - 500 |
| Operating stool assistant's | 200 - 600 |
| Operating light | 800 - 1500 |
| Amalgamator | 200 - 600 |
| Subtotal | 6600 - 16150 |
| Furnishings | |
| Dentist's desk and chair | |

| | |
|--|---------------|
| for private office | 500 - 1000 |
| Two side chairs for private office | 200 - 500 |
| Business office furnishings | 200 - 800 |
| Seating, end tables and lamp(s) for reception area | 500 - 2500 |
| Miscellaneous | |
| Carpeting/drapes (optional) | 1000 - 2500 |
| Subtotal (includes options) | 2650 - 7300 |
| Office equipment and supplies | |
| Electric typewriter | 1000 - 2000 |
| Adding machine/calculator | 100 - 150 |
| Bookkeeping forms & stationery | 200 - 500 |
| Copy machine (optional) | 1000 - 2000 |
| Other | 100 - 200 |
| Subtotal(includes options) | \$2400 - 4850 |

Source: Bank of America, Establishing a Dental Practice

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