Journal American College of Dentists

Presents the proceedings of the American College of Dentists and such additional papers and comment from responsible sources as may be useful for the promotion of oral health service or the advancement of the dental profession. The JOURNAL disclaims responsibility for opinions expressed by authors.

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Objects

The American College of Dentists was established to promote the ideals of the dental profession; to advance the standards of efficiency of dentistry; to stimulate graduate study and effort by dentists; to confer Fellowship in recognition of meritorious achievement, especially in dental science, art, education and literature; and to improve public understanding and appreciation of oral health service.

Teacher Training Fellowship

Recognizing the need for more dental teachers and their proper training in educational procedures, the Board of Regents in 1951 established a fellowship program for the training of teachers of dentistry. The fellowship grant covers a period of one year in the amount of $2500.

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Because of its interest in research, the Board of Regents in 1951 established the following grant-in-aid funds:

(a) The William J. Gies Travel Fund, through which grants are made to research workers "to enable them to visit the laboratories of other investigators to obtain first hand information on associated problems."

(b) Research Fund for Emergencies, available for aid in the event of loss of equipment, animal colonies, needed repair and the like.

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The Dental Profession in the Great Lakes Region*

WALTER J. PELTON, D.D.S.
RUTH DEE BOTHWELL
Washington, D.C.

Trends in Dentist Supply

Despite a steady increase in the number of dentists being graduated from their schools, the six states of the Great Lakes region have been unable to maintain, much less improve, their proportionate supplies of practicing dentists. During the period since 1930 when the average number of students attending Great Lakes schools has risen from 2,200 to nearly 3,500, the region has witnessed a continuous rise in the number of persons each dentist must serve. The number of persons per dentist, which averaged 1,515 in 1930, stands at 2,160 in 1958 (Figure 1).

* The Great Lakes region as defined for this report includes Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin.

Figure 1
Persons per dentist in Great Lakes Region: 1958
1958 vs. 1930: Few states escape the dentist downturn

Increase or decrease in number served per dentist, 1930-1958

- Fewer persons per dentist in 1958
- More persons per dentist in 1958

- 0-49
- 50-149
- 150-299
- 300 and over

Figure 2
Much of the difficulty the Great Lakes states are having results from the marked population growth during the postwar years. But not all. It is also a reflection of the fact that although the region has improved its capacity to train students, it has not succeeded in holding enough of these trained for practice within the region. Large numbers of dentists have left to practice in other sections of the country.

Were the decline in relative dentist supply and the accompanying rise in the persons-per-dentist ratio conditions unique to the Great Lakes states, opportunities for practice elsewhere might be expected to become less tempting and an end to the siphoning off of graduates to be in sight. But this is not the case. The Nation’s supply of dentists has been lagging behind the growth of the population for more than a quarter of a century and the shortage of dentists is now a nationwide phenomenon. In 1930, when there were 71,000 dentists, the Nation had one dentist for every 1,728 people. In 1958, with close to 80,000 practicing dentists, there is only one for every 2,203 persons.

All regions in the country are now less well off than they were in 1930 and, in fact, nearly every state is. The Great Lakes region has been especially hard hit (Figure 2). Michigan is the only state in the region where there are more dentists today than in 1930 and even in this state, population growth has considerably outstripped gains in the supply of dentists. Although Michigan has gained enough new practitioners to improve its relative position among the Nation’s states, the average Michigan dentist serves more than 2,400 persons today whereas during the 1930’s and 1940’s there was one dentist available for every 2,000 people (Table 1).

The number of dentists now practicing in Indiana, Minnesota, Ohio, and Wisconsin is almost unchanged from the number there in 1930, and in Illinois the total in practice has dropped considerably below the 1930 level. As a result, persons-per-dentist ratios in all of these states have climbed appreciably, and especially in the states which have been growing most rapidly. In Illinois and Indiana, the average dentist today serves half again as many people as was the case a generation ago. In Ohio, he serves almost 45 per cent more, and even in Minnesota and Wisconsin, where population gains have been relatively modest, today’s dentist serves about 35 per cent more people than did the dentist of 1930.

Minnesota and Wisconsin, however, remain among the Nation’s best-supplied states. Minnesota occupies the same relative position
in 1958 as it did in 1930, ranking 6th in the Nation (Table 2). Wisconsin also still stands high on the list. But Illinois, which in 1930 ranked as the 5th best-supplied state, now stands 11th. Ohio has slipped from the 18th to the 23rd position and Indiana, from the 19th to the 26th. As a result, the advantage in dentist supply which

**TABLE 1**

**NUMBER OF ACTIVE NONFEDERAL DENTISTS AND NUMBER OF PERSONS PER DENTIST IN THE GREAT LAKES STATES: 1900-1958**

<table>
<thead>
<tr>
<th>State</th>
<th>1958 (Preliminary Estimate)</th>
<th>1955 (Estimate)</th>
<th>1950</th>
<th>1940</th>
<th>1930</th>
<th>1920</th>
<th>1910</th>
<th>1900</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>78,552</td>
<td>75,757</td>
<td>75,025</td>
<td>70,417</td>
<td>71,055</td>
<td>56,152</td>
<td>39,997</td>
<td>29,665</td>
</tr>
<tr>
<td>Great Lakes</td>
<td>18,203</td>
<td>17,669</td>
<td>18,213</td>
<td>18,405</td>
<td>18,385</td>
<td>13,959</td>
<td>9,993</td>
<td>8,032</td>
</tr>
<tr>
<td>Illinois</td>
<td>5,184</td>
<td>5,237</td>
<td>5,649</td>
<td>5,970</td>
<td>5,982</td>
<td>4,477</td>
<td>3,134</td>
<td>2,605</td>
</tr>
<tr>
<td>Indiana</td>
<td>1,804</td>
<td>1,712</td>
<td>1,720</td>
<td>1,814</td>
<td>1,880</td>
<td>1,492</td>
<td>1,210</td>
<td>1,085</td>
</tr>
<tr>
<td>Michigan</td>
<td>3,299</td>
<td>3,026</td>
<td>2,864</td>
<td>2,657</td>
<td>2,495</td>
<td>1,784</td>
<td>1,294</td>
<td>948</td>
</tr>
<tr>
<td>Minnesota</td>
<td>1,916</td>
<td>1,917</td>
<td>2,047</td>
<td>2,078</td>
<td>1,969</td>
<td>1,569</td>
<td>885</td>
<td>585</td>
</tr>
<tr>
<td>Ohio</td>
<td>3,846</td>
<td>3,695</td>
<td>3,751</td>
<td>3,772</td>
<td>3,912</td>
<td>3,022</td>
<td>2,324</td>
<td>1,917</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>2,154</td>
<td>2,082</td>
<td>2,182</td>
<td>2,114</td>
<td>2,147</td>
<td>1,615</td>
<td>1,146</td>
<td>892</td>
</tr>
</tbody>
</table>

**NUMBER OF PERSONS PER DENTIST**

<table>
<thead>
<tr>
<th>State</th>
<th>1958</th>
<th>1955</th>
<th>1950</th>
<th>1940</th>
<th>1930</th>
<th>1920</th>
<th>1910</th>
<th>1900</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>2,203</td>
<td>2,169</td>
<td>2,009</td>
<td>1,870</td>
<td>1,728</td>
<td>1,883</td>
<td>2,299</td>
<td>2,562</td>
</tr>
<tr>
<td>Great Lakes</td>
<td>2,160</td>
<td>2,082</td>
<td>1,833</td>
<td>1,598</td>
<td>1,515</td>
<td>1,709</td>
<td>2,034</td>
<td>2,208</td>
</tr>
<tr>
<td>Illinois</td>
<td>1,900</td>
<td>1,776</td>
<td>1,542</td>
<td>1,323</td>
<td>1,276</td>
<td>1,449</td>
<td>1,799</td>
<td>1,851</td>
</tr>
<tr>
<td>Indiana</td>
<td>2,578</td>
<td>2,529</td>
<td>2,287</td>
<td>1,890</td>
<td>1,723</td>
<td>1,964</td>
<td>2,232</td>
<td>2,319</td>
</tr>
<tr>
<td>Michigan</td>
<td>2,426</td>
<td>2,421</td>
<td>2,225</td>
<td>1,978</td>
<td>1,941</td>
<td>2,056</td>
<td>2,172</td>
<td>2,554</td>
</tr>
<tr>
<td>Minnesota</td>
<td>1,778</td>
<td>1,664</td>
<td>1,457</td>
<td>1,344</td>
<td>1,302</td>
<td>1,521</td>
<td>2,345</td>
<td>2,994</td>
</tr>
<tr>
<td>Ohio</td>
<td>2,453</td>
<td>2,421</td>
<td>2,119</td>
<td>1,831</td>
<td>1,699</td>
<td>1,906</td>
<td>2,051</td>
<td>2,169</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>1,840</td>
<td>1,778</td>
<td>1,574</td>
<td>1,484</td>
<td>1,369</td>
<td>1,630</td>
<td>2,037</td>
<td>2,320</td>
</tr>
</tbody>
</table>


Data for 1955 and 1958 are estimates prepared by Division of Dental Resources. These estimates were derived from the total dentist counts, available from directories of the American Dental Association, by applying the percentages active which characterized the total dentist supply at the time of the 1950 U. S. Census.

These percentages are as follows: For those out of school 15 years or less, 100 per cent; 16 through 20 years, 99 per cent; 21 through 25 years, 96 per cent; 26 through 30 years 90 per cent; 31 through 35 years 82 per cent; 36 through 40 years, 74 per cent; 41 through 45 years, 65 per cent; more than 45 years 50 per cent.

All dentist totals exclude graduates of the year of estimate, since members of the most recent graduating classes are listed in the Directory at the residence given while in school rather than at the residence ultimately selected as a practice location.
the Great Lakes region enjoyed over the rest of the country even as recently as 1950 has now almost completely disappeared.

**Age of Dentists***

There is now a marked concentration of dentists in the older age groups. The proportion of older dentists has been advancing steadily since the turn of the century simply because of dentistry's comparative newness as a profession, for it has only been within the past

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* Certain materials in this and later sections have been used in various publications prepared by the Division of Dental Resources. These materials which pertain generally to all regions of the country have been altered only to the extent necessary to reflect existing regional differences.

**TABLE 2**

<table>
<thead>
<tr>
<th>Rank</th>
<th>State</th>
<th>Persons</th>
<th>Rank</th>
<th>State</th>
<th>Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>New York</td>
<td>1,377</td>
<td>25</td>
<td>Vermont</td>
<td>2,577</td>
</tr>
<tr>
<td>2</td>
<td>Connecticut</td>
<td>1,567</td>
<td>26</td>
<td>Indiana</td>
<td>2,578</td>
</tr>
<tr>
<td>3</td>
<td>Oregon</td>
<td>1,654</td>
<td>27</td>
<td>Maine</td>
<td>2,590</td>
</tr>
<tr>
<td>4</td>
<td>Washington</td>
<td>1,719</td>
<td>28</td>
<td>Nevada</td>
<td>2,614</td>
</tr>
<tr>
<td>5</td>
<td>Massachusetts</td>
<td>1,734</td>
<td>29</td>
<td>Tennessee</td>
<td>2,706</td>
</tr>
<tr>
<td>6</td>
<td>Minnesota</td>
<td>1,778</td>
<td>30</td>
<td>North Dakota</td>
<td>2,736</td>
</tr>
<tr>
<td>7</td>
<td>New Jersey</td>
<td>1,822</td>
<td>31</td>
<td>Florida</td>
<td>2,777</td>
</tr>
<tr>
<td>8</td>
<td>Rhode Island</td>
<td>1,838</td>
<td>32</td>
<td>South Dakota</td>
<td>2,833</td>
</tr>
<tr>
<td>9</td>
<td>Wisconsin</td>
<td>1,840</td>
<td>33</td>
<td>Maryland</td>
<td>2,908</td>
</tr>
<tr>
<td>10</td>
<td>California</td>
<td>1,889</td>
<td>34</td>
<td>Oklahoma</td>
<td>3,005</td>
</tr>
<tr>
<td>11</td>
<td>Illinois</td>
<td>1,900</td>
<td>35</td>
<td>Virginia</td>
<td>3,229</td>
</tr>
<tr>
<td>12</td>
<td>Nebraska</td>
<td>1,913</td>
<td>36</td>
<td>Kentucky</td>
<td>3,241</td>
</tr>
<tr>
<td>13</td>
<td>Pennsylvania</td>
<td>1,975</td>
<td>37</td>
<td>Louisiana</td>
<td>3,299</td>
</tr>
<tr>
<td>14</td>
<td>Utah</td>
<td>1,993</td>
<td>38</td>
<td>West Virginia</td>
<td>3,306</td>
</tr>
<tr>
<td>15</td>
<td>Iowa</td>
<td>2,101</td>
<td>39</td>
<td>Texas</td>
<td>3,338</td>
</tr>
<tr>
<td>16</td>
<td>New Hampshire</td>
<td>2,176</td>
<td>40</td>
<td>Delaware</td>
<td>3,348</td>
</tr>
<tr>
<td>17</td>
<td>Colorado</td>
<td>2,195</td>
<td>41</td>
<td>Arizona</td>
<td>3,614</td>
</tr>
<tr>
<td>18</td>
<td>Missouri</td>
<td>2,211</td>
<td>42</td>
<td>New Mexico</td>
<td>3,883</td>
</tr>
<tr>
<td>19</td>
<td>Montana</td>
<td>2,216</td>
<td>43</td>
<td>Alabama</td>
<td>3,996</td>
</tr>
<tr>
<td>20</td>
<td>Wyoming</td>
<td>2,297</td>
<td>44</td>
<td>Arkansas</td>
<td>4,000</td>
</tr>
<tr>
<td>21</td>
<td>Michigan</td>
<td>2,426</td>
<td>45</td>
<td>North Carolina</td>
<td>4,054</td>
</tr>
<tr>
<td>22</td>
<td>Idaho</td>
<td>2,440</td>
<td>46</td>
<td>Georgia</td>
<td>4,110</td>
</tr>
<tr>
<td>23</td>
<td>Ohio</td>
<td>2,453</td>
<td>47</td>
<td>Mississippi</td>
<td>4,318</td>
</tr>
<tr>
<td>24</td>
<td>Kansas</td>
<td>2,557</td>
<td>48</td>
<td>South Carolina</td>
<td>5,594</td>
</tr>
</tbody>
</table>

two generations that an appreciable proportion of the total dentist supply has reached the older age groups. The failure to produce enough new dentists in the period preceding World War II, however, has greatly exaggerated this trend. Largely because of the curtailed output of the schools during this period, older dentists have now become an exceedingly large proportion of our dentist supply. Only about 15 per cent of all U. S. dentists and 16 per cent of all Great Lakes dentists enumerated in the Census of 1930 were 55 years of age or older. But by 1950, these percentages had jumped to 27 and 28, respectively (Table 3). Similarly, about 4 per cent of the Nation's dentists and 3 per cent of the Great Lakes' dentists had reached 65 years of age in 1930. By 1950, one dentist in ten had reached this age. As a result, heavy replacement needs are in the immediate offing. Indiana and Ohio face the most immediate problem, for in 1950 about 13 per cent of Indiana's dentists and about 11 per cent of Ohio's were 65 years of age or older. Counts of active dentists by age are not available after 1950. The distribution of recent graduates indicates, however, that both these states have been rather successful in attracting these new dentists. With 5.0 per cent of all active United States dentists in 1950, Ohio has acquired about 5.2 per cent of all dentists who were graduated between 1950 through 1954 and were established in practice by 1955. Indiana has acquired 2.5 per cent, though it had but 2.3 per cent

<table>
<thead>
<tr>
<th>Age</th>
<th>Per Cent Distribution</th>
<th>Median Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Ages</td>
<td>Under 35</td>
<td>35-44</td>
</tr>
<tr>
<td>United States</td>
<td>100.0</td>
<td>21.9</td>
</tr>
<tr>
<td>Great Lakes</td>
<td>100.0</td>
<td>18.6</td>
</tr>
<tr>
<td>Illinois</td>
<td>100.0</td>
<td>18.2</td>
</tr>
<tr>
<td>Indiana</td>
<td>100.0</td>
<td>17.8</td>
</tr>
<tr>
<td>Michigan</td>
<td>100.0</td>
<td>20.5</td>
</tr>
<tr>
<td>Minnesota</td>
<td>100.0</td>
<td>18.0</td>
</tr>
<tr>
<td>Ohio</td>
<td>100.0</td>
<td>17.8</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>100.0</td>
<td>19.4</td>
</tr>
</tbody>
</table>

DENTAL PROFESSION IN GREAT LAKES REGION

of the 1950 dentist supply. On the other hand, neither Illinois nor Minnesota has acquired as large a per cent of recent graduates as its 1950 share of the Nation's dentists would indicate. Illinois, with its urgent need for new dentists, was the least successful of all Great Lakes states in obtaining its indicated share of graduates. With 7.5 per cent of all active U.S. dentists in 1950, it acquired only 5.0 per cent of those graduated from 1950 to 1954.

Distribution of Dentists Within States

As in other sections of the country, the metropolitan areas of the Great Lakes region are the most generously supplied areas within their states. Current estimates of the numbers of active dentists are not available for geographic areas smaller than states, but unadjusted counts from the American Dental Association Directory for 1958 (which include many retired dentists as well as others no longer in active practice because of employment in some activity such as teaching or research) provide a useful basis for comparing different types of counties within a state. These unadjusted dentist counts show that persons-per-dentist ratios for metropolitan counties range from an average of 1,135 in Minnesota to 1,879 in Michigan, for an over-all regional ratio of 1,560. By contrast, averages for nonmetropolitan counties range from 1,690 in Wisconsin to more than 2,700 in Michigan, for a regional ratio of 2,150.

Not all metropolitan areas are as generously supplied as these ratios suggest. In Illinois, for example, only Chicago has a persons-per-dentist ratio more favorable than the regional average. Similarly, in Ohio, only Cleveland and Columbus have, and in Indiana, only Indianapolis has. In Michigan, no metropolitan area comes up to this standard. On the other hand, all metropolitan areas in Minnesota and all but one in Wisconsin have ratios more favorable than the regional average for metropolitan counties. Minneapolis, Madison, and Milwaukee rank as the best-supplied of all areas, followed closely by Chicago. Residents of these four areas are served by relatively twice as many dentists as are the people who reside in the metropolitan areas at the other end of the scale.

The disparity in services available to metropolitan and nonmetropolitan residents is greatest in Illinois and Ohio. In these states, the average nonmetropolitan practitioner serves from 55 to 60 per cent more persons than his metropolitan area counterpart. But the dis-
tribution of these nonmetropolitan dentists within the state is perhaps more equitable in Illinois than in any other Great Lakes state, while in Ohio the reverse is true. In nearly every state, however, residents of counties which contain a central city of 10,000 or more persons are far better served than are residents of less populous counties. On the average, these rural trade area counties have one dentist for every 1,790 persons, as compared with one for every 2,300 persons in the smaller counties.

**FUTURE SUPPLY OF DENTISTS**

More than 58,000 dentists will be graduated from the Nation's dental schools between 1958 and 1975, if dental schools operate at full capacity. Although the majority of these graduates will be required to replace dentists lost through death and retirement, the active dentist supply will increase by about 21,500 growing to nearly 100,000 in 1975. Even this large gain will be insufficient to maintain the 1958 persons-per-dentist count, however. For the country as a whole, the ratio will rise from 2,203 at the present time to an estimated 2,350 if the country continues to grow at its current high rate.

Of the estimated 100,000 dentists who will comprise the Nation's dentist supply in 1975, only about two-fifths will be survivors from those currently active. In the Great Lakes states, only 8,900 of the 18,200 dentists now in practice will still be practicing in 1975. As a result, the region's future dentist supply will be largely determined by the extent to which new graduates select Great Lakes states as locations for practice. Since students tend to practice in their home states, success in attracting these new graduates will depend in large measure upon the number of Great Lakes students who seek a dental education and upon their success in gaining admission to dental schools.

The following sections will examine trends in the demand for dental education and in the capacity of dental schools to accommodate this demand. It will examine the Great Lakes' recent experience in attracting new graduates and present estimates of future supply based upon this experience. The concluding section will consider how these totals may be modified by migration.

*Supply of applicants—*Dentistry has enjoyed considerable popularity as a career choice during recent years. Immediately after World War II, dental schools throughout the country were flooded by large numbers of applicants. Of the more than 10,000 applicants in 1947,
however, fewer than 3,000 found places. In response to this student pressure, new schools were established, and old ones enlarged their training capacity. As the huge backlog of veterans completed their education, the number of applicants declined, reaching a low point in the Great Lakes states and nationally with the applicants for the class which entered in 1953. Even in that year, however, there were 1.5 applicants for every available freshman space, and since that year, the number of applicants has again risen, both numerically and as a percentage of all bachelor degrees granted. As a result, there are now more than two applicants for every available opening in the freshman class.

In 1956, the most recent year for which data are available, nearly 7,376 students sought admission to dental schools, and of these, 1,527 were Great Lakes students. These totals represented a ratio of 4.4 applicants for every 100,000 persons in the U. S. and 4.1 Great Lakes applicants for every 100,000 population. The Nation's and Great Lakes' ratio of successful applicants was identical—2.1 per 100,000. Within the region, however, the number accepted varied considerably from state to state, ranging from a high of 2.9 per 100,000 population in Minnesota to a low of only 1.7 per 100,000 population in Indiana. Nearly three-quarters of all Minnesota students and about two-thirds of all Wisconsin students applying for admission were accepted. But this proportion fell to about one-half for students from Illinois, Ohio, and Indiana and to less than half for those from Michigan.

The number of Great Lakes students who will apply for admission to dental schools in future years cannot be predicted very accurately. If, however, U. S. college enrollments rise as rapidly as projections indicate, and provided that about the same percentage of those who go to college wish to study dentistry as is now the case, the number of applicants will rise sharply. By 1970, there will be at least 2 applicants for every one in 1955. This will mean that probably no more than one in four of the applicants from the Great Lakes region can be admitted to dental schools in 1970, unless additional training space is made available.

Trends in Numbers of Students

The number of students in dental school has shown large and sustained increases during the postwar period. These gains have been especially noteworthy since they reflect the first significant ex-
pansion in training capacity in more than a generation. In 1940, there were 7,720 students enrolled in the Nation's 39 dental schools. With the accelerated training programs of World War II, this number grew to about 9,000 at the height of the war but fell off very sharply immediately after the war ended. Beginning in 1947, however, enrollment in existing schools started to climb again, and new schools began to be established. By 1950, there were 11,891 students enrolled in 42 schools and by 1955, 12,730 in 43 schools. Now 46 schools are in operation, the number enrolled has risen to more than 13,000 and indications are that in the near future, enrollments will rise to around 14,000—nearly twice the prewar figure.

Although there have been no new schools added in the Great Lakes region during the postwar period, every one of the region’s 10 existing schools has expanded significantly since 1940 (Table 4). Five have more than doubled their enrollment and increases in the

<table>
<thead>
<tr>
<th>TABLE 4</th>
</tr>
</thead>
</table>

**FALL UNDERGRADUATE ENROLLMENT, SELECTED YEARS, 1940-57**

<table>
<thead>
<tr>
<th>1940</th>
<th>1945</th>
<th>1950</th>
<th>1955</th>
<th>1956</th>
<th>1957</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Enrollment in Great Lakes Schools</td>
<td>1,960</td>
<td>1,777</td>
<td>3,273</td>
<td>3,386</td>
<td>3,430</td>
</tr>
<tr>
<td>Illinois:</td>
<td>788</td>
<td>611</td>
<td>1,021</td>
<td>994</td>
<td>1,018</td>
</tr>
<tr>
<td>Loyola University</td>
<td>269</td>
<td>185</td>
<td>354</td>
<td>362</td>
<td>366</td>
</tr>
<tr>
<td>Northwestern University</td>
<td>295</td>
<td>254</td>
<td>405</td>
<td>353</td>
<td>365</td>
</tr>
<tr>
<td>University of Illinois</td>
<td>224</td>
<td>172</td>
<td>262</td>
<td>279</td>
<td>287</td>
</tr>
<tr>
<td>Indiana: University of Indiana</td>
<td>113</td>
<td>126</td>
<td>289</td>
<td>265</td>
<td>260</td>
</tr>
<tr>
<td>Michigan:</td>
<td>264</td>
<td>253</td>
<td>619</td>
<td>636</td>
<td>639</td>
</tr>
<tr>
<td>University of Detroit</td>
<td>106</td>
<td>107</td>
<td>266</td>
<td>287</td>
<td>291</td>
</tr>
<tr>
<td>University of Michigan</td>
<td>158</td>
<td>146</td>
<td>353</td>
<td>349</td>
<td>348</td>
</tr>
<tr>
<td>Minnesota: University of Minnesota</td>
<td>197</td>
<td>206</td>
<td>346</td>
<td>355</td>
<td>364</td>
</tr>
<tr>
<td>Ohio:</td>
<td>383</td>
<td>348</td>
<td>576</td>
<td>698</td>
<td>706</td>
</tr>
<tr>
<td>Ohio State University</td>
<td>222</td>
<td>179</td>
<td>343</td>
<td>466</td>
<td>469</td>
</tr>
<tr>
<td>Western Reserve University</td>
<td>161</td>
<td>169</td>
<td>233</td>
<td>232</td>
<td>237</td>
</tr>
<tr>
<td>Wisconsin: Marquette University</td>
<td>215</td>
<td>233</td>
<td>422</td>
<td>438</td>
<td>443</td>
</tr>
<tr>
<td>Per Cent of U. S. Total Enrollment</td>
<td>25.4</td>
<td>24.4</td>
<td>27.5</td>
<td>26.6</td>
<td>26.4</td>
</tr>
<tr>
<td>Per Cent of Students in U. S. Schools</td>
<td>21.0</td>
<td>22.0</td>
<td>25.7</td>
<td>23.3</td>
<td>23.1</td>
</tr>
<tr>
<td>In Great Lakes Schools</td>
<td>19.2</td>
<td>18.2</td>
<td>24.0</td>
<td>21.8</td>
<td>21.7</td>
</tr>
<tr>
<td>In Other Regions</td>
<td>1.8</td>
<td>3.8</td>
<td>1.7</td>
<td>1.5</td>
<td>1.4</td>
</tr>
</tbody>
</table>

remaining five range from 20 per cent to a high of 90 per cent. The proportion of the Nation’s students being trained in the region, which had been 25.4 per cent in 1940, had edged up to 26.1 per cent in 1957. The Great Lakes region now has the equivalent of 2.4 freshman spaces per 100,000 population as compared with a national average of 2.1. The only state in the region where increases in school capacity have not kept pace with population growth is Illinois.

Students from the region now claim a slightly larger share of the Nation’s total classroom spaces than they did before the war, but within the past few years they have begun to fare less well. From 21.0 per cent in 1940, the per cent of the total school enrollment made up of students from a Great Lakes state rose to 25.7 per cent in 1950 but by 1957 had fallen back to approximately 23.1 per cent. The number of spaces they fill has risen from 1,569 in 1940 to 2,984 in 1957. Most of this increase can be attributed to within-region expansion, since relatively few of the new classroom spaces available in the Great Lakes states have been filled by students from outside the region. In fact, the number attending Great Lakes schools from other regions now stands at only 580, not much above the 474 figure in 1940. At the same time, few Great Lakes students attend schools in other regions. The total going to school outside the region was only 187 in 1957 as compared with 137 in 1940.

The Great Lakes States as a Choice for Location of Practice

Graduates of Great Lakes schools—Even though the Great Lakes schools are devoted almost exclusively to the training of students from within the region, this region has been considerably less successful than others in retaining the graduates of its schools for practice within the region. Information obtained from the American Dental Association Directory for 1953 shows that 77 per cent of all nonfederal dentists listed as graduates of Great Lakes schools and 78 per cent of those listed as having been graduated in 1945 or subsequent years were located in a Great Lakes state in 1952. Since these percentages fall far short of the percentage of the Great Lakes student body made up of students from the Great Lakes states in most recent years, it seems clear that a significant segment of the region’s students are locating outside the region. The majority of the graduates of Great Lakes schools who were practicing outside the region were located in the Middle Atlantic states.

The success of individual states in retaining the graduates of their
own schools varies widely and is influenced, of course, by the type of schools located within the state. The percentage of a state's recent graduates (1954 or later classes) located within that same state in 1952 ranged from a low 68 per cent for Illinois to 90 per cent for Michigan. Ohio and Indiana had retained slightly under 85 per cent of their graduates and Minnesota and Wisconsin, about 75 per cent.

**Graduates of schools outside the region**—No Great Lakes state depends upon graduates of schools outside the region for a major part of its dentist supply. Among Great Lakes practitioners listed as recent graduates in the 1953 Directory (1945 and later classes), only about 12 per cent had been graduated from a school outside the region. Reliance on outside-the-region sources was somewhat greater in Illinois and Ohio than in the other states, and Minnesota and Wisconsin were the least dependent upon practitioners who had been trained in non-Great Lakes schools.

**Great Lakes' share of all graduates**—There has been a fairly consistent tendency for the number of graduates establishing practice in the Great Lakes states to fall short of the numbers being trained from these states. In 1952, for example, 23.2 per cent of the dentists graduated from 1945 to 1951 were located in the Great Lakes region, though these states supplied 26.9 per cent of the students in school during these years. Similarly, tallies made from the 1956 Directory indicate that in 1955, 22.9 per cent of those graduated in 1950 or later years were located in the Great Lakes region, although the region's contribution to the total student body during this period was slightly over 25 per cent. Nearly every state supplied a somewhat larger share of the students than it got of the graduates.

Illinois, for example, contributed about 5.8 per cent of all U. S. students during this recent period but only 5.0 of the graduates located in Illinois. Ohio supplied 5.7 per cent of the students and in return got only 5.2 per cent of the graduates.

**Future Supply of Dentists**

If the Great Lakes region shares only as generously in future graduates as the region has in those of the recent past, 13,832 of the 58,000 dentists graduating between 1958 and 1975 will locate in the Great Lakes region by 1975 (after allowing for deaths among these young dentists). With these new dentists augmenting the 8,909 dentists of 1958 who will still be active in 1975, the total dental supply
for the region will grow to 22,741 by 1975. This represents an increase of 4,500 from the 1958 total.

More than a third of this increase will go to Michigan. Ohio will acquire about a fourth and both Wisconsin and Indiana about an eighth. Illinois will fare least well of all the states. Only a 5 per cent gain is projected for this state whereas increases will range as high as 50 per cent in other Great Lakes states. As a result, there will be

PROJECTED DENTIST SUPPLY: 1975

<table>
<thead>
<tr>
<th></th>
<th>Total Supply Expected 1975</th>
<th>Survivors From 1958 Dentists</th>
<th>Dentists Graduated 1958-75*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great Lakes</td>
<td>22,741</td>
<td>8,909</td>
<td>13,832</td>
</tr>
<tr>
<td>Illinois</td>
<td>5,452</td>
<td>2,524</td>
<td>2,928</td>
</tr>
<tr>
<td>Indiana</td>
<td>2,402</td>
<td>866</td>
<td>1,536</td>
</tr>
<tr>
<td>Michigan</td>
<td>4,948</td>
<td>1,690</td>
<td>3,258</td>
</tr>
<tr>
<td>Minnesota</td>
<td>2,146</td>
<td>910</td>
<td>1,236</td>
</tr>
<tr>
<td>Ohio</td>
<td>5,035</td>
<td>1,879</td>
<td>3,156</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>2,758</td>
<td>1,040</td>
<td>1,718</td>
</tr>
</tbody>
</table>

* In preparing the estimates of future supply, it has been assumed that the number of students graduated annually will rise to 3,600 in 1970 and continue at that level through 1974. New dentists were apportioned to individual states on the assumption that future shares of new graduates will follow recent patterns. The locational distribution in 1955 of all 1950-54 dental school graduates was used as a basis for distributing new dentists entering the profession up to and including the 1974 graduating class.

The actual totals who locate in each state may vary considerably from the estimates presented here, for a slight modification in locational pattern of new graduates, when accrued over future years, can influence the projected total significantly, especially in the smaller states. The estimates for the region as a whole, however, should prove dependably accurate. Migration of established practitioners (that is, relocation after having entered into practice) will further modify some of the state totals and could affect the regional total as well. Estimates of net change accruing through migration show that the effect upon the Great Lakes total is fairly substantial. Movement from the region will exceed movement into the region by approximately 1,600, if recent experience is a good guide. Movement from one state to another could reduce Illinois' 1975 dentist total by as much as 650, cut Michigan's by 275 and Minnesota's by
250. Both Ohio and Wisconsin would lose about 200 dentists through out-migration and Indiana would lose about 50. Because of the fluctuation in year-by-year changes for states, and because of the weakness of the data on which these projections must be based, it has not seemed appropriate to include the figure on migration in estimates of future supply. However, crude as these estimates are, they suggest the need for care in interpreting projected supply figures in relation to requirements for future years.

**Dentist Requirements**

*Dental Need vs. Dental Demand*

Because they lack the drama of most physical ills, dental disorders are widely regarded as not sufficiently serious to require immediate attention. Despite the near universality of treatment needs, probably no more than three persons in ten seek anything approaching systematic dental care at the present time. Preliminary results from the new National Health Survey, for example, show that only 36 percent of the population had seen the dentist within the previous year, including those whose visits were for emergency treatment only.* It is this failure to seek treatment for new needs as they arise which lies at the heart of the Nation's dental health problem. For, given the additive character which typifies a large share of dental need, the neglect of dental defects results inevitably in an accrual of treatment needs and leads ultimately to high rates of tooth loss. The backlog of treatment needs which has now accumulated among the Nation’s population has reached staggering proportions, and new needs continue to arise much more rapidly than they can be cared for.

The tendency to minimize the importance of dental disorders, to regard their treatment as postponable if not, in fact, optional, has consequences of great significance for manpower planning. For it means that to plan to meet the total health needs of the population is to plan unrealistically. Since in health planning, as in most human endeavors, the ideal must wait upon the practical, the best that we can hope to do at the present time is to assure that services in the future will be available to those who will use them. In other words, the crucial consideration in estimating future manpower require-

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ments is the volume of care which people are likely to seek rather than the volume of care which they will actually need.

Meeting Needs Arising From Population Growth

Since the only known effective method of assuring continued oral health lies in the receipt of systematic treatment, any decline in the amount of professional time available per person will have serious implications for the dental health of the population. For this reason, the maintenance of current persons-per-dentist ratios represents an absolute minimum as a future goal.*

Although the Great Lakes region will grow less rapidly than some sections of the country, an estimated 9.8 million people will be added to the region’s population by 1975 (Table 5). From an estimated 39.3 million in 1958, the region’s population is expected to reach at least 49.1 million in 1975. Since the projections used here assume a declining birth rate for which there is as yet no evidence, they must be regarded as extremely conservative estimates. Even at

* Universal acceptance of fluoridation, which holds such great promise for reducing the rate at which new needs arise within the individual, will mean that vastly increased numbers of people will retain their teeth into old age, making them candidates for routine care throughout their lives and altering the character of their treatment needs. It is assumed in this report that fluoridation will not sufficiently alter the aggregate needs of the population to affect the level of dental demand within the forecast period.

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TABLE 5

POPULATION PROJECTIONS FOR GREAT LAKES REGION: 1958-1975

<table>
<thead>
<tr>
<th></th>
<th>Estimated 1958</th>
<th>Projected 1975</th>
<th>Net Change</th>
<th>NUMBER</th>
<th>PER CENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>173,088</td>
<td>220,794</td>
<td>47,706</td>
<td></td>
<td>27.6</td>
</tr>
<tr>
<td>Great Lakes</td>
<td>39,312</td>
<td>49,149</td>
<td>9,837</td>
<td></td>
<td>25.0</td>
</tr>
<tr>
<td>Illinois</td>
<td>9,851</td>
<td>12,033</td>
<td>2,182</td>
<td></td>
<td>22.2</td>
</tr>
<tr>
<td>Indiana</td>
<td>4,651</td>
<td>5,931</td>
<td>1,280</td>
<td></td>
<td>27.5</td>
</tr>
<tr>
<td>Michigan</td>
<td>8,004</td>
<td>10,892</td>
<td>2,888</td>
<td></td>
<td>36.1</td>
</tr>
<tr>
<td>Minnesota</td>
<td>3,407</td>
<td>3,849</td>
<td>442</td>
<td></td>
<td>13.0</td>
</tr>
<tr>
<td>Ohio</td>
<td>9,435</td>
<td>11,925</td>
<td>2,490</td>
<td></td>
<td>26.4</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>3,964</td>
<td>4,519</td>
<td>555</td>
<td></td>
<td>14.0</td>
</tr>
</tbody>
</table>

Source: Projections were prepared by Division of Dental Resources. They assume a continuation of the 1940-53 level of fertility through 1965 and a slow decline thereafter to about the 1946 level by the 1970-75 period.
this rate of growth, an average of 580,000 persons will be added in
the region in every year between now and 1975.

Both the amount and rate of growth will vary considerably from
state to state. Only Michigan's rate of growth will exceed the na-
tional average. But Illinois, Ohio, and Indiana will gain population
at a rate only slightly below the national average and, like Michigan,
will add large numbers to their population within the forecast period.
Additions to Michigan's population will total almost 3 million, to
Ohio's and Illinois', well over 2 million, and to Indiana's close to

DENTISTS NEEDED BY 1975, TO MEET POPULATION GROWTH
AND ADDITIONS

<table>
<thead>
<tr>
<th>1958 Dentists</th>
<th>Dentists Needed to Maintain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Still Active</td>
<td>1958 Pop./Dentist Ratio</td>
</tr>
<tr>
<td>In 1975</td>
<td>New</td>
</tr>
<tr>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>Great Lakes</td>
<td>8,909</td>
</tr>
<tr>
<td>Illinois</td>
<td>2,524</td>
</tr>
<tr>
<td>Indiana</td>
<td>866</td>
</tr>
<tr>
<td>Michigan</td>
<td>1,690</td>
</tr>
<tr>
<td>Minnesota</td>
<td>910</td>
</tr>
<tr>
<td>Ohio</td>
<td>1,879</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>1,040</td>
</tr>
</tbody>
</table>

1¼ million. Minnesota and Wisconsin will grow less rapidly. A
gain of 450,000 is projected for Minnesota, however, and Wisconsin's
increase will amount to about 550,000.

To extend dentists' services to an additional 9.8 million persons
between 1958 and 1975 and, at the same time to maintain the per-
sons-per-dentist count in each state at the 1958 level will require that
the region's dentist supply grow from 18,200 in 1958 to 22,600 in
1975. This means that 13,700 new dentists must be added by 1975
to the 8,900 dentists surviving from the 1958 supply just to meet the
minimum needs associated with population growth.

Illinois' need for new dentists will be the largest in the region.
If the 1958 persons-per-dentist ratio is to be maintained, an estimated
3,810 new dentists must be in practice in this state by 1975. Ohio,
which must add 2,980 new dentists, and Michigan, with a need for
2,800, have even larger proportionate needs. A 36 per cent increase
must be achieved in Michigan and an expansion of 26 per cent in
Ohio. Indiana will need to increase its current supply by 28 per cent
but in terms of numbers its need will be much smaller, amounting to 1,435 by 1975. Wisconsin will require about the same number (1,415), and Minnesota, slightly fewer (1,255).

Meeting Demands for Care

Keeping the dentist-population ratios constant would assure that at least as large a share of dental need would be met in the future as it is today. But to do only this is to ignore the many changes which are taking place in the make-up of the population which affect the level of dental demand. Considering the tremendous difference which now exists between the amount of care people need and the amount they seek, it would be unfortunate indeed if future increases in dental demand were to go unmet because too few dentists were available.

Actually, the potential market for dental services has been growing much more rapidly than population growth alone would suggest. Not only have educational levels advanced strikingly during the past 2 1/2 decades, but the population has become increasingly concentrated in urban areas, where easy access to dentists’ services acts as a stimulus to dental demand. Even more important, this has been a period of extremely rapid income growth during which the amount of personal income available for the support of dental services has climbed almost continuously.

But despite evidences that per capita demands have been rising, the increase in dentist supply has been so limited, that where before the war there were two dentists, today there is only one in relation to the same amount of consumer income. In 1930, the Nation was paying for the services of one dentist out of every 1.8 million dollars of its income (expressed in 1955 dollars). By 1940, this figure had risen to 2.2 million, and, with the tremendous upsurge in economic well-being that accompanied and followed the war, it rose again. By 1950, the Nation was paying for the services of one dentist from every 3.3 million dollars of income and in 1955 from every 4.0 million dollars.

The Great Lakes region, before World War II, was supporting more dentists in relation to income than the Nation was, but by 1955, this situation had been reversed, chiefly because of the inability of the region to achieve any expansion in its dentist supply. By 1955, the Great Lakes region was paying for the services of one dentist
out of every $4.3 million of its income, as compared with the national average of one for every $4.0 million (Table 6). For every $400 million of consumer income, then, the Great Lakes states had only 94 dentists whereas the United States as a whole had 100. Only the Southern and the Southwest regions were less adequately supplied (Figure 3).

There is wide variation from state to state in the share of income

| TABLE 6 |
| AMOUNT OF PERSONAL INCOME PER DENTIST |
| IN THE GREAT LAKES STATES: 1930-55 |

<table>
<thead>
<tr>
<th></th>
<th>1955</th>
<th>1950</th>
<th>1940</th>
<th>1930</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>$4,003</td>
<td>$3,339</td>
<td>$2,244</td>
<td>$1,813</td>
</tr>
<tr>
<td>Great Lakes</td>
<td>$4,257</td>
<td>$3,351</td>
<td>$2,108</td>
<td>$1,712</td>
</tr>
<tr>
<td>Illinois</td>
<td>4,008</td>
<td>3,145</td>
<td>2,009</td>
<td>1,749</td>
</tr>
<tr>
<td>Indiana</td>
<td>4,790</td>
<td>3,880</td>
<td>2,106</td>
<td>1,502</td>
</tr>
<tr>
<td>Michigan</td>
<td>5,166</td>
<td>4,191</td>
<td>2,732</td>
<td>2,143</td>
</tr>
<tr>
<td>Minnesota</td>
<td>2,814</td>
<td>2,271</td>
<td>1,421</td>
<td>1,211</td>
</tr>
<tr>
<td>Ohio</td>
<td>4,992</td>
<td>3,817</td>
<td>2,458</td>
<td>1,917</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>3,154</td>
<td>2,577</td>
<td>1,658</td>
<td>1,371</td>
</tr>
</tbody>
</table>


being used for support of dentists' services. Minnesota and Wisconsin, for example, devote a larger share than the Nation does of their income to the support of dentists' services. For every $400 million of their residents' income these states have 142 and 127 dentists, respectively. Illinois has 100, the national average. But Indiana, Michigan, and Ohio all support considerably fewer dentists in relation to income. Indiana has 84 for every $400 million of consumer income, Ohio, 80, and Michigan, 77. Personal income per dentist figures range from a low of $2.8 million in Minnesota to a high of $5.2 million in Michigan.

Since total income growth in a state reflects both changes in the size of the population and in its ability to afford dental care, two series of estimates have been prepared which are based on alternative ratios of income to dentists. If previous trends continue, the population of future years will include a larger population of urban resi-
Support for Dentists' Services Varies Widely

For every $400 million of personal income, the U.S. has 100 active dentists.

Figure 3
dents, better educated than at present, and improved in economic status (Tables 7, 8, and 9). These changes unquestionably mean a population which is likely to seek more frequent dental care than does the present population, for it will be made up of people more alert to the benefits of regular care, better able to meet its cost, and living in areas where dentists' services are easily accessible. Hence,

### TABLE 7

**PER CENT URBAN POPULATION IN THE GREAT LAKES STATES: 1930-1975**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>United States</strong></td>
<td>56.2</td>
<td>56.5</td>
<td>64.0</td>
<td>65.1</td>
<td>66.7</td>
<td>68.2</td>
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<td>70.7</td>
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<td>61.3</td>
<td>62.6</td>
<td>64.0</td>
<td>65.7</td>
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</table>

* Old Urban Definition.
Source: Data for the period 1930-1950 are from U. S. Census of Population 1950, Vol. II. The 1955 estimates and projections for 1960-1975 were prepared by the Division of Dental Resources.

### TABLE 8

**PER CENT HIGH SCHOOL GRADUATES AMONG ADULTS 25 YEARS OLD AND OVER IN THE GREAT LAKES STATES: 1930-1957**

<table>
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<td>64.3</td>
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</tbody>
</table>

Source: Data for 1940 and 1950 are from U. S. Census of the Population, 1950, Vol. II. Rough estimates for 1930 and 1955 and projections to 1975, were prepared by the Division of Dental Resources.
it seems probable that the region’s population will be both willing and able to spend at least as large a share of its income for dental care as it does today and very probably, a somewhat larger share. The projections of additional needs which have been prepared are based upon these two alternate assumptions.

**Minimum demands for service**—If, in the future, each state in the Great Lakes region preserves approximately the same relationship that exists today between dentist supply and its residents’ total in-

**TABLE 9**

<table>
<thead>
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<th>TABLE 9</th>
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<tbody>
<tr>
<td><strong>CHANGES IN PER CAPITA PERSONAL INCOME IN THE GREAT LAKES STATES: 1930-1975</strong></td>
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<tr>
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<tr>
<td><strong>In 1955 Dollars</strong></td>
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<tr>
<td><strong>1930</strong></td>
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<tr>
<td><strong>1965</strong></td>
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<tr>
<td>----------------------------------</td>
</tr>
<tr>
<td>United States</td>
</tr>
<tr>
<td>Great Lakes</td>
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<tr>
<td>Illinois</td>
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<td>Indiana</td>
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<td>Ohio</td>
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<tr>
<td>Wisconsin</td>
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</table>

**Source:** Data for 1955 and earlier years are from Department of Commerce, Personal Income by State Since 1929, Supplement to the Survey of Current Business. Projections were prepared by the Division of Dental Resources.

come, there will be at least enough dentists to meet demands roughly comparable to those actually being met at the present time. To meet even this minimum estimate of what demand may be, the Great Lakes region will need a total dentist supply of 32,350 in 1975, an increase of about 14,000 from 1958 and an increase of nearly 10,000 over and above the additions called for just on the basis of projected population growth. To reach this level by 1975 will require that 23,440 new dentists be added to the 8,900 dentists of 1958 who will still be in active practice in 1975.

**Probable demands for service**—To preserve the current relationship between income and dentists, however, is to assume not only that the supply of dentists in each Great Lakes state is adequate at present time to meet existing demands but also that no change
will occur in the future which would lead the population of any of these states to spend a larger share of its income for dental services. In view of the long-term downtrend in dentist supply, it is highly probable that at the present time more dentists could be absorbed in at least four and perhaps all of the states in the region without causing the slightest dislocation of existing practices. Actually, Wisconsin and Minnesota already rank high among the states in the number of dentists they support in relation to the purchasing power of their residents. But in the four largest states in the region the supply of dentists falls far short of the numbers being supported in the majority of non-Southern states. Consequently, a conservative assumption for the future might see the residents of these states spending at least as large a share of their income for dental care in 1975 as residents of the Nation’s best-supplied states were spending in 1955. Among the top-ranking 24 states, the average amount of personal income available per dentist was $3.5 million in 1955. This meant that there were 116 dentists for every $400 million of consumer income, a level of support which might easily be expected to prevail by 1975 in Illinois, Indiana, Michigan, and Ohio.

At these higher levels, which are more realistic in view of the changes in dental demand which can be expected over the next two decades, a total of 41,250 dentists will be needed in 1975. This total represents a net increase of 22,750 over current levels and is 18,650 larger than the number required on the basis of population growth alone. At this higher level, 32,330 new dentists will be required to supplement the 8,900 dentists of 1958 still alive in 1975.

Individual state dentist demands—To recapitulate, if the Great Lakes region is to meet both replacement needs and the need for additional dentists which will arise as a result of the region’s future growth, an exceedingly large number of new dentists must enter practice in the Great Lakes states. Even to meet demands for care equivalent to those being met today the Great Lakes region must attract and hold more new dentists by 1975 than are in practice in the entire region today. The above table, which summarizes the estimates presented in the two preceding sections, shows that the number of new dentists needed to meet this minimum level totals nearly 23,450 and that the total grows to about 32,350 if the higher demands which are likely to prevail in 1975 are met.

By far the majority of the region’s need for new practitioners will
arise in its three largest states. Illinois leads Ohio and Michigan in the number needed to permit meeting today's level of effective demand in 1975 but will need fewer additional to come up to the higher level of demand which seems more likely to prevail by 1975. This is a reflection of the fact that the level of effective demand now being met in Illinois exceeds the levels of demand now being met in Ohio and Michigan. A total of 5,825 new dentists must enter practice in Illinois to meet service demands equivalent to those being met in this state at the present time. Michigan will require 4,950 new dentists and Ohio 4,500. At the higher—and more realistic—level of estimate, however, it is Ohio which will have the greatest need for new practitioners. If Ohio is to have enough dentists by 1975 to meet demands equivalent to those being met in the Nation's best-supplied states today, almost 8,000 new dentists must enter practice there between 1958 and 1975. Michigan will require 7,550 new dentists at this second level of estimate and Illinois, 7,150.

By comparison, the needs of the remaining states are small. Indiana, however, will need at least 2,950 new dentists and more probably 4,425. And even in Minnesota and Wisconsin, where high levels of effective demand already prevail, the number needed (about 2,600 at both levels of estimate) exceeds the number in practice today.

CONCLUSIONS

Although a large number of new dentists will be added to the region's dentist supply by 1975, it is clear that the Great Lakes states
Figure 4

Dentists required to meet probable service demands vs. total supply expected in 1975

Great Lake States

Supply Requirements

Thousands

Illinois Indiana Michigan Minnesota Ohio Wisconsin

20
10
0
will need many more dentists in the future than they can currently expect to have. The number entering practice between 1958 and 1975 will be barely sufficient to permit needed replacements and meet the minimum needs associated with population growth. And at least one state—Illinois—will be seriously short of meeting even this inadequate goal. In this state, the number of new dentists entering practice will fall short by almost 900 of the number needed to maintain the current persons-per-dentist ratio. And since the supply estimates make no allowance for outmigration of established practitioners, the deficit for Illinois could grow to upwards of 1,500 if current migration trends continue. Similarly, the other states in the region have little or no margin available for compensating for outmigration. Exclusive of the potential loss in Illinois, these losses could total close to 1,000 dentists by 1975.

Very large deficits must be overcome if future demands for care are to be met. To maintain the 1955 relationship between income and dentist supply will require that the region have about 9,600 more dentists than are currently in prospect. To improve the ratio between income and dentist supply sufficiently to meet the higher demand level which seems likely to prevail in 1975 will require that a deficit of approximately 18,500 be overcome (Figure 4).

Ohio, which is expected to account for a large share of these needs, must have an additional 1,800 dentists to meet the minimum demand estimate and approximately 4,800 dentists to meet the higher estimate of projected need. Illinois and Michigan face deficits of almost the same magnitude. Additions to the Illinois dentist supply will leave the state nearly 2,900 short of the number needed at the minimum demand level and about 4,200 short of the number needed at the higher level of estimate. Michigan will require, at a minimum, 1,250 more dentists, and more probably, close to 4,300 to meet estimated dental demands.

Indiana is another state which will be seriously unable to meet future demands for care. It will be short from 1,400 to 2,900 dentists. Deficits for Indiana are relatively more serious than are the larger deficits in the more populous state. Additions to Minnesota’s dentist supply by 1975 will leave a shortage of nearly 1,400 and to Wisconsin’s, nearly 900.
Our Responsibilities in
International Dental Relations*

OREN A. OLIVER, D.D.S., LL.D.,
Nashville, Tennessee

I AM VERY HAPPY to have the opportunity to discuss with you “Our Responsibilities in International Dental Relations.” In my opinion, this is one of the greatest challenges that confronts us today.

Your chairman, Dr. Bowyer, has said: “No longer is there an old world and a new world but now we have one small world that is getting smaller every day.” Although there may be some question as to what country has the lead in certain scientific developments, there is no question about the United States of America being the world leader in the art and science of dentistry. Every other nation of the world looks to us for professional guidance.

This is not to say we excel in every phase of professional activity—for there is a great deal we have learned and must continue to learn from our colleagues in other countries. In fact, the origin of formal international dental relations was a little over fifty-eight years ago when the Federation Dentaire Internationale was formed in Paris.

Miles Gordon, President of the International Dental Congress of 1900, was the genius and inspired leader in the formation of the Federation Dentaire Internationale. The Federation has continued to develop throughout a troubled half century until today it stands as a strong international federation binding together the great national dental associations of the world.

The dental profession may be proud indeed of its international association, because with the exception of the Red Cross Society of Geneva it is the oldest international health organization in existence today. It may at first appear strange that dentistry, which is perhaps the youngest of the learned professions, should boast of having the oldest international organization devoted to a specialty in the health fields. However, throughout its history the dental

* Presented at the meeting of the Tri-State Section of the American College of Dentists, Memphis, Tennessee. December, 1958.
profession has been fortunate in having among its members throughout the world, men of vision imbued with enthusiasm and a love for their profession, who refused to look upon their calling as an isolated and national entity. These men believe that dentistry, to be placed on a firm, idealistic foundation, must be international in character. They believe that infinite good can be accomplished by international exchange of ideas. Above all, these men believe in the international brotherhood of men, practicing the same profession and carrying the same problems.

The Federation has as its functions the promotion of International dental congresses every five years; the maintenance and strengthening of bonds of fellowship between national dental societies; the encouragement, in a general way, of any activity that the organization may advance that may contribute to dental science; the awarding of the “Miller Prize” for distinguished service to dentistry; and other international awards; the publication of an international dental journal; and finally, the collection of professional documents with the hope of eventually establishing an international dental library center to serve the profession.

The objectives of the FDI are, as you would expect, the attainment by all peoples of the highest level of dental health in its relation to individuals and to populations as a whole. It has been said that all great international organizations conform to certain fundamental characteristics. They are enumerated as follows: that the original concept of the organization is the product of one mind and not the result of a committee deliberation; that the time and moment is favorable for the germination of the seed which the originator is endeavoring to plant in the minds of his fellows; that the scheme must be realistic, not simply visionary; that the organization must be able to discharge adaptive functions and the ideal of organization must be directed toward a goal which has a universal appeal to the minds of all men of good will irrespective of their race, politics, or religion. The outstanding example of this universal appeal is found in the International Red Cross of Geneva. As you would expect, the FDI is bound up with the history of the dental profession and I could easily describe it to you as a serial story with each chapter ending with an international dental congress.

From a Federation designed to organize world congresses each five years, the FDI has through the years gradually extended its
sphere of influence and usefulness, until today it represents a World Organization, dedicated to the advancement of dentistry in all of its many and varied specialties. This is shown by the fact that not only is the FDI a recognized non-governmental organization, affiliated with the World Health Organization, but, as a direct result of FDI endeavors, the World Health Organization recommended the provision of a dental program.

The wording of the resolution approved by the Sixth World Health Assembly in Geneva on May 20, 1953, was as follows:

"The Sixth World Health Assembly, Considering that the Fourth World Health Assembly recommended that the Director-General study the possibility of setting up a program in dentistry; considering that exploration of this particular field has gone forward for several years,

1. RECOMMENDS that the Director-General include provision for a program in dentistry in his program and budget for 1955 as far as financial possibilities will allow; and

2. THANKS the International Dental Federation for its continued cooperation."

Membership of the FDI is limited to national dental societies which are entitled to send official delegates to the annual meetings of the Federation and are members of the General Assembly. These delegates put forward the views and exercise the right to vote on behalf of the national dental associations, and in this way each member association may influence the deliberations and resolutions which are of international import.

At the same time, we are aware of the thousands of individual dentists throughout the world who are interested in international dentistry, and who are anxious and willing to support the FDI personally, even though their national dental association is already a member of the Federation. These men are able to become supporting members of the FDI, and on payment of a small annual subscription are entitled to receive the quarterly issues of the International Dental Journal, which is the official organ of the FDI. They also receive a News Letter dispatched from the office of the Secretary-General at regular intervals, containing items of international interest. At the same time, various concessions are granted to supporting members, including reduced registration fees of annual meetings and at the World Dental Congresses.

The International Dental Journal is published with the intention of providing an international account of recent advances in the science of dentistry, written by eminent men from all parts of the
world. As the time approaches for the holding of a World Dental Congress, the Journal publishes international reviews which will form the basis of discussions at the Congress, and afterwards, it prints the general transactions of the Congress.

The original object of the Federation was to sponsor an international dental congress at regular intervals, but as the Federation evolved through more than half a century the original objective became simply one means of implementing the present broader objective: the attainment by all peoples of the highest level of dental health in its relation to the individual as a whole.

While I was in Europe, where I have had the honor of presiding at the annual meetings of the FDI, I have had many opportunities of discussing the various aspects of international dentistry. I was particularly impressed by the fact that there was a very evident recognition among our European colleagues of the rapidly growing importance of the Latin American countries so far as dentistry was concerned, and a realization of the influence which these great nations will exert on dentistry throughout the world.

We have learned a great deal from our colleagues in Europe and from other parts of the Old World. We, in turn, can help with new ideas and the freshness of the Inspiration which emanates from the New World. Together, with a "One World" philosophy, we can play our part in the advancement of the profession to which we have dedicated our life's work, and each one of us can continue to strive for the ideals which Charles Gordon fostered in 1900.

If you are proud of your profession, if you are rightly proud of the men who in the past have striven to make dentistry what it is today, if you wish to play your part in this generation in upholding the dignity of our profession and furthering its advancement throughout the world, I can think of no better way for you, as an individual, to assume your responsibility than for you to become an active member of the Federation Dentaire Internationale.

I urge you to write immediately to Dr. Obed H. Moen, 6 Main Street, Watertown, Wisconsin, secretary of the U.S.A. section. Dr. Moen will be pleased to assist you in becoming affiliated with this fine organization. As an active member, you will have the privilege of helping to cement the bond of friendship between our country and other countries throughout the world. Through this organization, you will have the privilege of lending your individual effort to world peace and prosperity. As an active member, I hope you will
attend and participate in the next International Dental Congress. At the last Congress, there were sixty-seven countries represented, the largest international gathering of its kind ever held. Those of us who were fortunate enough to be present were very impressed by the excellence of that Congress and came away with the feeling that we had learned many things and gained many friends for ourselves and our country.

It is indeed a sober thought that today in every corner of the earth there are colleagues sharing the same problems at their chairsides, with which you and I have to contend. It is, however, a heartening reflection that we are all bound together in friendship engendered by our common interests, and that we have an International Federation in which that friendship can come to full fruition.

The Federation Dentaire Internationale is the chosen instrument of the world dental profession to achieve these goals. If dentistry is to have its proper voice in the global discussion and solution of the problems relating to improved health and world peace, it must have at its disposal an effective agency for international activity. The Federation is organized to meet this need and for the future must have the unstinting moral and financial support of those who have dedicated their lives to the improvement of world dental health.

In my opinion, one of the greatest advancements in dentistry in this country in the past twenty-five years, has been the establishment of the Council on Dental Education in the American Dental Association. I am sure all of you are familiar with the Council on Dental Education and realize that one of its principal responsibilities is the accreditation of dental schools and of programs for training auxiliary dental personnel. It is the only agency which has the authority to evaluate these educational programs and because of this, its official listing of accredited schools is recognized by the public, by other professional agencies, and by the federal and state agencies. I am sure you also know that since the Council must attest to the quality of the educational standards of these programs, that it is also called upon to advise institutions and other groups as they give consideration to the establishment of new programs. Unfortunately, none of the other countries of the world has at the present time an agency in its dental organization which has similar authority to our Council on Dental Education. This is one area in which the American Dental Association can provide much needed leadership to these
other countries. I am happy to report that this is being done by Dr. Shailer Peterson, secretary of our Council on Dental Education, who has made several trips to other countries to assist them along these lines.

I thought it would be of interest today to mention to you that it was in this hotel in this city about twenty-five years ago that an amendment to the constitution and by-laws of the American Dental Association was drafted which created the Council on Dental Education. It was my personal privilege to be present on that occasion along with approximately twenty-five other interested dentists. This amendment established a Council composed of three representatives from the American Dental Association, three representatives from the American Association of Dental Examiners, and three representatives from the American Association of Dental Schools.

The first ADA meeting following this conference in Memphis was Dr. Frank Casto's meeting at New Orleans, where we had a hearing with the Deans of the Dental Schools. All but one thought our idea was terrible! Dr. LeRoy Miner gave us his support. Incidentally, he was made president-elect of the ADA at this meeting. Although a little discouraged, we were determined not to give up. We brought up the amendment again the next year at San Francisco. We gained a little more support but we still didn't win. The following year at Atlantic City we thought passage of the amendment was assured. However, one man argued that the secretary of the Council had to be a dentist. Most of us did not agree but this argument prevented passage at this meeting. Finally the following year, we won at the meeting in St. Louis.

The Council was established in 1938 and the first secretary was Dr. Horner. He did a wonderful job in getting all dental schools established as colleges of a university. Today all dental colleges are examined by the Council and a list of accredited schools is published annually in the *ADA Journal*.

The principal function of the Council is to work with the administrators of dental schools in an effort to help them maintain the high standards that are expected. It also recognizes that when it finds an institution is no longer able to maintain these high standards that this should be announced to the public and to the profession through its periodic accreditation listings. The Council does not list the schools in an order which would described the degree by which they
meet various requirements. They are merely listed "approved" or "provisionally approved." Those listed "provisionally approved" meet the very minimal standards and their graduates are eligible for examination by state licensure boards.

In addition to the accreditation of dental schools, the Council is also responsible for accrediting schools of dental hygiene. As a part of the consideration of its long range program, the Council has discussed the possibility of developing a mechanism for accrediting formal graduate and postgraduate training programs. They have had the authority for evaluating these programs for several years but it has not yet been possible to develop an effective program in this very complex area of accreditation.

Although we met with much resistance from the Deans in the beginning, it is now encouraging to find 100 per cent cooperation from all Deans and university administrators. It is also interesting to note that the original amendment that was written in this hotel was not changed one word until it was passed! If I never made any contribution to dentistry other than having a part in the establishment of our Council on Dental Education, I would feel very proud.

Giving other countries of the world the benefit of our experience in this important field of dental education is a great international contribution. The Tri-State Section can claim some credit for this since the original conference was held in this hotel and several of your members participated.

In the years ahead, I am sure other important contributions to International Dental Relations will come from this Section. The opportunities are many. The need is great. I urge you to accept the challenge.
Chairman's Address—Tri-State Section
American College of Dentists*

FRANK P. BOWYER, JR.
Knoxville, Tenn.

It is a rare privilege to serve as the tenth chairman of this Tri-State Section of the American College of Dentists. Letters I have received during the past few weeks from officers of the College and other Sections have convinced me that this is the outstanding individual section in the entire College. Such comments as:

"You fellows put us all to shame." "How do you consistently do it, year after year?" "Your Section is the envy of us all."

These and many others are a beautiful tribute to the nine chairmen and other officers who have preceded me—a well-deserved compliment to each of you loyal, dedicated Fellows of this Section. Yes, a man cannot help but have a feeling of pride to be your chairman. I thank you for this privilege, and trust that I have adequately fulfilled my responsibility.

The subject I wish to discuss with you is "The Dentist's Responsibility in Recruitment." To me, this is one of the most urgent and important problems confronting the dental profession today.

The Dentist's Responsibility in Recruitment

In the past 10 years there have been unprecedented changes in every phase of American life. The Federal budget has increased from 33 billion in 1948 to 75 billion in 1958. The population of the nation has risen from 146,631,000 in 1948 to 173,211,000 in 1958. At the current rate our population should reach 230,000,000 in 1975. This expanding economy has produced many significant changes in the American way of life. Our standard of living has improved dramatically until today it is the highest any citizen of any nation has ever known. As a part of this improved standard of living, health services must be made available on an increasing scale to larger segments of the population.

* Read at the meeting of the Tri-State Section of the American College of Dentists, Memphis, Tennessee, December 13, 1958.
In dentistry, the dollar value of dental services rendered rose from one billion in 1948 to almost two billion in 1958. The average net income of the practicing dentist increased from $8,000 in 1948 to $12,500 in 1958. The number of dentists increased from 79,000 in 1948 to 90,941 as of September 1, 1958. As an essential health service dentistry has participated fully in the growth of the American economy.

The American Dental Association membership shows a 10,000 increase during the past ten years. This is only an increase of 1,000 per year and large gains in the immediate future are hard to anticipate since the number of new dentists each year is not much larger than the number who die or retire annually. There is an anticipated 3,100 new dentists in 1958 and an estimated 2,100 will die or retire.

In 1938 there were 39 dental schools; in 1958 we have 43 in full operation—eight schools being opened since 1945. Currently there are four new schools, two of which are in the first year of operation and two of which have completed the first two years of operation. This means 45 schools will graduate classes in 1960, and 47 schools will graduate classes in 1962. A conservative prediction for the future might appear as follows: 1965, 49 schools; 1970, 52 schools; 1975, 55 schools. The 55 schools in 1975 will graduate an estimated 4,100 new dentists per year.

The Council on Dental Education reports that this year 4 per cent fewer students have applied for admission to freshman dental classes than in recent years. This decrease is extremely small; nevertheless, if it denotes the beginning of a trend it should be a matter of concern to the dental profession. The continuing increase in the population plus the increase in the public's appreciation of good dental health make it imperative that the profession continue to interest an increasing number of highly qualified young men and women to select dentistry as a career.

In a recent editorial, Dr. William R. Alstadt states:

"Dentistry is challenged by the increasing emphasis currently being placed on scientific and technical education for the American student; an emphasis deemed necessary to produce the engineers and technologists required to support our rapidly developing scientific way of life. Dentistry must re-evaluate its methods of introducing the high school and preparatory student to the advantages of a dental career."
"It is the responsibility of every dentist and of every dental society—local, state and national—to inform college entrants of the opportunities offered by a dental career. The dental profession is competing with industry and science for the nation's more qualified young men and women—individuals which dentistry must have if the profession is to continue its advancement and maintain its position in the healing arts.

"Dentistry cannot overlook this challenge. The public, in most instances, is poorly informed regarding the content of a dental education, what predental courses are required, and the special aptitudes needed by a student to become a dentist."

In 1956, the Recruitment Committee of the American College of Dentists sent out a questionnaire to the dental colleges in the United States and Canada. It asked four basic questions: (1) Do you find good applicants for the study of dentistry are plentiful? (2) Should effort be made to interest desirable persons? (3) Should guidance plans be developed? (4) Would motivation studies help in selection? Replies were received from 35 dental colleges in the United States, and 4 in Canada. Over 50 per cent of the schools indicated that good applicants for the study of dentistry are not plentiful. Seventy-five per cent of the schools felt that an effort should be made to interest desirable persons in a career in dentistry. Almost one hundred per cent agreed that guidance plans should be developed at both high school and college levels. Almost all agreed that studies in motivation for the practice of dentistry would be helpful, not only in the development of plans for guidance to dentistry, but also in the elimination of undesirable persons from the dental field.

From the results of this questionnaire and other factual information mentioned above, it is evident that there is definitely a need for a well planned recruitment program in dentistry. I would like to present to you a brief outline of some of the responsibilities of the dentist in a recruitment program.

First, let us accept this basic fact; for every privilege and opportunity we enjoy, we have equal responsibilities. Certainly it is a privilege to be a dentist, and we are awarded opportunities just as great as our individual capabilities will allow or assist us. Therefore, we certainly have great responsibilities to our profession, and to the public.

Generally, these responsibilities encompass two areas—the present and the future. We today are definitely responsible for the future
of our profession. Our primary responsibility in this regard lies in the field of student recruitment. If we encourage and guide into our profession sufficient numbers of young men and women of proper caliber, the future is assured. If we fail to do so, we have failed in one of our main obligations to our profession and the public.

To aid us in the obligation of recruitment, let us remember that the success of recruitment for the future will be in direct proportion to the manner in which we fulfill our obligations of the present. To adequately meet our obligations of the present, we must plan and activate a personal program of continuing education which will constantly improve our knowledge and skill and service to our patients. To be a well rounded program, this must include self-education in the fields of philosophy and art as well as science.

There are very few individuals who enjoy more privileges in a community than a dentist. Therefore, there are very few with more responsibility to the community. Consequently, in addition to our professional services, we should go forth and seek ways that we may make contributions to the over-all welfare of our respective communities. "He who waits until he is asked, has waited far too long.” I am sure you will find that the public rarely begrudges a man personal success if he is appreciative and considerate of those to whom he owes his success. If you hope to enjoy real success, you must lend your abilities to the community that awards you that success. It is not enough to render a good professional service within your office. You cannot be content to look at the world through a mouth mirror. If you want a good place in which to live and practice, educate and raise your family, you must do your part as a well educated, intelligent citizen. I like to see a man proud of the place in which he lives, and live in it so the place will be proud of him. There is no better way to interest capable young men in your profession.

Remember also the personal opinion your community has of you as a man or woman, as a husband or wife, as a father or mother, is vitally important, not just to you personally, but to the profession you represent. You are constantly on the spot, your every action is observed by someone in your community. Therefore, it is essential that you live your public life and private life in a manner that commands respect for you and your profession and offers encouragement to the youth of your community.

We can be justly proud of our present day scientific and technical
status and the humanitarian benefits afforded by our profession. However, our pride must be tempered with humility. We must have a sincere desire to better utilize our skills and knowledge in service to our fellow man. No matter how much knowledge or skill we possess, it is the manner in which we use it that is so important today. This is public relations, and public relations is the key to our present and future status. Yes, in the final analysis it is good public relations that will attract desirable young people and control the destiny of dentistry.

As I see this problem today, this activity must be coordinated and carried on at several levels. At the national level, the College Recruitment Committee must conduct certain specific projects, the results of which will be of value to the Sections in their activity.

At the Section level, a program must be established that will carry this activity to the community level, for it is here that real beneficial productive action must be taken. This means that if we are ever to have a recruitment program of any real value, it will require the interest and action of every individual College member in his home community. However, he must be given the tools with which to work by his Section and the College Recruitment Committee.

Actually, to be most effective, our program must involve all dentists. Therefore, it behooves us to stimulate increased interest in the American Dental Association and in each State Dental Association in this important problem. We must try to get some specific action projected down to the District Dental Society level. Perhaps this could be done by establishing in each state a committee composed of a dentist from each district who in turn would serve as chairman of a district committee to work on the problem at the grass roots level.

In each area the problem will be somewhat different, but there are certain basic facts to be recognized. We must interest youth at the high school level, preferably we should reach the freshman student. We cannot wait until the last week of his senior year to approach him about his professional career. By this time, the better students have selected their careers. Also, we must remember that curriculum planning for dentistry must start with the eleventh grade. Guidance counselors and other advisors as well as parents must be made aware of this fact. Also, at this point parents and the student
should be made aware of the financial and other responsibilities they are undertaking.

The possibilities of a Dental Society Committee or individual effort do not stop with the guidance programs in our high schools. There is a great deal that can be done for the pre-dental student after he enters the university or college.

In interviews with pre-dental students, I found that many of them were completely lost. Many of them didn’t know just why they had chosen dentistry. Many of them had no idea of what to expect from the profession of dentistry, and very few of them had any idea what responsibilities they were assuming in the profession itself or as a citizen in the communities in which they would live.

The students with whom I talked as well as several university and college administrators all agreed that the pre-dental students need orientation and encouragement, and it would be most welcome and helpful if a group of the men in private practice would participate in some activity to assist the pre-dental students. One good suggestion received was to organize the pre-dental students into Pre-Dental Clubs, and sponsor meetings at least once each quarter, more often if possible, at which time the boys can discuss problems with each other and with advisers from the local dental society.

Our responsibility does not stop here. It is an obligation of the profession to carry on a continuing program of orientation and encouragement through dental college and then to assist the new graduate in locating, equipping his office, starting his practice, and his affiliation with the local dental society. Even beyond this, it behooves the older men in the profession to advise and guide the younger men in every way possible.

To reach these youths at either the high school or college level, we have three basic approaches: (A) personal contact; (B) printed material; (C) movies. We are all familiar with the booklet “Careers in Dentistry,” published and distributed by the Council on Dental Education of the American Dental Association. We are also familiar with the splendid movie filmed by the Student Recruitment Committee of the College several years ago. (This Committee is currently considering several other movies—approaching the problem from different points of view.) Also, of course, there are other printed material and movies available which can be used to definite advantage in a student recruitment program. Although printed materials
and movies can be quite helpful as aids, to be most effective they must be utilized by an interested individual practicing dentist. Personal contact by a dentist is unquestionably our best recruitment tool.

Perhaps you are aware that the College Recruitment Committee is planning a national level study in motivation. When this study is completed, the findings will certainly be most helpful in any program of student recruitment. It could also prove helpful by improving present procedures in the selection of dental students and will bring attention to those non-intellectual areas in which attitudinal orientation in the best direction for the profession could be emphasized.

As we recruit young men and women for our profession, let us remember that there are certain qualities of personality and character which are equally important to manual dexterity and scholarship. Let us search for young men who possess intellectual curiosity, flexibility, emotional maturity, a sense of humor, tact, tolerance, self control, dependability and honesty, organizational ability, resourcefulness and accuracy, good common horse sense; a neat appearing person in good health who, above all else, has moral and intellectual integrity and a deep sense of sincerity and honesty. The future status of the dental profession is largely determined by the care and intelligence used in the selection of our successors for personality and character as well as for their manual dexterity and scholastic ability. "Silver whistles have never yet been made out of pigs' tails or a silk purse from a sow's ear."

"The science of dentistry is still in its infancy. It was born 118 years ago in Baltimore—groping at first in the mists and shadows of experimental uncertainty; it has enlarged into the clearer atmosphere of a brighter dawn—where its achievements are penetrating the clouds and spreading sunshine over the hearts and minds of man. A small band of noble men in the beginning, it has swept across the horizon 'til today it embraces many earnest practitioners and an ever increased interest on the part of the public at large.

"Out of the chaos of the past, the doubt, dread and despair—has come this beneficent science to bring solace to the sons of men— and the end is not yet. There are greater achievements ahead. And the future holds high the banner of promise.

"When the possibilities and significance of dentistry are fully rec-
ognized by the world, there shall be recorded one of the greatest achievements and greatest tributes that have ever fallen to the fortunate lot of any calling.*

For the many privileges and opportunities that are ours as a dentist and a respected citizen in our communities, let us assume one of our greatest responsibilities, which is to encourage and guide into our profession young men who manifest high professional potential. We must not sit idly by and let the increasing public need and demand for dentistry bring into our profession individuals who do not possess the basic qualifications of true professional personnel. We are the ones responsible to our profession and to the public for the next generation of dentists. Let us fulfill this obligation with serious determination.

* From an editorial by Dr. C. N. Johnson, The Journal of The American Dental Association.
Dental Program of the World Health Organization*

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There are two principles in health education which should be kept in mind, and these are that you should plan programs with people and not for people, and that people are convinced by what they find out for themselves, not by what they are told. To me, these two statements are most important and need to be given every consideration as one plans and thinks in terms of dental programs on an international basis. I feel that it is difficult for a person from a dentally developed country to realize that there are many countries of the world where there is insufficient dental manpower to supply even the emergency dental needs of the people, and that it will take years to increase the demand for dental services in these countries, especially where the people must struggle to get enough to eat, where habit patterns of the different racial groups vary markedly, where social prejudices prevail, and where the background of experience with health services is limited.

Now let me discuss the World Health Organization and its relatively new program in the field of dental health.

During the conference held in San Francisco in April 1944 to set up the United Nations, it was proposed that an international health organization should be established. However, it was not until April 7, 1948 that the formal establishment of the World Health Organization as a specialized agency of the United Nations took place, with the first World Health Assembly meeting in Geneva in June 1948.

The World Health Organization as the official coordinating agency in the field of international health has as its objective the attainment by all peoples of the highest possible level of health. The policy-making and regulatory functions of the Organization are vested in the Health Assembly, which is made up of delegates from the Member States, now numbering 88, and it is important to know that the

* Read at the meeting of the Tri-State Section of the American College of Dentists, Memphis, Tennessee, December 13, 1958.
** Director, Division of Dental Health, Tennessee Department of Public Health.
regular budget to cover all activities in the field of public health in 1958 is approximately $13,500,000.00. The regular budget does not, however, include funds made available for the health activities received from the Technical Assistance Board, UNICEF, the Pan American Sanitary Bureau, and others. The Executive Board of 18 persons is designated by the Member State which the Health Assembly has determined. These members are entitled to serve on the Board, which is the executive organ of the Health Assembly. Among the important executive functions are the interpretation of policy and the scrutiny of program and budget. The Director-General, assisted by his secretariat at Geneva Headquarters, is responsible for preparing program proposals, budget estimates, and carrying out the policies and work programs established by the Assembly. A large part of the responsibility for carrying out programs, however, is decentralized to the regional offices, of which there are six—Africa, the Americas, Eastern Mediterranean, Europe, Southeast Asia, and Western Pacific. One regional office, the Americas, has a full-time dental consultant, Dr. Mario Chaves. The Regional Committees, composed of representatives of Member States and Associate Members within the region, formulate policies of a regional character, and these Committees meet each September, at which time the Member States propose their program needs. It is at these meetings that dental activities for the Member States and inter-country programs are proposed.

In the constitution of the Organization, health is defined as a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity. It states that the enjoyment of the highest attainable standard of health is a fundamental right. It declares that governments have a responsibility for their people’s health. It states that unequal health development in different countries is a common danger, and that health achievements in any state are of value to all. It asserts that the health of all peoples is fundamental to the outcome of peace and security.

Dr. M. G. Candau is the Director-General of the Organization which has its headquarters in Geneva, Switzerland. The secretariat is composed of three departments, each in charge of an Assistant Director-General. These departments are Central Technical Services, Advisory Services, and Administration and Finance. Dental health activities are a part of the Division of Advisory Services in the Division of Organization of Public Health Services.

During 1958, nearly 700 projects assisted by WHO were in opera-
tion in 112 countries and territories. The types of requests were most varied and included programs aimed at strengthening health administrations, the control of communicable diseases, education and training, maternal and child health, environmental health, nutrition, dental, and a major activity, the eradication of malaria.

Briefly, some of the international responsibilities of the Organization are influenza, new drugs, quarantine, vaccines, pestilence, and the peaceful use of atomic energy.

The History of the Dental Program

As an affiliated non-governmental organization the FDI has taken an increasing interest in the activities of the World Health Organization.

Dr. Philip E. Blackerby, Jr., of the USA, and Dr. Guttorm Toverud, of Norway, served as short-term consultants to the Organization for periods of three and six months respectively prior to the appointment in June 1955 of the first Dental Health Officer, Dr. John W. Knutson, Chief Dental Officer and Assistant Surgeon-General of the United States Public Health Service. His major responsibility during his six months' assignment was to prepare a manuscript suggesting the framework for the Organization's dental health program along the lines outlined by the WHO Consultant Group which met in Geneva from September 20-25, 1954. The program suggested has now been in operation for more than two years, and the delegations are being carried out. An Expert Advisory Panel on Dental Health has been created, and even though not yet complete it now includes 53 members from 34 countries. Each member serves for a period of five years, and every effort is made to utilize the talents and abilities of these individuals, as well as of others throughout the world who may be solicited to provide information and advice from time to time, primarily on a correspondence basis.

Since September 1958, Dr. Bruce Rice, of New Zealand, has replaced me as Dental Officer for the Organization.

Dental Program Plan

The dental health program of the Organization is directed toward the improvement of dental health on a world-wide basis. The dental health activities aimed toward the attainment of such a goal are carried out through the media of providing technical guidance, on
request, to countries through the regional offices, the convening of expert committees, study groups and seminars on pertinent dental health problems, the use of epidemiological investigations, or other methods which foster research in important fields of dentistry, the training of personnel by the awarding of fellowships, and collaborating with other WHO units on matters which involve dentistry. At the present time the section on Assistance to Educational Institutions is preparing a World Directory of Dental Schools.

**Regional Dental Officer Appointed in 1954**

In September 1954 the Regional Office for the Americas appointed a public health dentist to serve as a staff member, even before the Organization had appointed one at Headquarters in Geneva, with the first two years of activity being financed by a grant from the Kellogg Foundation. Since then, the Dental Consultant has conducted on-the-spot surveys of dental services in countries throughout the Region, and all countries throughout the Region, and all countries in Latin America have been visited. These valuable data, collected on such matters as the range of dental education, length of courses, number of yearly graduates, number of qualified dentists in each country, the availability of dental services for school children and for workers and their families, as well as details of dental associations, will serve as a basis for future long-term planning. It is clear that the number of dentists, especially in the rural areas, is quite inadequate to cope with the essential needs of the people. It would seem that a closer coordination of the efforts of dental schools, dentists working in public health, and dental associations, will be necessary for any long-range improvement. A regional dental public health training program started in Sao Paulo, Brazil in 1958.

**Regional Seminars and Study Groups**

The first inter-regional seminar on dental health was held in Wellington, New Zealand, during the period May 4-21, 1954. This meeting was held since it was obvious that the role of WHO as a coordinator in the field of international health made it necessary for steps to be taken in order that the different countries could learn something of each other's problems, identify common problems, and find means for answering some of the questions that arose if
methods were developed to improve dental health. The seminar was attended by 37 individuals from 21 countries, who were provided fellowships to attend. Seven internationally known dental consultants were invited, with the main objectives of the meeting being to exchange views regarding important dental health problems of the three participating regions, the Western Pacific, Southeast Asia, and Eastern Mediterranean, to discuss needs for training personnel and means of developing more effective dental programs as a part of public health services. Those who attended the seminar still discuss the meeting and the recommendations that were made. In evaluating the effects of the seminar after more than three years, one has the impression of a stone dropped into still waters; the first strong ripples gradually diminish, though continuing to spread out over the surface. In the same way the seminar had an immediate effect on national dental health administration, and still continues to have its influence.

The interest created has carried over, and the Government of Australia has asked that another dental health seminar be held in conjunction with the Australian Dental Congress in 1959, for which arrangements are being made.

During the week of February 3, 1958, the Regional Office for Europe sponsored a study group on dental health services for children, since it was felt that differences which exist in dental health services for children in Europe would be sufficiently great to present intriguing problems. A digest of the report has been published in the October 1958 issue of the Chronicle of the World Health Organization, and limited copies of the report are available from the WHO Regional Office for Europe in Copenhagen. Twenty participants at the meeting came from 15 European countries, and the group represented health administrations at the national and local level, dentists in charge of national and municipal dental programs, professors in dentistry for children, and dentists in private practice, and others. The purpose of the study group was to provide for an exchange of views as to the type of dental services that could be provided, as well as to enable the participants to examine critically dental health services for children as to methods used in the field of administration, preventive measures, curative services, and dental health education. Tentative plans are under way for a seminar to be conducted by the Regional Office in the field of preventive dentistry in 1960 if possible.
Two Expert Committees have been held in Geneva. The first was on water fluoridation, since the optimal concentration of fluoride in drinking water is considered one of the most significant developments that has taken place in the history of preventive dentistry. Under the authority of the World Health Assembly, the Director-General convened during the period of August 26-30, 1957. The report is now published in English, French, and Spanish, and is listed as No. 146 of the World Health Organization Technical Report Series of 1958; it can be purchased from the Organization or through a bookseller. The report, prepared by the seven authorities from six different countries, concluded that drinking water containing about 1 ppm of fluoride has a marked caries preventive action, and that no evidence has been presented that water containing this concentration impairs the general health, and that controlled fluoridation of drinking water is a practicable and effective, public health measure.

The Second Expert Committee was held during the week beginning June 30, 1958. The subject was “The Effective Utilization of Dental Auxiliaries.” The report, prepared by those in attendance from various areas throughout the world, will be presented to the Executive Board of the Organization in January, and as soon as this group approves the report it will be published. The major reason for convening such an Expert Committee was to see if it would be possible to prepare a report on auxiliary dental personnel which could be related to stages of cultural and economic development, and to suggest an outline of the organization of auxiliary personnel on the basis of evolutionary patterns rather than referring to auxiliaries in terms such as name systems. Such patterns would range from services for the relief of pain and infection, to advanced concepts of preventive and curative services. It is felt that the group prepared an excellent report which will be very useful to governments as well as to national dental associations in planning for a more effective utilization of auxiliaries.

Fellowship Program

Since 1947 a number of fellowships have been granted in the field of dentistry. This number has increased each year until in 1957, 17 individuals in the field of dentistry received a fellowship. Their
studies range from short-term travel fellowships to observe programs in operation, to the taking of postgraduate and graduate courses of study. Doctors Shourie and Chawla, of India, who attended the meeting of the ADA, were on WHO fellowships provided upon recommendation of their national government.

**Short-Term Consultants**

Dental disease as a public health problem is now receiving special attention in many countries throughout the world. Countries which have requested and have received the benefits of advice from short-term consultants in dental health program planning and strengthening of dental education are the Philippines and Hong Kong in the Western Pacific Region, Indonesia, Malaya, India and Thailand in the Southeast Asia Region, and in selected countries of Central and South America where a consultant has been used to assist in the training of individuals to operate fluoridation programs. The Dental Health Officer, while on travel mission, has provided technical guidance to the regional directors and also has served as a consultant to Member States. A new project started in July 1958 was the appointment of a dental consultant in the Eastern Mediterranean Region for a period of one year to assist countries with their dental health problems.

**Fostering of Dental Research**

To design and promote epidemiological investigations and to foster research are important dental health activities of the Organization. The first activity in this field was a joint project on the epidemiology of periodontal disease in India. The groups participating were WHO Headquarters and Southeast Asia Regional Office, the Ministry of Health of India, the India Medical Research Council, and the United States Public Health Service. A workshop was held in Bombay from July 22 to August 3, 1957, at which time efforts were made to standardize the reporting of periodontal disease in India and to work out the final details for the epidemiology study. Those participating in the program were the Honorary Dental Advisor to the Ministry of Health of India, Colonel N. N. Bery, and dental research workers of six dental schools in India, as well as Dr. Sigurd Ramfjord of the University of Michigan School of Dentistry, serving as the Organization's consultant, and Dr. John C. Greene, assigned to the project by the United States Public Health Service.
It has been found that in several rural communities near Kaoshiung City, Taiwan (China), the children are almost completely free of dental disease, even though the fluoride content of their drinking water is low.

At the request of the Taiwan government, WHO arranged for Dr. B. Lilienthal, a senior research fellow of the National Health and Medical Research Council of Australia, to visit the area to work with local officials for a period of three months this fall.

**Program Plans for the Future**

Plans are under way for the Organization to study the epidemiology of periodontal disease, to study the standardization of reporting of dental diseases, to continue a program which will foster dental research, and to be of assistance to members of the Regional Offices, and to governments, in regard to dental health problems.

**Summary**

It must be realized that the dental health programs of the World Health Organization are in the initial stages of development. International dentistry and the dental problems faced in different countries of the world should be of great interest to all dentists. It would seem that they should become involved in considering ways of assistance to those countries where the dental profession is less developed. One way to become more interested in international dental activities would be to become a supporting member of the FDI, an organization of national dental associations composed of 54 full-member associations and 5 corresponding members associations from 43 countries. Dentists should also become more interested and better informed in regard to the activities of the WHO, especially those which deal with dentistry, since this Organization is the official coordinating agency in the field of international health and has as its objective the attainment of all people of the highest level of health.
A Survey of Current Dental Periodicals—I

T. F. McBRIDE, D.D.S.*
O. W. BRANDHORST, D.D.S.**

There has been no large-scale statistical survey of dental periodical literature since the monumental report of the Commission on Journalism of the American College of Dentists in 1932. In the more than 25 years since that report—"The Status of Dental Journalism in the United States"—appeared, the dental periodical picture has changed greatly in many aspects.

In 1955 the Committee on Journalism of the College initiated a long-range study of current dental journalism. This "planning and blue-printing" report recommended that a factual survey of dental periodicals be undertaken. Preliminary work was started the following year and continued into 1957. A Sub-Committee on Special Projects (consisting of the two present authors) was created to complete the survey. The study progressed and was brought to a close in late 1958. This paper is the first in a series that will present the findings.

PROCEDURES

Existing lists of current periodicals were obtained: the "Editors of Dental Journals" prepared by the American Dental Association, and the membership list of the American Association of Dental Editors. Neither was complete.

Exhaustive library searching and checking added more periodicals to the list. Also, pertinent inquiries concerning periodicals were incorporated into a number of questionnaires and studies associated with other College activities and revealed still more periodicals being published.

A list of over 180 dental periodicals currently being published was compiled. A questionnaire was drawn up to obtain data such as title, owner, date of first issue, frequency of issue, page size, average number of pages per issue, average circulation, type, classification as to ownership, manner of distribution, geographic distribution, and information having to do with the selection of the editor, his tenure, salary, honorarium, assistance, and time devoted to the publication.

* Consultant, Committee on Journalism, American College of Dentists.
** Secretary, American College of Dentists.
These questionnaires were sent during 1956 and 1957. The returns were good, slow, but not complete. Repeated requests for cooperation were sent during 1958 to those periodicals not responding, and to the several new periodicals that had appeared. The results have been gratifying.

As of March 1, 1959, data have been obtained from 175 dental periodicals. This is the most complete listing that has been compiled in the dental periodical field. An attempt to obtain data from the remaining known periodicals is being made.

This first report on the survey presents three tables.

Table A—List of Periodicals and Owning Group.
Table B—List of Periodicals Grouped According to Type.
Table C—Number of Periodicals by Type.

The first table is an alphabetic listing of the periodicals and the ownership.

The second table is a listing of periodicals as to type. This survey does not intend to “classify” current dental periodicals. The publications have been grouped into “types” in the dictionary meaning of the word: a kind, class, or group as distinguished by a particular character; the general character . . . common to a number of individuals and distinguishing them as a group. The periodicals were grouped as follows:

- American Dental Association publications
- Constituent association publications
- Component society publications
- Specialty and ancillary group publications
- Dental school publications
- Fraternity publications
- Other United States dental association publications
- Canadian associations publications
- Atypical:
  - a) independent subscription publications
  - b) national publications distributed free
  - c) house organs

The third table presents the number of each type.

The statistical findings that have been obtained in the survey will be presented in a subsequent report. A third paper will consider the information concerning the editor that has been tabulated.
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2. “The editorial and advertising departments of [these] publication[s] are separate physically and in function. Material is accepted for publication solely on its editorial merit and at the complete discretion of the editor. Editorial schedules are not known in advance to members of the business office staff, and advertising schedules are not revealed to the editor. None of the owners or members of the staff of Dental Digest [and Oral Hygiene] is engaged in the business of manufacture, sale, or distribution of dental equipment, supplies, or pharmaceuticals.”
Dental Medicine, Journal of ........................................ American Academy of Dental Medicine
Dental Research, Journal of ....................................... International Association for Dental Research
Dental Students Magazine, The ................................... Students Magazines, Inc.
Dental Survey ............................................................. Dental Survey Publications
Dental World .............................................................. Pierre Fauchard Academy
Dentistry for Children, Journal of ................................. American Society of Dentistry for Children
Denver Dental Association, News Letter of .................. Denver Dental Association
Detroit Dental Bulletin ............................................... Detroit District Dental Society
District of Columbia Dental Society Journal .................. District of Columbia Dental Society
Desmos ................................................................. Delta Sigma Delta Fraternity
Essex County Dental Society (N. J.) Bulletin ............... Essex County Dental Society
Fifth District Dental Bulletin (Calif.) ......................... Fresno-Madera District Dental Society
Fifth District Dental Society (Ala.), Newsletter ............. Fifth District Dental Society
Fifth District Dental Society (N. Y.), Bulletin of .......... Fifth District Dental Society
Florida State Dental Society, Journal of ................. Florida State Dental Society
Forthnightly Review ................................................. Chicago Dental Society
Frater ................................................................. Psi Omega Fraternity
Georgetown Dental Journal ....................................... Georgetown University School of Dentistry
Georgia Dental Association, Journal of ...................... Georgia Dental Association, Inc.
Harbor District Dental Society (Calif.), Bulletin of .......... Harbor District Dental Society
Harvard Dental Alumni Bulletin ................................... Harvard School of Dental Medicine and Dental Alumni Association
Houston District Dental Society (Texas), Journal of .... Houston District Dental Society
Hudson County Dental Society (N. J.), The Bulletin ...... Hudson County Dental Society
Hypnosis and Psychology in Dentistry, Journal of ...... Academy of Applied Psychology in Dentistry
Idaho State Dental Association Newsletter .................. Idaho State Dental Association
Illinois Dental Journal .............................................. Illinois State Dental Society
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[^3]: Printer for the local dental and medical societies.
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4. Regional journal; official publication of the dental associations of Minnesota, North Dakota, and South Dakota.

6. "Directed by Editorial Council representing the Academy of Denture Prosthetics, the American Denture Society, and the Pacific Coast Society of Prosthodontists."
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**TOTAL:** 175
### Table B

**List of Periodicals Grouped According to Type**

**American Dental Association:**
- American Dental Association, Journal of Dental Abstracts
- Oral Surgery, Anesthesia, and Hospital Dental Service, Journal of

**Constituent:**
- Alabama Dental Association, Bulletin of Aloha-Dontia
- Arizona Dental Journal
- Arkansas Dental Journal
- California State Dental Association and Nevada State Dental Society, Journal of
- Colorado State Dental Association, Journal of
- Connecticut State Dental Association, Journal of
- Delaware State Dental Society, Newsletter
- District of Columbia Dental Society Journal
- Florida State Dental Society, Journal of
- Georgia Dental Association, Journal of
- Idaho State Dental Association Newsletter
- Illinois Dental Journal
- Indiana State Dental Association, Journal of
- Iowa Dental Journal
- Kansas State Dental Association, Journal of
- Kentucky State Dental Association, Journal of
- Louisiana State Dental Society, Journal of
- Maryland State Dental Association, Journal of
- Massachusetts Dental Society, Journal of
- Michigan State Dental Association, Journal
- Mississippi Dental Association, Journal of
- Missouri State Dental Association, Journal of
- Nebraska State Dental Association, Journal of
- New Jersey State Dental Society, Journal of
- New Mexico State Dental Journal
- New York State Dental Journal
- North Carolina Dental Society, Journal of
- North-West Dentistry (Minnesota, North Dakota, South Dakota)
- Ohio Dental Journal
- Oklahoma State Dental Association, Journal of
- Oregon State Dental Journal
- Pennsylvania Dental Journal
- Revista Dental (Puerto Rico)
- South Carolina Dental Journal
- Southern California State Dental Association Journal
- Tennessee State Dental Association, Journal of
- Texas Dental Journal
- Virginia State Dental Association, The Bulletin
Washington State Dental Association Journal
West Virginia Dental Journal
Wisconsin State Dental Society, Journal of

Component:

Akron Dental Society (Ohio), Bulletin of
Alameda County District Dental Society (Calif.), Bulletin of
Bergen County Dental Society (N. J.), Bulletin of
Black (G. V.) District Society (Ill.), Bulletin of
Bronx County Dental Society (N. Y.), Bulletin of
Central Ohio Bulletin
Central Queens Dental Society (N. Y.), Bulletin of
Cincinnati Dental Society, Bulletin of
Cleveland Dental Society, Bulletin of
Columbus Dental Society, Bulletin of
Corydon Palmer Dental Society (Ohio), Bulletin of
Dallas County Dental Society (Texas), “D.D.S.”
Dayton Dental Society (Ohio) Bulletin
Denver Dental Association, News Letter
Detroit Dental Bulletin
Essex County Dental Society (N. J.) Bulletin
Fifth District Dental Bulletin (Calif.)
Fifth District Dental Society (Ala.), Newsletter
Fifth District Dental Society (N. Y.), Bulletin of
Fortnightly Review (Chicago)
Harbor District Dental Society (Calif.), Bulletin of
Houston District Dental Society (Texas), Journal of
Hudson County Dental Society (N. J.), The Bulletin
Indianapolis District Dental Society Bulletin
Kansas City District Dental Society (Mo.), Journal of
Kenosha County Dental Society (Wis.), Bulletin
Kern County Dental Society (Calif.) Newsletter
Knapp (Isaac) District Dental Society (Ind.), The Reveille
Los Angeles County Dental Society, “D.D.S.”
Mad River Valley Dental Society (Ohio), Bulletin
Mercer Dental Society (N. J.), Journal of
Middlesex County Dental Society (N. J.), Newsletter
Midtown Dental Society (N. Y.), Bulletin
Milwaukee (Greater) Dental Association, Inc., Bulletin
Minneapolis District Dental Journal
Mirror, The (Oakland County Dental Society, Michigan)
Montgomery-Bucks Dental Society (Penna.), Bulletin
Nassau County Dental Society (N. Y.), Bulletin of
Newark Dental Club (N. J.) Bulletin
New York Journal of Dentistry
Ninth District Dental Society (N. Y.), The Bulletin
Northern District Dental Society (Georgia), The Bulletin
Odontological Bulletin (Western Pennsylvania—Pittsburgh)
Omaha District Dental Society (Neb.), The Chronicle
Orange County Dental Society (Calif.) Bulletin
Outlook and Bulletin, Southern Dental Society (N. J.)
Passaic County Dental Society (N. J.), The Bulletin
Peoria District Dental Society (Ill.), "Extractions"
Philadelphia County Dental Society, Bulletin
Plainfield Dental Society (N. J.) Bulletin
Queens County Dental Society (N. Y.) Bulletin
Racine County Dental Society (Wisc.) Bulletin
San Antonio District Dental Society (Texas), Journal of
San Diego County Dental Society (Calif.) Bulletin
San Francisco Dental Society, Newsletter
San Mateo County Dental Society (Calif.), Monthly Bulletin
Second District Dental Society (N. Y.), Bulletin of
Southern Maryland Dental Society, The News
St. Clair District Dental Society (Ill.), Bulletin
St. Louis Dental Society Bulletin
St. Paul District Dental Society (Minn.), The Bulletin
Suffolk County Dental Society (N. Y.) Bulletin
Tenth District Dental Society (N. Y.), Bulletin of
Toledo Dental Society (Ohio), The Bulletin
Tri-County Dental Society (N. J.) Bulletin
Union County Dental Society (N. J.), The Bulletin
Williamsburg-Greenpoint (N. Y.), Dental News
Winnebago County Dental Society (Ill.) Bulletin

Specialty and Ancillary:

Academy Review
American Academy Gold Foil Operators, Journal of
American Association of Public Health Dentists, Bulletin of
American College of Dentists, Journal
American Dental Hygienists' Association, Journal of
American Dental Society of Anesthesiology, The Journal
American Journal of Orthodontics
American Society of Psychosomatic Dentistry, Journal of
Angle Orthodontist
Annals of Dentistry
Dental Assistant, The
Dental Education, Journal of
Dental Medicine, Journal of
Dental Research, Journal of
Dental World
Dentistry for Children, Journal of
History of Dentistry, Bulletin of
Hypnosis and Psychology in Dentistry, Journal of
Implant Dentistry, Journal of
New Jersey Society of Dentistry for Children, Bulletin of
New York Society for Dentistry for Children, Bulletin of
Oral Roentgenology, American Academy of, Newsletter
Oral Surgery, Oral Medicine, and Oral Pathology
Periodontology, Journal of
Prosthetic Dentistry, Journal of
Western Society of Periodontology, Journal of
Dental School:

Baylor Dental Journal
Baltimore College of Dental Surgery, Journal of
Bur, The
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Contact Point
Georgetown Dental Journal
Harvard Dental Alumni Bulletin
Indiana University School of Dentistry Alumni Bulletin
Kansas City, School of Dentistry, University of, Journal of
Michigan, School of Dentistry, University of, Alumni Bulletin
New York University Journal of Dentistry
Northwestern University Bulletin, Research and Graduate Study
Penn Dental Journal
Society for Dental Research, N.Y.U. College of Dentistry, Journal of
Temple Dental Review
Tufts Dental Outlook
Washington University Dental Journal
Western Reserve University Dental Alumni Bulletin

Fraternity:

Alpha Omegan, The
Desmos
Frater
Upsilon Alpha News
Xi Psi Phi Quarterly

Other U. S. Dental Associations:

Medical and Dental Bulletin
National Dental Association, Bulletin

Canadian Associations:

Canadian Dental Association, Journal of
Ontario Dental Association, Journal of

Atypical:

a) independent subscription publications:
Dental Digest

b) national publications distributed free:
Dental Students Magazine, The
Dental Survey
Oral Health (Canadian)
Oral Hygiene

c) house organs:
Modern Dentistry
Radiography and Photography, Dental
Tic
TABLE C

Number of Periodicals by Type

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(To Be Continued)
The Interrelation of Dental and Oral Health*

DAVID W. BROCK, D.D.S.
St. Louis, Mo.

IMPORTANCE OF DENTAL HEALTH TO GENERAL HEALTH

"Health may be defined as a state of optimal physical, mental and social well-being—not merely the absence of disease or infirmity."

Within this broad statement may be included dental health as essentially related to the three entities comprising the total living experiences of the individual, the three being inseparable and wholly interdependent. Variation in the oral status from the normal to the extent that it interferes with the comfort, function and appearance of the individual may ultimately and successively affect the components of the total health structure. Abnormal variations, being either congenital or acquired, or both, may register unfavorable impacts on the physical being and mental processes of the host that reflect in his social attitude and upon those with whom he comes in contact. Congenital malformations and abnormalities, such as cleft palate, prognathism, extreme malocclusion, missing and malformed teeth may well be the underlying factors in psychosomatic illness because of their interference in speech and facial harmony in addition to associated masticatory problems.

The irreversible nature of dental disease points toward ultimate systemic disease. Dental caries, the most prevalent of all chronic diseases, without intervention, involves all of the teeth with their resultant loss. During this destructive period, pathogenic organisms invade the supporting structures and gain access to the circulation. The progress of periodontal disease from a local mechanical, chemical or parasitic irritation to the deep-seated lesion with its potential as a focus for systemic disease, also illustrates the evident importance of dental health to general health, as suggested by the work of Billings

* Presented in 1957 and 1958 as part of the report of the Committee on Health Relations.
65
and Rosenow on focal infection. Pain and malaise associated with dental disease are factors in general health, as well as the nutritional disturbances due to impaired mastication. Although the general health may not be impaired to the extent of incapacity, the worker may be “partially incapacitated by one of the many physical ailments caused or aggravated by dental infection.”

Dental disease is also recognized as the cause of absenteeism among school children and in many occupations.

Since life is functional, health may be readily interpreted as a state of organic equilibrium maintained by the harmonious functioning of the various components of the individual. The variation from normal of one or more of the components cannot but react unfavorably upon the associated components and in that manner alter the function and structure of the whole. Hence, dental health, implying the optimal status of the teeth, their supporting and contiguous structures, becomes of primary importance both because of its portrayal of conditions presumably of a local or circumscribed nature, and as a mirror to constitutional disease or variations suggesting disease. In the words of Thoma, “A practitioner—may be consulted about conditions of the oral mucosa and jaws which may be due not only to local infection or tumor formation, but often to somatic disease. Thus, the alert dental diagnostician is often in a position to give valuable advice to his patient so that the latter may receive proper medical attention.”

Burket aptly epitomizes the importance of dental health to general health as follows: “The teeth and the oral tissues must be regarded as an intimate part of the human organism and they must be considered in states of health and disease in terms of their effect on the organism as a whole.”

Of historical significance, insofar as dental health is related to general health, is the report of the Commission to Parliament in 1919 concerning dental health conditions in England: “the state cannot afford to allow the health of the workers to be continuously undermined by dental neglect.”

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The Importance of General Health to Oral Health

The importance of general health to oral health becomes significant to the dentist in his understanding and approach to the problems associated with alleviation of oral symptoms of systemic diseases, maintenance of optimal oral health in their presence and in the prevention of unfavorable and frequently disastrous sequelae due to failure in oral clinical control. Identification of a formidable, although incomplete, group of systemic diseases and toxicoses, their categorical arrangement and suggestions as to the treatment of their oral manifestations has been effected and recorded by numerous authors. Among them are such commonly found conditions as diabetes mellitus, cardiovascular disease, tuberculosis, nutritional diseases, blood dyscrasias and therapeutic reactions to the treatment of such diseases as epilepsy and others. However, on the assumption that "Health may be defined as a state of optimal physical, mental and social well-being—not merely the absence of disease or infirmity," there is little doubt that many other conditions falling within demonstrable variations from this broad plane of optimal human conduct provide sufficient reactions in the human organism as to produce minor fluctuations in general health that comprise the vast twilight zone of subclinical symptoms which frequently precede acute or chronic exacerbations, and which are registered by the tissues in the oral cavity to some degree.

Conversely, the importance of general health to oral health becomes dependent on the results of systemic variations from the optimal as registered by the oral tissues and/or their function, whether the variations be induced by localized disturbances other than oral, by total invasion of the organism, by the impact of influences associated with psychical and physical environment or by biologic alteration. A challenge constantly confronting dentistry is that of determining the relationship of general health to the many insidious variations from normal observed in the oral cavity. These variations may range from mild gingivitis or excessive calculus forma-

1. Burket, Lester W., Oral Medicine, J. B. Lippincott, 1946.
tion, frequently in early childhood, to chronic generalized stomatitis in advanced years, including periods of periodontal disturbances that occur and disappear spontaneously and seem indifferent to treatment, frequently subsiding after surgery in distant parts of the body. Apparently many such conditions persist as sub-clinical indications of systemic disturbances. In a review of formerly considered idiopathic diseases subsequent investigation will be found to have clarified the nature of the substance and occurrence of many of them, hence, the challenge of idiopathy has resulted in increased specificity.

For many years the general health of the patient has assumed primary importance in the field of oral surgery to the extent that modern preoperative requirements demand a thorough physical examination of the patient. This is also true in other special fields of dental practice. The periodontist automatically becomes a diagnostician of certain systemic conditions affecting his treatment of the patient. The practice of endodontics is intimately influenced by the general health of the patient. The importance of general health in the formation of the teeth and contiguous structures has frequently been emphasized.

This primary role of general health in oral health continues throughout the lifetime of the individual and cannot be ignored by those devoted to better health through dental service. By keen observation and recognition of variations in the individual organism we may assess the level of organic harmony constituting good health.

7. Sommer, Ralph Frederick; Ostrander, F. Darl; Crowley, Mary C., Clinical Endodontics, W. B. Saunders, 1956, p. 207.
Report of the Committee on Dental Prosthetic Service*

The 1956 Dental Prosthetic Service Committee outlined several excellent objectives for current and future study.

Under the heading of "Responsibilities in Dental Prosthetic Service" was listed the following statement, "The dentist's responsibility is a complete one and includes all recognized procedures involved as performed by him as well as those which he may delegate to others."

Your 1957 Committee has selected this last statement as the theme of their annual report, with special emphasis on the dentist's working relations with members of the dental laboratory craft and/or industry.

Much has been said and written about problems existing between the dental profession and the dental laboratory craft and/or industry.

There is no question regarding the existence of such problems, but a review of the published material reveals that too little is said about the dentist's responsibility in his relations with the dental laboratory craft. This is unfortunate because it is the dentist who is totally responsible for the end results of all dental laboratory procedures, so far as they may affect the final restoration that is delivered to the patient.

Good relations between any groups result only from proper understanding and respect for each other's problems and the exertion of mutual effort in their solution. There are at least two sides to every problem and this is particularly true of dentist-dental laboratory and dental laboratory technician relations.

It is the aim of this committee to outline some of the responsibilities of the dentist in his dealings with dental laboratory technicians and/or commercial dental laboratories, and to suggest a few corrective measures.

Certainly there is plenty of evidence of bad practices on the part of some unethical laboratories and laboratory technicians but it cannot be said that the dental profession is totally free of blame for some of these bad practices. Bad dental laboratories would cease to exist

* Presented November, 1957.
as dental laboratories if dentists were sufficiently selective in their choice of laboratory assistance.

It is the opinion of many dental authorities on this subject that the vast majority of problems relating to the dental laboratory industry and some dental laboratory technicians is directly or indirectly the fault of dentists, and that most of these problems would cease to exist if the individual dentist would assume his complete responsibility in his relations with the laboratory craft. Those of us who are especially familiar with the laboratory phases of dentistry, and have taken sufficient interest to observe some of the problems facing the laboratory industry, have no hesitancy in agreeing with the foregoing statement.

One has but to visit an ethical commercial dental laboratory and observe some of the impressions, casts and other material furnished to them by dentists, and from which the laboratory is expected to produce good results, to realize that the dental profession would do well to clean up some of its own linen.

Your Chairman has frequently inquired of prosthodontists who actually deliver good prosthetic dentistry to their patients if they encounter any major problems in their relations with commercial dental laboratories or with dental laboratory technicians in connection with their laboratory work. Their answers are usually NO. The important fact is that the dentist who is fully conscious of the magnitude of the problems associated with denture construction and who has prepared himself to deal with these problems in the light of modern concepts actually does encounter very little difficulty in his relations with the dental laboratory craft. Why?

(a) He knows that he alone is responsible to his patients for the dental service which he is delivering to them.

(b) He knows, from personal experience, that good end results can be accomplished only when precision-like attention is given to every single link of the lengthy chain of procedures that are involved in denture construction and service.

(c) He knows that he should be capable of performing all phases of denture construction, not alone the chairside work, and that he cannot expect to properly guide and direct others whom he might call upon to assist him unless he does possess this ability.

(d) He keeps properly informed regarding the improved materials and techniques that are used in laboratory procedures and imparts this information to those who may be assisting him in his dental practice.

(e) He does not assume that all dental laboratories or dental laboratory technicians are experts in their field (although many could be classified as such)
or that their training, to do his laboratory work, is the responsibility of some one else. Instead he selects his laboratory or technician very carefully, being sure that they are completely ethical and that they are desirous of rendering only the best possible service.

(f) He does not consider himself above spending the time or effort that may be indicated in helping those who are to help him, to become more proficient in their work. In fact he takes pleasure in this very worthwhile effort because he knows that by helping others he is not only helping himself, but is also helping to elevate the standards of his profession.

(g) He is not interested in cut-rate dental laboratory fees because he knows, from his own personal experience, that good laboratory work requires time and that it would be most unreasonable to expect good service at unreasonably low fees.

(h) He furnishes his laboratory technician with properly constructed casts made from impressions of properly prepared mouths; with proper denture designs, because it is only the dentist who has all of the information necessary for proper denture design, and he furnishes all other information and requirements necessary for a successful end result. He can do this because he personally knows what is required.

(i) He does not leave the impression with his patients that he is just a middle man between them and the dental laboratory craft. He is the dentist and he assumes his proper responsibilities to the patient.

(j) He does not blame the laboratory technician for his own failures because he knows that most failures resulting from poor laboratory work are either directly or indirectly his own responsibility.

(k) He fully appreciates the great satisfaction that comes from work well done and shares this enthusiasm with his laboratory technician. Good dental laboratory technicians are worthy of our finest respect, good will and helpful cooperation. We need many more of them and, in our opinion, we would have them if dentists would learn to respect more fully the importance of the dental laboratory phases of dental practice.

The foregoing statements have been made for the purpose of outlining a few of the desirable attitudes and practices in good dentist and dental laboratory technician relations. They are not figments of the imagination, but constitute a part of the true picture of relations and practices as they exist between many dentists and their dental laboratory technician and/or dental laboratory. They might well constitute the basis for formulating improved teaching procedures and serve also as a partial guide to all dentists who utilize the services of the laboratory craft.

Some of us on this committee serve as consultants in prosthetic dentistry to Government Services. As such we meet many recent graduates from dental schools who are serving as internees.

One of the most discouraging features of this experience is the very slight regard that many of these internees have for the laboratory phases of prosthetic dentistry. Why is this true? And why do so
many practicing dentists evidence so little respect for the laboratory phases of prosthodontics, once they are ensconced in their private offices?

The questionnaire to dental schools, suggested by the 1956 Dental Prosthetic Service Committee, was sent out from the Central Office of the American College of Dentists. The results were reported to your Chairman in a letter dated July 30, 1957, from our Secretary, Otto Brandhorst, and are as follows: of the thirty-five dental schools in the United States that have reported, all state that the dental student does receive sufficient instruction in dental laboratory procedures to enable him to later plan and direct such procedures. Thirty-four of these schools state that the student does receive sufficient experience in dealing with dental laboratory procedures and sufficient instruction in the use of a dental laboratory technician.

If this is a true picture of dental school instruction, student experience, and respect for dental laboratory procedures, why do we see so much evidence of irresponsibility on the part of so many practicing dentists, of all ages? Have we failed to sufficiently emphasize this phase of dentistry?

Those who specialize in the rendering of denture service to patients know full well that prosthodontics is one of the most complex phases of dental practice. It requires a combination of well coordinated abilities that are not to be found in all individuals nor can these abilities be fully developed by the student during his limited dental training period in dental school.

Books, essays and clinics do not alone furnish that inner something that may eventually come to one whose practice status is dependent upon the quality of the denture service which he renders to his patients. He must add to such information through further study and experience with a goal of perfection constantly in mind.

Your Chairman knows, from personal experience, that being a full-time teacher in a dental college is not an easy task and that such an assignment does not always offer the time and opportunity to experience some of the very important features of denture service that are to be found in a private prosthodontic practice.

Could the prosthodontic phase of dental education be improved by occasionally exposing students to dentists who are specializing in this field of dentistry in private practice? Such specialists would be able to bring to attention some of the practical phases of denture
service and maintenance, including relations with the laboratory craft, that might not otherwise be a part of the dental school curriculum.

During the Second World War the Military Services found themselves confronted with gargantuan problems in prosthetic dentistry. They were not prepared to meet these problems because prosthetic dentistry had never been an important phase of Service dentistry. For actual clinical work they had to depend primarily upon the abilities of civilian dentists who were serving in the various Dental Reserve Corps, and the results, after allowing for the many handicaps imposed upon them by the urgency of military activities, were not always optimum as those of us who served as Special Consultants to the Surgeon General during that period can testify.

The Services, during World War II and since, have employed civilian specialists as Consultants to augment their extensive teaching activities in dentistry. The results are reported as being very beneficial. Many improved prosthodontic conditions, now evident in the Services were brought about primarily through the vigorous efforts of Civilian Consultants. Could this general plan be employed to advantage in Dental Schools? It is believed that it could.

During the last year the American Dental Association has been confronted with a considerable problem in connection with the Dental Laboratory Industry and the Federal Trade Commission. Probably the most embarrassing feature of this problem, for dentistry, was the fact that individual dentists had supplied the industry with so much valuable material (from their standpoint) to support their arguments.

Fortunately, but with great effort on the part of the American Dental Association, the over-all problem is apparently resolved. We may not be so fortunate the next time.

In a paper entitled “Dentist, Dental Laboratory and the Patient,” read before the Academy of Denture Prosthetics, Columbus, Ohio, May 3, 1957, the author, Dr. A. H. Grunewald states:

“The dental prosthetic laboratories are accused of encroaching upon the rights and privileges of the dental profession, some of which is true. The dentist in turn is accused of not meeting his responsibilities, of shifting some of their responsibilities to the dental laboratories and charging the patient as though he had met them himself. Some of this is also true.

“... many dentists fear that the dental prosthetic laboratories are out to and will
usurp professional functions. If we go so far as to admit this trend exists, we should first of all recognize that it cannot be stopped merely by legislation, as some seem to think. It can be eliminated only by the dentist knowing and meeting his responsibilities.

“It is all right to say that the dental graduate can obtain additional training through postgraduate courses. They can and should, but for many reasons, both logical and illogical, too many never do.

“Another important factor in Dentist-Dental Laboratory relations is the lack of confidence that exists between the two groups, too often due to mere misunderstanding regarding technical factors. Lack of confidence results in poor personal relations.”

Your committee highly recommends this paper for general dental reading. We believe that it contains many constructive suggestions.

In a paper entitled “Partial Dentures,” published in the Journal of the American Dental Association in February of 1942 your Chairman stated: “Partial Denture Construction offers an opening to those who might wish to encroach upon the field of dental practice, and if this should ever occur, the dental profession will not be blameless.” He further stated that “...and a more nearly complete assumption on the part of each dentist of his full responsibility in this particular field of dental practice would, I am sure, improve the type of service being rendered.” (Your chairman might well have included all types of denture service in these statements, but it was implied.)

Our present problems are not new, they have simply been growing. Your Chairman has often heard our late past president, Walter Wright, say “let’s emphasize the positive—I surely like that song.” Could it be that we have been too hesitant about emphasizing the positive? Could it be because emphasizing all of the facts (the positive) is seldom the most popular path?

Probably no organized groups are better qualified to make suggestions in the field of prosthetic dentistry, than are the denture organizations. We believe that they could furnish valuable suggestions and recommendations to such other groups as the A.D.A. Council on Dental Trades and Laboratory Relations, the Council on Dental Education, and others.

As the current President of the Academy of Denture Prosthetics, your Chairman has appointed a Special Committee on Dentist-Dental Laboratory Technicians and Dental Laboratories relations. It is expected that this committee will make many constructive and pract-
tical recommendations which, it is hoped, will be approved by the
Academy, and later made available to other interested groups.

The importance of competent technical assistance in denture
construction cannot be over-emphasized and yet, even though the
number of dentists is slowly increasing, we are told that the number
of good dental laboratories and dental laboratory technicians is de-
creasing. Why is this true?

The reasons are numerous and in many instances they reflect
very unfavorably on many in our profession. Your committee could
easily provide the details of many hundreds of situations to em-
phasize this fact.

We might start our train of thought on this over-all subject by
considering the answers to two questions. (1) Why should any
young person seriously consider becoming a dental laboratory tech-
nician? (2) What is the dental profession doing to help make this
important auxiliary service more attractive to capable young people?

A few years ago it was necessary for at least one Dental Examining
Board to increase their examination requirements by several hours
because so many applicants, from one dental school in particular,
were proving so deficient in the laboratory phases of denture prosthetics.

The extra time was devoted to a rigid examination of the ap-
plicant in dental laboratory procedures and this in turn resulted in
greatly improved educational procedures in the school referred to.

It is the State Dental Examiner who actually unlocks the last door
that releases the recent graduate to render service to the public. If
dental schools are failing to properly prepare their students for the
practice of dentistry, including their relations with the dental labora-
tory craft, then it is the Dental Examining Boards that should find
it out and suggest the necessary corrections. But the Dental Examin-
ing Boards’ responsibilities should not end there. They should, and
in many cases do, continue to act vigorously to see that the conduct
of licensed dentists is in keeping with the Code of Ethics of the
dental profession and the Dental Practice Acts of their State or
District. Their problems in this regard are, in some areas, prac-
tically insurmountable, according to many factual accounts pub-
lished in our journals.

Is there not another, and possibly better, method of handling
the situation arising from bad practices by graduate dentists? Under
present conditions in many states and in the District of Columbia it is necessary to obtain lawyers, and witnesses who are willing to testify, together with tangible proof, and the whole affair, if brought to Court, is accompanied by unfavorable publicity which usually reflects unfavorably on our profession as well as the dentist involved. Our own Dr. Allison James has written some excellent material along this line which should be read by all of us.

Some Specialty Boards have an excellent method of handling unfavorable situations without resorting to the Courts. The following is a quotation from the rules of the American Board of Prosthodontics. "The issuance of the original certificate shall not preclude the holding of periodic re-examinations, should the Board decide such procedure to be necessary to maintain desirable standards for the specialty of Prosthodontics.

"Should evidence prove moral turpitude or unethical conduct or practice, on the part of the holder of a Certificate, the Board is required to refuse the issuance of the Annual Certificate, thereby revoking certification."

If our laws covering the licensing of dentists could be changed to permit the re-examination of a dentist, for just reasons, it would place the policing of the practice of dentistry more completely under Dental Boards. If such measures could be legally taken they would certainly act as a strong deterrent to those who might be tempted to deviate from proper conduct and practices, and would serve as a comparatively simple method for solving many problems which, under present methods, are not always properly solved and in some instances are being used in Courts to cast unfavorable reflections on the dental profession.

Only recently the Board of Dental Examiners of the District of Columbia found it necessary to remind local dentists of the laws governing the practice of dentistry in their area. In the first paragraph of their letter they stated that; "It has been brought to the attention of the Board of Dental Examiners that many dentists practicing in Washington (D. C.) and suburban areas are sending patients to dental laboratories for services, such as adjustment of clasps, occlusion of dentures, repairs and delivery of cases, etc. This or any similar action is in direct violation of the Dental Practice Act."

The reader is reminded that this essay has been designed to deal only with one side of the Dentist-Dental Laboratory Technician and
Dental Laboratory relations problem, namely, the individual dentist’s responsibilities in such relations. This particular phase of the subject was selected for discussion because it was felt that it had not, up to this time, been sufficiently emphasized.

It is hoped that future committees will continue to stress this feature of the over-all problem.

THE DENTAL PROSTHETIC SERVICE COMMITTEE
LUZERNE G. JORDAN, Chairman
ALLISON GALE JAMES, Vice-Chairman
VICTOR L. STEFFEL
ALBIN W. RAUCH
WALTER E. DUNDON

RECOMMENDATIONS

Based upon the theme that working relations between dentists and the dental laboratory craft would be greatly improved and fewer problems would exist if all dentists would assume their proper responsibilities in connection with the rendering of denture service, the 1957 Dental Prosthetic Service Committee makes the following recommendations:

1. That organized dentistry exert a more vigorous effort in emphasizing the individual dentist’s responsibility in dentist-dental laboratory technician and dental laboratory working relations. This could be accomplished in part at least, by the inclusions of more articles on this subject in dental publications and by including more essays and clinics on this subject in all dental society programs.

2. That the Council on Dental Education review, in the light of modern concepts, their estimate of recommended time allotments for undergraduate education in prosthodontic laboratory procedures, and that they instigate efforts that might lead to the establishing of acceptable courses of instruction in dental schools pertaining to the graduate's future working relations with the dental laboratory craft.

3. That dental schools take special note of conditions existing between dentists and the dental laboratory craft, with a view to possibly increasing emphasis on those features of dental education which might be directly or indirectly contributing to the over-all problems now existing.

4. That dental schools consider the occasional use of Consultants, consisting of dentists who are conducting successful private practices in the field of prosthodontics. The purpose being to expose the undergraduate to some of the practical phases of such a practice, that might not otherwise be encountered in the student's limited clinical experience in dental school. This would include special emphasis on the consultant's method of handling the laboratory phases of his practice and especially his dealings with the dental laboratory craft.

5. That dental societies and individual dentists make a greater effort to work
in cooperation with the ethical elements of the laboratory craft, in their areas, through special clinics, illustrated talks, and friendly conferences for the consideration and amicable solution of mutual problems. There are too many instances of sword point attitudes between the two groups.

6. That Dental Examining Boards consider the possibility of establishing simpler methods of disciplining dentists who are guilty of unprofessional practices. In other words, to place greater policing powers in the hands of Examining Boards and thus avoid, in all but extreme infractions, reliance upon Courts of Law.

7. That all prosthodontic societies participate vigorously in a study of dentist-dental laboratory technician and dental laboratory relation problems and that they be prepared to furnish their findings and recommendations to the proper Councils of the American Dental Association.

The following recommendations were approved by the Board of Regents:

**Recommendations**

1. That dental societies at all levels exert a more vigorous effort in emphasizing the individual dentist's responsibility in dentist-dental laboratory technician and dental laboratory working relations. This could be accomplished in part at least, by the inclusion of more articles on this subject in dental publications and by including more essays and clinics on this subject in all Dental Society programs.

2. That the Council on Dental Education of the American Dental Association review and revise upward the establishment of acceptable courses of instruction in dental schools pertaining to the graduate's future working relations with the dental laboratory craft.

3. That dental schools consider the occasional use of guest lecturers, consisting of dentists who are conducting successful private practices in the field of prosthodontics, the purpose being to expose the undergraduate to some of the practical phases of such a practice, that might not otherwise be encountered in the student's limited clinical experience in dental school. This would include special emphasis on the guest lecturer's method of handling the laboratory phases of his practice and especially his dealings with the dental laboratory craft.

4. That dental societies and individual dentists make a greater effort to work in cooperation with the ethical elements of the laboratory craft, in their areas, through special clinics, illustrated talks, and friendly conferences for the consideration and amicable solution of mutual problems.

5. That Dental Examining Boards consider the possibility of establishing simpler methods of disciplining dentists who are guilty of unprofessional practices. In other words, to place greater policing powers in the hands of Examining Boards and thus avoid in all but extreme infractions, reliance upon Courts of Law.

6. That all prosthodontic societies participate vigorously in a study of dentist-dental laboratory technician and dental laboratory relation problems and that they be prepared to furnish their findings and recommendations to the proper Councils of the American Dental Association.
MINUTES OF THE MEETING OF THE BOARD OF REGENTS
Chicago, Ill., February 8, 1959

ABBREVIATED BY THE SECRETARY

The Board of Regents met in the Conrad Hilton Hotel, Chicago, Illinois, on Sunday, February 8, 1959, convening at 9:00 a.m. Twelve persons were present. President Noyes presided.

Minutes of the Dallas 1958 session were approved. Report on minutes by the Secretary was received.

The Secretary reported a total membership of 2,547 as of January 31, 1959. He also reported that 14 Fellows had passed away since the Dallas report.

The Treasurer's report showed a balance in the bank as of January 31, 1959 of $13,565.60, with funds invested in bonds and special accounts amounting to $49,357.22, making a total of $62,922.82. Report received.

Reports from board members generally expressed disappointment and concern over inactivities at the section levels. Only a few sections have developed activities that carry forward the activities of the College as projected at the national level.

In the hope of stimulating section activities the secretary was instructed to submit to the section officers numerous suggestions which the Board felt worthy of projecting.

The Board reviewed the experiences of the ACD lecturers and the reports from the schools. The idea of an ACD Lectureship was given broad support. There was a broad feeling, however, that the lecture should be directed to upperclassmen rather than the freshmen. It was, therefore, decided to have the lectures prepared for upperclassmen and continue the lectureship on an annual basis beginning with the 1960-61 academic year. It was also agreed that more lecturers should be used, thereby assigning not more than three schools to a lecturer.

The Board of Regents spent considerable time reviewing the committee structure of the College. It was decided that the activities of several of the committees were so closely related that they could be combined without losing their effectiveness. It was agreed that
such combinations should be effected over the next several years. It was also agreed that several new areas should be studied for possible committee attention.

Plans for the New York meeting were broadly discussed. The meeting will definitely be pointed to the recognition of ADA Centennial and the College will be host to the American Dental Association and The Federation Dentaire Internationale on Sunday, September 13, 1959. Special honors and recognitions will be conferred at the meeting and an interesting all-day program is well along in development. The meeting will be held in the ballroom of the Waldorf Astoria Hotel.

O. W. Brandhorst, Secretary

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### CALENDAR OF MEETINGS

#### CONVOCATIONS

- September 13, 1959, New York, N. Y.
- October 16, 1960, Los Angeles, Calif.