

## Factors Affecting the Child Patient Population at the University of the Pacific

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### Abstract

*The factors affecting the child patient volume and dental needs at the University of the Pacific were reviewed. Student, curricular and school financial demands were evaluated concurrently with patient sources and dental disease. For comparison, local pedodontists were surveyed as to patient volume and dental needs in private practice and parents of clinic patients received a questionnaire to identify reasons for preferring a dental school clinic. Subsequently, strategies were presented that had been employed to counter the school's diminishing child patient population and recommendations were made for other schools to consider.*

### Introduction

Over the past 10 years, providing students with adequate clinical experience in Pediatric Dentistry has been a challenge. Various factors have induced change in the volume and dental health needs of the child patient population. Some of the elements have originated within dental education and research while other less controllable factors have evolved within society. One of these certainly is the creation of third party payment systems.

This discussion, however, will not be limited to these payment programs but will attempt to place the subject in perspective with the factors influencing the child patient population. With each development there has been a need to adapt or initiate new strategies. Perhaps an examination of the experience at the University of the Pacific will provide some insight for other schools with, or anticipating, similar dilemmas.

### Factors Affecting Patient Volume and Dental Care Needs

*Class size.* Class size more than doubled from 65 in 1969 to 135 in 1974. This single change required a com-

mensurate increase in the number of patients. At the same time it became an administrative policy that students should not be burdened with securing patients — rather, it was the school's responsibility for assuring the students' clinical experience.

*Time constraint.* Five years ago a three year curriculum and several satellite clinics were initiated simultaneously. The Pediatric Dentistry Department was asked to provide as much clinical training as possible in the second year, so that the students would be prepared for the community experience at the beginning of the third year. This objective required an optimal number of children available within a one year time frame. Although only one class at a time rotated through the children's clinic, patient volume and scheduling became crucial without the latitude of training over a two year period.

*Pedo/DAU Program.* In 1975 the Pediatric Dentistry and Dental Auxiliary Utilization programs were combined. The mutual benefits of the conjoint clinical experience are apparent, but, subtly, an additional demand was imposed on the patient volume. In training students for speed and efficiency with experienced chairside assistants, it became apparent that patient care was being completed more quickly, especially toward the end of the training period. In meeting our educational goals, we were rapidly diminishing the patient supply.

*Fee Increases.* Fees necessarily have increased gradually but steadily from 1969-1979. Dental clinic fees today are comparable to those in private practice in 1969. This development has not affected patient quantity judged by the relatively few complaints and lack of rejection of treatment plan estimates. Evidently dental schools by comparison are still financially attractive. This was confirmed in a survey where 67 of 81 parents indicated that the low cost of treatment

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was one of the reasons they selected the University of the Pacific Children's Clinic (Appendix A).

The University of the Pacific has one fee schedule for all patients. These fees are less than the average schedule of benefits for Denti-Cal (the California dental version of Medicaid) and, consequently, less than most private insurance programs.

Example: Permanent tooth, one surface amalgam

U of P — \$11.00

Denti-Cal — \$12.00

Private Insurance — \$13.00

The fees for children's procedures at the University of the Pacific have purposely been raised at a slower rate than those for adults. In addition, fees for procedures on primary teeth have been kept lower than those for comparable ones on permanent teeth. It was always the department's belief that the competition in the city for child patients was greater than that for adults due to factors that will be discussed subsequently.

Further insight was gained from the University of the Pacific's Children's Clinic survey concerning parent motivation for selecting the dental school. Parents were asked to complete a questionnaire, which was a modification of one used with adult patients at the University of California in San Francisco<sup>5</sup>. 87 parents representing 157 children treated at University of the Pacific completed the form. Aside from the previously mentioned economic advantage, they selected the clinic because treatment is closely supervised, the latest techniques are used, or it was recommended by a friend. As further evidence that financial incentive is not the sole motivating factor, 63 indicated that they would still prefer the dental school even if the fees were the same as those in private practice!

These findings are contrary to those of the U.C.S.F. study which revealed that 60% of the younger patients (16-40 years) would select a private practitioner if the fees were equivalent. It could be our fears that patients would not accept fees comparable to private care are unfounded. For years we at the University of the Pacific have kept the fees for children low, purportedly to stay competitive, but this survey demonstrates an incomplete understanding of patient and parent motivation.

*Third Party Payment Programs.* Approximately 25% of the adult and child patients of the University of the Pacific are covered by third party payment programs. The majority (20%) are Denti-Cal and about 5% represent private programs. The number of patients covered by these programs has been rising at 1% per year. It has been our experience that many private practitioners in the city are not treating Denti-Cal patients for a number of predictable reasons.

A lack of understanding of the program and payments often exists among Denti-Cal participants (i.e.,

patients are not educated as to the scope and limitations of "dental coverage"). Fees are lower with Denti-Cal and do not cover all procedures. Many seek care with the misconception that they are eligible for all types of treatment. Private practitioners often complain that Denti-Cal patients break appointments more frequently than other patients and seem to lack an appreciation of the dental care provided. The Denti-Cal patients, consequently, are necessarily turning to public and private clinics for care.

It is curious why patients with private insurance programs continue to seek treatment at a dental school when they could be accepted in a private practice. When asked about this at the University of the Pacific many adult patients with insurance responded that they had more confidence in the treatment received when each step was supervised. They felt better at the dental school even though it was time consuming.

Despite the high rating dentists received in a recent study concerning public attitudes of various professions<sup>2</sup>, it is our opinion that a selected percentage of the public will always have more trust in the closely monitored, quality-care system at school clinics. This view is also expressed by McLeran et. al.<sup>1</sup> and confirmed in the University of the Pacific Children's Clinic Survey (Appendix A).

The Head Start program in San Francisco over the years has at best been unreliable as a source of patients. Constant administrative changes, bureaucratic problems, and actual discontinuance of the program one year have decreased our confidence in this potentially excellent source of child patients. Many are immigrant children from culturally homogeneous neighborhoods, requiring special considerations. The University of the Pacific even offers its bus for transportation, but to date there has been disappointingly little response. The Head Start program was most successful those years when a strong, assertive member of the community acted as the liaison with the dental school.

*Demography.* The University of the Pacific is located in San Francisco, a city of 700,000. Although there is an additional drawing area of two million people, San Francisco itself is a non-growing, heterogeneous peninsula city with a large number of unmarried and elderly persons. This is an important fact since 70% of the child patients at the University of the Pacific live in the central city. According to the 1970 United States census<sup>3</sup>, only 16% of San Francisco's population is five-17 years of age and 6% is less than five years of age. This compares with the overall national statistics of 25.8% in the five-17 age group and 8.4% less than five years old. Therefore, this city has a comparatively smaller child patient pool available for treatment at the dental school or elsewhere.

Also critical to the child population is the effect of the change in the national birth rate. The U.S. population under five years old has been declining since 1960. For the nation as a whole it has decreased by almost two million or 11.2% since 1970 while the total population grew by 6.4%. According to national 1977 estimates<sup>4</sup>, children under five years will decline to 7.0% (1.5% decrease) of the total population and those five-17 years will decline to 22.7% (1.0% decrease). The national trend has most clearly been reflected in the declining school enrollments and similarly in the child patient populations in some dental schools.

In San Francisco the decrease in the absolute numbers of children is partially relieved by the influx of migrants, both national and foreign. Fortunately, some of these new residents find their way to the dental school. The ethnicity of the city is varied and provides an excellent diversity of experiences for the students: White - 57%, Latin - 14%, Black - 13%, Eastern - 10%, Other - 8%. These same cultural differences have also prevented certain groups from seeking care at the dental school where they may not feel comfortable due to language barriers or lack of people with similar cultural backgrounds. This problem is particularly prevalent among the San Francisco Chinese, who are reluctant to leave their relatively pure ethnic neighborhood.

*Prevention.* Northern California, Washington and Oregon have been collectively referred to as "Ectopia". This region, and especially around San Francisco, has the reputation for being concerned about environmental and personal health. Dental practitioners here, like those in the other parts of the country, have been swept along by the surge of preventive care over the past five to seven years.

Although there are no hard statistics concerning prevention's effect on dental practice, there remains a general impression that prevention ultimately diminish(es) the number of restorative procedures needed. In an information survey, eight San Francisco pedodontists, who have practiced in the city 11-46 years, identified prevention as the most significant factor in reducing the volume of operative or surgical procedures (Appendix B). They indicated that they see fewer younger children with caries.

The water supply of San Francisco has been fluoridated for 24 years, resulting in the expected benefits. Having examined hundreds of three to six year olds in the city over the years, it is heartening to see the positive effects of this preventive measure. Fluoridation has remarkably reduced caries in the primary dentition of the "home grown" children when compared to some of the migrant Chinese, Samoan, Filipino or other children new to the city. Fluoridation has also resulted in a real decrease in the number of procedures completed in the primary dentition at the University of the Pacific (Appendix C).

*Other City Dental Services.* The University of the Pacific is one of two dental schools in San Francisco competing for the same potential dental population. The other school has recently opened two more community clinics in San Francisco, one in close proximity to University of the Pacific. Aside from the two dental schools, there are eight federally and state subsidized dental clinics and a dentist-patient ratio of 1:800. Also in the past five years the number of private pedodontists has increased from eight to 14.

It is evident from these facts that the dental providers in this non-growing city are experiencing increasing competition for the existing child population. The diminished need for dental restorative care with the concomitant increase in professional availability, has forced re-evaluation and adoption of new strategies at the dental school.

### Strategies

At the University of the Pacific we have examined our patient population and modified patient selection and retention guidelines. Rarely is a patient refused treatment unless there is an extreme management case or difficult handicapping condition. Patients are maintained and followed even though they may initially present with no oral pathosis. The upper dental age limit has been extended to two years after the loss of all the primary teeth, providing care for the young adolescent. A strong recall system has been implemented to assure good follow-up care and treatment.

The current clinic population is composed primarily of well children and only a small number of children with handicapping conditions are receiving routine care. Providing services for more of these children within the existing system is feasible, as well as desirable, and is planned for the near future.

Every effort is made to assure quality care. This is certainly a curious statement, for is it not one of our educational and professional goals? Of course, but for pragmatic reasons we have extended our efforts to attract and retain patients to assure adequate numbers for student's clinical experience. We try to provide the best dental care possible and help the parents appreciate this. We accommodate patients, make appointments at referral clinics, provide a pleasant environment in the waiting area, explain and inform thoroughly, especially concerning diagnosis, treatment and payments, and provide selected services and procedures (i.e., prevention) even if not a "scheduled benefit". In short, we attempt to do all those things we should be doing to make patients and parents feel more comfortable and less harassed, and hopefully, counteract the dehumanizing effect of clinics.

To provide clinical experience in basic pediatric dentistry, various outreach programs have been initi-

ated with varying degrees of success. University of the Pacific has collaborated with federal, state and city agencies (Head Start, Hunters Point-Bay View Health Center) and screened children in local schools. Though controversial, the dental school could advertise in the local media as suggested by some in the AADS survey on clinic patient population. Total reliance on the dental school clinic for primary student training in Pediatric Dentistry is unrealistic, and students will increasingly be sent to satellite clinics and hospitals for basic clinical experience.

If certain procedures are requisite to predoctoral pedodontic training (e.g., pulpotomy, SS. Crown) and there are inadequate patients at the dental school, then there are no other options than to rotate students through extramural clinics. This has been accomplished at the University of the Pacific as well as many other schools. However, the reality is that unless one provides a first rate environment, reasonable equipment and pedodontic instructors, or at least, calibrated teachers, one cannot assure that the students can diagnose and perform at minimal acceptable levels or better. This is the crucial matter to which the University of the Pacific Pediatric Dentistry Department has been attending the past five years.

Heretofore the inadequate child population necessitated a block system at the dental school, but the increased patient availability at the community clinics now offers the potential for additional experience with comprehensive care. The length of time and frequency of student rotations should permit this approach and could be easily attained with some minor front desk scheduling modifications. The students at the University of the Pacific could benefit from a dual system — an initial, closely supervised block assignment at the university, and a subsequent comprehensive care experience at the satellite clinics. In the author's view, this approach would combine the advantages of both systems, and greatly enhance student clinical experience.

The success of this concept, however, is critically dependent upon the quality of instruction at the community clinics. This is the very problem that exists at most dental schools. During the planning stage of the satellite clinics at the University of the Pacific, this dilemma was confronted. It was decided to identify a pedodontic instructor from the department to teach at each of the three major clinics. Furthermore, the instructors from the other smaller clinics would be given in-service training at the university to assure more consistent instruction.

As a result of these tactics, and continued communication with the Pediatric Dentistry Department, the pedodontic experience at the satellite clinics for the first two years proved to be quite satisfactory.

Predictable problems arose, however, with the inevitable turnover of regular pedodontic and generalist instructors. Despite the necessity for constant monitoring and retraining of new instructors, extramural clinics can be a valuable extension of basic clinical education in those schools deficient in child patients. But to succeed, Pediatric Dentistry Departments must have direct input and share the responsibility for the instruction.

## Conclusion and Recommendations

In summary, diverse factors have influenced the child patient population at the University of the Pacific over the past 10 years. We have reacted with some effective strategies and others not entirely successful or timely. Until the day when dental and oral disease is eliminated, the dental school will continue to adapt to the changes in our profession and society. Clearly, this has been true in providing a comprehensive clinical experience in pediatric dentistry. With further diminution of dental disease, we foresee the impossibility of assuring all students every type of restorative or pulpal procedure. At that point more critical decisions will have to be made about the nature of dental education.

Obviously each school has its own unique features and dilemmas. To resolve child patient load deficiencies, real or anticipated, it may be helpful for each school to analyze the previously discussed factors that influence the fulfillment of clinic objectives in Pediatric Dentistry. To this end, the following recommendations are offered:

1. Anticipate the advances and trends in dental education, research, and practice, and make appropriate curriculum and clinical training changes.
2. Be sensitive to the individual human needs of patients and parents. Humanize clinic environment, inform thoroughly and understandably and respond to concerns.
3. Respond to the needs of special groups. There may be a need for public relations personnel to monitor this aspect of care.
4. Make patients aware of the advantage of dental school clinic care.
5. Evaluate the demographic data base and characteristics of the population served.
6. Investigate underserved areas and establish first rate community clinics with legitimate instructors. The Department of Health, Education and Welfare has identified 589 sites with dentist shortages, some located near dental schools.<sup>6</sup>
7. Establish competitive fees and facilitate procedures for payment. Encourage third party agencies to improve communications with participants about program benefits.

**References**

1. McLeran, James H., T. V. Gardner and J. C. Montgomery: "How Will Dental Education Adapt to the Third-Party Payment System?", *J Dent Ed*, 42:11, November 1978.
2. Harris Poll, Cited in *American Dental Association News*, October 16, 1978.
3. U. S. Department of Commerce: 1970 Census of Population, Vol. 1, *Characteristics of Population, Part 1*, U.S. Survey.
4. U.S. Department of Commerce: *Population Estimates and Projections, 1971-1977, Estimates of States, Counties and Metropolitan Areas by Age*.
5. Doxsee, Fred R. and S. F. Lorencki: "Attracting and Retaining Dental School Clinic Patients", *J Dent Ed*, 42:5, May 1978.
6. A.A.D.S. Section on Clinic Administration Survey on Patient Populations, *Bul Dent Ed*, 12:3, March 1979.

**Appendix A**

**University of the Pacific Children's Clinic Survey Results**

Number of respondents (parents - 87), Total number of children - 157

**Length of Time Have Been Bringing Children to Clinic**

Less than 1 year	1 year	2-4 years	5-8 years	9 or more
36	13	23	12	1

**Ages of Children —**

3-5 years	6-8 years	9-11 years	12 and older
N=30	N=47	N=47	N=33

**Reasons for Selecting University of the Pacific Children's Clinic**

	Contributory Reason	Most Important Reason
1. Cost of treatment	61	17
2. Recommended by a friend	44	7
3. Treatment is closely supervised	48	9
4. Convenient to where I live	19	0
5. Latest techniques are used at the dental school	48	5

**Treatment Preference if Fees Were Equivalent**

Dental School Children's Clinic	68
Private dentist	14

**Previous Dental Treatment**

Private dentist	40
Clinic	18
No treatment prior	25

**Treatment Alternative to Dental School Children's Clinic**

Private dentist	46
Another clinic	15
Undecided	16

**Satisfied With Present Treatment?**

Yes	77
No	1

**Appendix B**

**San Francisco Pedodontist Survey**

Question:	How has Prevention effected your practice? Any other factors influencing patient volume?
Dentist:	Years Practicing in S.F. Comments:
1	15 PREVENTION: Dramatic decrease in caries in 2-5 year olds. Fewer caries on recalls. Less pulp therapy, and nursing bottle caries. Children begin younger. OTHER: Fewer new patients. Twice as many dentists. Fewer children. Inflation! Practice down to 2½ days.
2	27 PREVENTION: Fewer children with caries; less recalls. Less pulp therapy, crowns and space maintenance. Due to fluorides and public education.
3	25 PREVENTION: More healthy mouths due to fluoridation and public relations. OTHER: Culture changes, population becoming older, different sexual mores, inflation, third party payment.
4	12 PREVENTION: Fewer operative procedures and more healthy mouths. Fewer recalls. Due to office preventive measure (diet, fluoride, etc.). OTHER: Past two years the number of new patients decreased 40%. Treat diverse ethnic groups.
5	33 PREVENTION: Healthier mouths, dramatic decrease in caries and minimum care on recalls. Due to prevention (diet, topical fluoride, and routine care). OTHER: Don't see as many 3-4 year olds due to pill, migration to suburbia, inflation, delaying of care. General practitioners are not referring due to economics and they are better trained.
6	36 PREVENTION: More healthy mouths, primarily due to fluoridation. Although public more aware of prevention, don't do it (tooth brushing, sugar restriction) any better.
7	46 PREVENTION: Change seen in second generation children only.
8	11 PREVENTION: Fewer multiple extraction and nursing bottle cases. Fewer neglected, highly carious mouths. Due to decreased use of snack foods. OTHER: More pedodontists. If it weren't for transient population, practice would be in trouble.

## Appendix C

### University of the Pacific Number of Procedures Completed in the Pediatric Dentistry Clinic

Class and Number of Stu- dents	Block Rota- tion	Primary teeth Alloy Comps.	S.S. Crowns	Pulp- otomy ectomy	Perm teeth Alloys and Comps.	Space Main- tainers	Other Ortho/ Space Anal.	EXT.	Seal.	Fract. Repair/ Nuva- Fil	Xray	*ODTP	Prev. OHI FL/Tx	Re- call
1978 (129)	1	281	144	67	307	52	81	127	177	14	131	123	168	140
	2	417	177	95	393	36	77	181	290	12	129	131	202	190
	3	394	161	83	232	15	28	89	151	18	103	115	155	138
	<b>Total</b>	1092	482	245	932	103	186	397	618	44	363	369	525	468
1979 (129)	1	254	124	68	321	32	105	107	143	19	100	110	145	125
	2	351	114	57	368	44	90	124	294	23	94	87	182	194
	3	340	111	55	298	34	80	142	214	22	105	113	155	158
	<b>Total</b>	945	349	180	987	110	275	373	615	64	299	310	482	477
1980 (132)	1	188	115	60	253	48	79	104	245	7	129	104	161	171
	2	383	144	88	403	58	134	174	432	12	133	131	219	212
	3	431	106	85	398	44	98	170	394	9	136	137	184	228
	<b>Total</b>	1002	365	233	1051	150	311	448	1071	28	398	372	564	611

\* ODTP - Total number of new patients with an oral diagnosis and treatment plan.

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