

# Chapter XVIII

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR, 1929–1941

A depression that began with the collapse of the stock market in October 1929 soon gripped the United States and its Army. For the Dental Corps, the late 1920s had been a difficult time, with occasional glimmers of hope. Those occasional glimmers largely disappeared with the onset of the Depression and lasted until President Franklin D Roosevelt's administration (March 1933–April 1945) embarked upon its "New Deal" of social and economic relief programs after March 1933. While these fixes offered the long-term promise of getting the nation back on its feet, they took years to implement and were of little help to the Army. The US Army, its medical department, and the Dental Corps did not experience significant positive changes before the mid 1930s. Soon, the growing threat of world conflict arising from the aggressive actions of Nazi Germany, Fascist Italy, and Imperial Japan demanded heightened national security.

### *Dental Corps Leadership, 1929–1936*

Colonel Julien R Bernheim had been chief of the dental division and the Dental Corps since mid June 1928 when the Depression plunged the nation into a downward spiral in late 1929. The Dental Corps had been in bad shape throughout the 1920s, with too few resources and too much work, and the impact of the Depression on the Army made things worse. In his report for 1930, Bernheim commended the "spirit of earnestness and zeal" that the dental service personnel had demonstrated while maintaining "a high degree of efficiency" during the year. However, he also lamented that the lack of trained oral hygienists had severely limited

the prevention and control of pyorrhea, dental caries, and their more serious sequelae [*sic*]. . . . Here, however, as in its other efforts to furnish the required dental attendance for the Army, the Dental Service has been seriously handicapped by inadequate personnel. Each year for a number of years recommendation has been made for a substantial increase in personnel for this service and such recommendation is again earnestly renewed.<sup>1</sup>

In the surgeon general's "Letter of Transmission" for the 1931 annual report, Bernheim was able to insert a strong statement about the inadequacy of the dental service and a renewed request for the ratio of one dental officer per 500 soldiers that had been the Dental Corps' unrealized goal since before World War I:

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

The limited number of personnel of the Dental Corps can not cope with the demands made upon it. Before adequate dental service can be furnished, it will be necessary for Congress to grant a substantial increase in the authorized number of officers. A minimum of one dental officer for each 500 of military strength with additional personnel for service at general hospitals and for administrative purposes is necessary.<sup>2(p11)</sup>

The Depression allowed no relief, and the Dental Corps remained fixed at 158 officers, as it had been since January 1, 1923.

As Bernheim tried to solve his personnel shortage, a significant leadership and organizational change took place in the Office of The Surgeon General. On June 1, 1931, Major General Merritte W Ireland, the surgeon general since October 1918 and a long-time supporter of the Dental Corps, was succeeded by Major General Robert U Patterson (1877–1950), who served until May 31, 1935. The new surgeon general quickly reorganized the Office of The Surgeon General, effective August 1, 1931. The formerly separate dental, veterinary, nursing, library, and vital statistics divisions were abolished and became subdivisions of the professional service division under Colonel Weston P Chamberlain of the Medical Corps. The new dental subdivision was still composed of two sections: the administrative section under the chief, which handled all matters pertaining to the Dental Corps; and the dental service section under an assistant, which dealt with the dental service's clinical activities. As in the previous decade, these were the only two commissioned personnel assigned to the office. Despite contentions to the contrary, this change was not beneficial because it placed the chief of the Dental Corps and dental division under a subordinate organization, denying direct access to the surgeon general on Dental Corps and dental service matters.<sup>3,4</sup>

Bernheim repeated his appeal for more personnel in fiscal year 1932. On October 6, 1931, Surgeon General Patterson presented "a proposed bill to increase the efficiency of the Medical Department" to the adjutant general for the War Department.<sup>3,5</sup> The draft legislation put forth substantial increases in the Medical, Dental, and Veterinary corps, with the Dental Corps to receive 143 new dental officers and to expand dental coverage at all existing posts, adding those currently without coverage.<sup>5</sup> He explained that:

The bill is based on the actual needs of the Medical Department, in which for many years there has been an absolute shortage of personnel in all branches. Because of the apprehension that any increase given to the Medical Department might lead to an attempt to decrease other branches of the Army the former Surgeon General (General Ireland) refrained for more than eight years from making any official recommendation in the form of a bill which would fulfill the needs of his department. However, by the fall of 1926 the situation had become so serious that The Surgeon General did make known the needs of the Medical Department in a letter addressed to The Adjutant General (September 10, 1926). Moreover in his annual report each year attention has been called to the shortage in personnel. Apparently the time was not propitious and no action resulted in the War Department.<sup>5</sup>

Patterson went on to explain that his proposed legislative action was critical to the well being of the entire US Army:

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

The conditions under which the personnel of the Medical Department have been working for many years have led in many instances to a feeling of depression among its personnel which is now becoming quite serious. After careful study the requirements, as we see them in this office, have been embodied in the inclosed [sic] bill. In spite of the unpropitious time for presenting any bill requiring an increase in government expenses, even though a moderate one, this office feels that it should have on record in the War Department the actual requirements of the Medical Department which are felt to be necessary for efficient service. On the excellence of this administrative and professional service rendered by the Medical Department depends the physical welfare of the whole Army.<sup>5</sup>

Arguing that maintaining the health of the soldiers was “an economy measure in itself,” Patterson pointed out:

It is not believed that this bill is actually contrary to the economy program of the present administration. In fact in its broad sense it is an economy measure in itself for even in time of depression it is uneconomical to deny the best treatment to the sick and wounded. This is not only an immediate need but often has far-reaching results which may easily be reflected in untimely retirements and in large pension lists.<sup>5</sup>

Patterson’s initiative and arguments failed to change things in the Medical Department organization; the annual reports for 1932 and 1933 did not report approved personnel increases for any element of the Medical Department, and nothing further was mentioned about this draft legislation.

With many of the original contract dental surgeons and initial Dental Corps leaders retired or retiring, and with Julien Bernheim headed off to duty at Tripler General Hospital in Honolulu upon the expiration of his appointment on June 15, 1932, Surgeon General Patterson recalled Rex Rhoades from his post as senior dental surgeon at the US Military Academy for a second tour as Dental Corps chief. Rhoades was the only Dental Corps officer ever to serve two tours as chief until Major General Joseph L Bernier (1960–1967).

Rhoades’s time as chief in the 1920s had familiarized him with the problems facing the Dental Corps, which struggled with inadequate military and civilian personnel and a heavy workload. In a 1933 report, the surgeon general’s “Letter of Transmission” again pleaded the case for the 1-to-500 ratio and stated that it was “considered necessary if this corps is to perform properly the functions assigned to it.”<sup>6(p5)</sup> In his dental subdivision report, Rhoades addressed the problem, stating that the dental service was only “functioning as satisfactorily as its limitations will permit. . . . Its limitations do not permit the application of preventive measures, which undoubtedly accounts for the lack of improvement in dental health indices [see below, “Dental Health of the Army, 1930–1935”]. The dental service does not, therefore, meet the requirements of a true health service.”<sup>6(p172)</sup>

Drawing heavily on arguments that Major Walter D Vail (then Rhoades’s assistant for clinical operations in the dental subdivision) amplified in later articles (see below, “The questions is, will the Army do it?: Walter D Vail on Dental Health in the Army”), Rhoades pointed out what he considered to be the causes of the Army’s current dental problems. The current low enlistment

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

requirements brought in recruits with poor dental and oral health, and the lack of dental personnel meant that a robust dental health training program and sound preventive dentistry were impossible. Higher dental enlistment requirements were needed, along with “a suitable increase in dental service personnel” to provide “a dental health training program” that would produce “a genuine health service.” Rhoades concluded that “serious consideration is being given to this matter in view of placing these measures in effect,” but consideration was all that could be given without additional professional personnel.<sup>6(pp172–173)</sup> Apparently confronted with more pressing issues, Rhoades dropped the 1-to-500 ratio and the push for more professional personnel; neither appears in his final report as chief in 1934.<sup>7,8</sup>

In his 1934 report, however, Rhoades was again blunt in his assessment of the Army’s dental service. Now also struggling with the large new commitment of dental care for Civilian Conservation Corps (CCC) enrollees (see below, “Dental Service for the Civilian Conservation Corps, 1933–1936”), Rhoades lamented the lack of preventive dentistry that his service could perform:

The record of dental attendance is very satisfactory when the amount of service available is considered. It should be noted, however, that results have been accomplished by corrective rather than preventive measures. This is a condition that is unsatisfactory. The requirements for corrective measures are so great that preventive measures cannot be instituted with the present personnel.<sup>7(p164)</sup>

One of Rhoades’s lasting contributions to the professional development of Dental Corps officers was the revival of the *Dental Bulletin* in January 1933. The *Dental Bulletin* was originally compiled and published monthly (at the direction of Julien Bernheim) by the Army Dental School during 1929. It served as the Dental Corps’ professional bulletin (see Chapter XVII: A Return to Normalcy: from the World War to the Depression, 1919–1929) and it was one of the first things cut during the Depression. No issues were published in 1930, two appeared in 1931 (February and July), and one in 1932 (June). Rex Rhoades realized that the *Dental Bulletin* was a valuable means for professional communication, training, and instruction within the dental service and the Dental Corps. He revived it as a quarterly publication to be printed and distributed in January, April, July, and October by the Medical Field Service School as a supplement to the *Army Medical Bulletin*. It was sent to all Dental Corps officers and dental clinics. Rhoades appointed Major Walter D Vail to be the first editor for the new publication, whose initial issue appeared in January 1933. *The Dental Bulletin Supplement to the Army Medical Bulletin* was then published on a quarterly basis until it became *The Army Dental Bulletin* in January 1942. It ceased publication in July 1943 when it was merged into the new *Bulletin of the US Army Medical Department* (whose first issue appeared in October 1943).<sup>6,9,10</sup> During its years of publication under various names, the *Dental Bulletin* was an important tool for tying Dental Corps members together, maintaining esprit de corps and contacts, and assuring the continued professionalization of Army dentists.

On September 17, 1934, Colonel Frank P Stone, the last of the original contract dental surgeons then on active duty, assumed the position as chief of the

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR



*Colonel Frank P Stone was chief of the Dental Corps and dental division at the surgeon general's office from 1934 to 1938. Stone was the last of the original contract dental surgeons of 1901–1902 to serve on active duty and as chief of the Dental Corps.*

*Photograph: Courtesy of the National Museum of Dentistry, Major General Oscar Snyder Collection.*

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

Dental Corps and dental subdivision (September 17, 1934–March 16, 1938), still a component of the professional service division of the surgeon general's office. Rex Rhoades retired on September 30th.<sup>8</sup>

Julien Bernheim, Rex Rhoades, and Frank Stone brought years of experience in dentistry and the Army to their labors as heads of the Dental Corps during the years from 1928 to 1938. Their experience, however, was powerless against the stark realities of the Depression, the continuing lack of fiscal resources to fund important Army programs and readiness, and an Army increasingly pushed into make-work relief programs and away from its mission of military preparedness and national defense. Bernheim, Rhoades, and Stone each struggled to juggle limited resources and competing requirements in a number of critical areas. They had to ensure that the Army's dental officers and enlisted technicians were well trained and proficient in their dental and military responsibilities, that the Army in the United States and overseas had adequate dental support in its dispensaries as well as in station and general hospitals, that dental supplies and equipment remained up to date, that dental research continued, and that the dental personnel in the Organized Reserves and National Guard were trained and ready to fulfill their wartime roles.

### *Strength and Distribution of the Dental Service*

Short on money and personnel and overburdened with requirements, the Army's Dental Corps and dental service were severely constrained while performing their missions in the early 1930s. Constraints only worsened as a decade of change and retrenchment gave way to a decade of national depression. Even as the War Department's resources shrank, relief programs generated new requirements and the worsening global situation imposed additional strains.

The Dental Corps had been authorized a strength of 158 since 1923. In the years from 1930 through fiscal year 1936, its actual strength only reached its full authorized strength in fiscal years 1934 and 1936; in all the other years there were one to three vacancies in an already understaffed organization (Table 18-1). Further aggravating this problem was the War Department's policy of prohibiting existing vacancies to be filled during the last part of 1932–1933 because of economic pressure.<sup>3,6</sup> The final appointment to the Regular Army Dental Corps in fiscal year 1936 took place on April 2, 1936, when First Lieutenant Joseph LeRoy Bernier, already on voluntary extended active duty at Walter Reed General Hospital following his commissioning in the Dental Officers' Reserve Corps (DORC) in 1934, was commissioned. Lieutenant Bernier (later major general and Dental Corps chief [August 1960–August 1967]), became one of the world's leading oral pathologists during his years of service.<sup>11</sup>

The enlisted soldiers who filled many important roles, from chair assistants to technicians in the dental prosthetics laboratories, were just as critical to the success of the dental service as were the dental officers. In 1930 the number of enlisted personnel was 190, with 6 staff sergeants, 12 sergeants, 2 corporals, 85 privates first class, and 85 privates, and an inadequate allotment of specialist ratings.<sup>1</sup> The Army Dental School at Walter Reed Army Medical Center continued training students in

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

dental hygiene and mechanics, but only 90 soldiers completed the training from 1930 through June 30, 1936 (see below, "The Army Dental School, 1930–1936").<sup>1–3,6–8</sup> While the training produced first-class technicians, the lack of specialist ratings resulted in the continuing loss of personnel to better paying jobs in civil practice. In his 1931 report, Bernheim noted this disquieting trend and requested additional ratings to retain these soldiers:

Recommendation to provide for an increase in the number of specialist ratings for specially trained enlisted men has, however, been recently submitted in an effort to increase the efficiency of the dental service. In providing special technical instruction to enlisted men at the Army Dental School the Government is put to considerable expense. Without specialists' ratings commensurate with their qualifications and length of service as technicians, these men frequently become dissatisfied and are lost to the service by purchasing their discharge and engaging in more remunerative civil pursuits. It would be wise economy if this could be prevented.<sup>2(p282)</sup>

Nothing more was reported in the annual reports of 1932 or 1933 about increased allotments of specialist ratings for enlisted soldiers, so apparently Bernheim's initiative failed.<sup>3,6</sup> However, both of those reports emphasized the importance of trained enlisted technicians. In 1932 Bernheim noted that trained technicians "materially increase the general efficiency of the dental service, especially at field stations where their services can so readily be utilized."<sup>3(p210)</sup> The following year, Rhoades was even more emphatic in his assessment, writing that "the number of enlisted men, grades, and the ratings allotted to the dental service are inadequate. It is believed the achievement of the dental service could be increased

**TABLE 18-1**

**REGULAR ARMY DENTAL CORPS: STRENGTH, LOSSES, APPOINTMENTS, AND VACANCIES, 1930–1936\***

	1930	1931	1932	1933	1934	1935	1936
Authorized strength	158	158	158	158	158	158	158
Actual strength	157	157	155	156	158	156	158
Losses	6	3	3	2	2	5	3
Appointments	8	3	1	3	4	3	5
Vacancies	1	1	3	2	0	2	0

\*As of June 30 of each fiscal year.

Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1930. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1931. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1932. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1933. (5) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1934. (6) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1935. (7) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1936.

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

by 50 percent by the allotment of a suitable number of additional enlisted men to the dental service."<sup>6(p173)</sup>

As with the appeals for more dental officers, Rhoades's request was ignored. However, he initiated a study of dental attendance with the view of expanding the dental service. Any expansion would require more dental officers, but previous recommendations had gone nowhere. The alternative was to expand the dental service by using additional trained enlisted technicians working under dental officers. Rhoades's study concluded that a total of 364 enlisted technicians distributed throughout the Medical Department could make a significant contribution to improving the overall dental service for small additional costs. These findings formed the basis for a recommendation to the surgeon general, but it seems nothing resulted.<sup>12</sup> The number of enlisted soldiers in the dental service remained unchanged, at a strength of 190 authorized, from 1930 through 1935 (although 211 were noted as actually working in 1934) before dramatically bouncing up 30% to 270 at the end of fiscal year 1936.<sup>1-3,6-8,12,13</sup>

In the early 1930s the majority of the dental service's officer and enlisted strength was located in station hospitals at the largest posts, depots, and airfields, and in the dispensaries and general hospitals in the United States.<sup>14</sup> Three officers held administrative posts: the chief and an assistant at the surgeon general's office, and the dental supply and procurement officer in the medical section of the New York General Depot. Eleven others were assigned to training: three at the Army Dental School (where they also worked at the dental clinic at Walter Reed General Hospital or the Washington General Dispensary) and eight in Dental Reserve Officers' Training Corps (ROTC) units.<sup>1,2,14</sup> From 1930 to 1935, an average of 124 dental officers were assigned in the United States, with 110 to 113 of them serving part time or full time in the dental clinics from 1930 through 1932.<sup>1-3,6-8</sup> The Dental Corps officers often occupied other posts as well. For example, senior supervising dental surgeons in dental clinics located adjacent to a corps area headquarters also acted as dental advisors to the corps area surgeons, and Dental ROTC instructors often served in local dental clinics and during summers (until legislative action in the Army appropriation bill of May 1932 eliminated that program).<sup>7,8,15</sup>

On March 20, 1933, Congress passed an act "to maintain the credit of the United States Government" that required the Veterans Administration (VA) to withdraw its beneficiaries who were patients in Army hospitals and ceased reimbursements for their services.<sup>6</sup> The VA had covered the cost of placing reserve dental officers on active duty to provide dental care for its beneficiaries since 1925 (see Chapter XVII: A Return to Normalcy: from the World War to the Depression, 1919-1929). As a result of the March 20 act, the Medical Department had to release the 15 DORC officers then caring for VA patients and return them to inactive status.<sup>6,16</sup> Stone noted in his 1933 report that this action relieved the dental service of the burden of caring for "others."<sup>6</sup> In March 1934 the legislation was revised, resulting in a gradual increase in VA patients in Army hospitals, but not a return of DORC officers to care for the dental cases.<sup>6</sup> However, within 2 years, 6 of the 15 reservists received Regular Army commissions and were on active duty.<sup>17-20</sup>

Of the posts in the United States in the early 1930s, 36, with commands ranging in strength from 10 to 700 soldiers and totaling 7,000 troops, were furnished



## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

with only part time dental service because of the shortage of dental officers.<sup>21</sup> Once again, Army dentists were forced to undertake itinerant service to posts without assigned dental officers.<sup>22</sup> These installations received 1,319 days of service—or approximately 1 hour per year, per individual (not including dependents)—and the itinerant service deprived 16 other posts with a total of about 10,000 soldiers of dental service for 775 days per year.<sup>21</sup>

Outside the continental United States, continuous dental service was available to all military personnel in the Panama Canal, Hawaiian, and Philippine departments, except those in Alaska and at Camp John Hay and Pettit Barracks in the Philippines.<sup>21</sup> In 1931 31 Dental Corps officers were assigned to overseas posts—12 to Hawaii, 10 to the Philippines, 8 to the Panama Canal (7 to the department and 1 to the civil government), and 1 to American forces in China. By the end of fiscal year 1936, the distribution changed slightly to 33, with an increase to 14 assigned to Hawaii and 9 to Panama, and a decrease to 9 assigned to the Philippines.<sup>2,13,14</sup>

Schofield Barracks on Oahu provides a good example of the operation of an overseas dental clinic. In 1932 eight dental officers, one noncommissioned officer, and ten enlisted dental assistants on full duty were assigned to care for the 10,000-person Hawaiian Division, then the largest in the Army. A new station hospital opened in May 1929, allowing the dental personnel to be consolidated in a 10-chair clinic on the second floor of the outpatient building. The dental service was divided into operative, prosthetic, oral surgery, X-ray, and orthodontic sections. A ward surgeon referred hospital patients, accompanied by a dental consultation slip, to the dental clinic. Due to lack of personnel, however, routine dental examinations were not performed on all hospital patients.<sup>23</sup>

### *Dental Health of the Army, 1930–1935*

Beginning in 1924, the Dental Corps tracked the dental health of the Army through annual examinations and surveys (see Chapter XVII: A Return to Normalcy: from the World War to the Depression, 1919–1929) that were reported and analyzed in the annual reports of the surgeon general. The annual dental survey reports for 1930–1935 indicate that the dental health record of the Army showed a steadily improving trend (Table 18-2). Rex Rhoades concluded that this was partly due to the decrease in original enlistments, which brought fewer people into the service with serious oral and dental problems, and to the fact that the dental service was able to improve dental health rates despite its personnel limitations and heavy workload.<sup>7</sup> Through 1935 all classifications for both officer/warrant officer and enlisted soldiers showed marked improvement, especially in classes I and IV.

*“The question is, will the Army do it?”:  
Walter D Vail on Dental Health in the Army*

In the July 1933, July 1934, and January 1936 issues of the *Dental Bulletin Supplement to The Army Medical Bulletin*, Major (later Colonel) Walter D Vail, then the assistant to Rex Rhoades in the dental subdivision office and editor of the *Dental Bulletin* since its revival in January 1933, published articles on the various factors

A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

affecting dental health in the Army. As the assistant for clinical operations, Vail had intimate knowledge of all facets of the dental service. His 1933 and 1934 articles were analyses of the Army’s dental health based on the 1933 annual examinations and surveys. In his first article, “A Study of Dental Conditions of Officers of the Army with Reference to the Loss of Teeth and Their Replacements,” Vail looked at 6,000 reports of annual physical examinations of Army officers, ages 20 to 64. For the entire group, he calculated that each officer had lost on average 3.80 teeth and had 2.37 of them replaced, which confirmed to him the “toll exacted by dental diseases.”<sup>24</sup> Vail concluded:

The extent of loss of teeth shown in this study indicates the performance of a vast amount of health service and unquestionably a large portion of it was done in conjunction with, and as a part of, medical attendance for the restoration of health. The removal of dental infections is, in general, a distinct health service. On the other hand, the gross loss of teeth is evidence of failure to provide a far more valuable health service—that of preventing and controlling dental diseases which if even reasonably controlled, would afford an important and economical factor in the maintenance of health. It is more economical to perform simple operations for the prevention and control of dental diseases than it is to extract teeth and construct prosthetic appliances, which are in themselves expensive, to say nothing of the time involved, that

TABLE 18-2  
DENTAL HEALTH OF THE ARMY BASED ON ANNUAL PHYSICAL EXAMINATIONS OF OFFICER PERSONNEL AND ANNUAL DENTAL SURVEYS OF ENLISTED PERSONNEL, 1930–1936\*

Classification <sup>†</sup>		1930	1931	1932	1933	1934	1935	1936
I	Officers and warrant officers	3.35	3.19	2.32	14	21	16	30
	Enlisted personnel	12.76	13.46	11.14	132	110	98	98
II	Officers and warrant officers	17.84	17.50	13.68	166	144	131	153
	Enlisted personnel	31.92	32.05	29.36	284	273	268	245
III	Officers and warrant officers	8.06	6.09	7.03	61	51	50	41
	Enlisted personnel	6.68	7.16	7.43	70	67	59	56
IV	Officers and warrant officers	70.75	73.20	76.87	759	784	803	786
	Enlisted personnel	38.64	47.33	52.07	514	550	575	601

\*Statistics are reported as a percentage of those surveyed from 1930 through 1932, and as a rate per 1,000 Army strength annually thereafter.

<sup>†</sup>Classifications were as follows: (I) in need of immediate treatment; (II) in need of early treatment; (III) in need of extended treatment; and (IV) no treatment needed.

Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1931: 285. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1932: 212. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1933: 172. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1934: 161. (5) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1935: 154–155. (6) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1936: 149.

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

could be more profitably employed in control service. If, however, the less expensive measures are not made available, the more expensive ones must be employed to meet the situation. . . . It is hoped that the toll exacted by dental diseases will receive the attention it deserves and that measures for the reduction of the toll will be instituted to the end that health may be conserved by preventive rather than restorative procedures.<sup>24</sup>(pp106–107)

In his 1934 article, “Dental Health in the Army,” Vail extended his analysis to the dental health of the entire Army and the factors affecting it.<sup>25</sup> Vail stated that dental diseases were common to all soldiers because of low recruitment standards, and that meant that “health measures become corrective rather than preventive and, therefore, the burden of such effort rests on the dental service in so far as it has the capacity to serve.”<sup>25,26</sup> He then named four factors that determined the capacity of the dental service to serve: “(1) the standard of dental requirements, for commission or enlistment, (2) the quota of dental service personnel, (3) the cooperation of military personnel in a dental health training program, and (4) the extension of the dental service.”<sup>25</sup>(p148)

Currently, the Army only required an enlistee to have 12 serviceable teeth, and other existing dental and oral diseases were not considered grounds for disqualification from service. Vail believed that the adoption of a higher standard, such as the Navy’s requirement of 20 serviceable teeth, could substantially alleviate this situation.<sup>25</sup>

Regarding the adequacy of dental service personnel, Vail noted that “there is a maximum effort a given number of dental officers can make under given conditions. Such an effort may be said to be adequate when their services are characterized by high rates of preventive measures, and relatively low extraction rates.” However, the high rates of emergency treatment meant that preventive measures were not effective and took time away from the necessary corrective measures. An adequate number of trained enlisted dental assistants would allow dental officers to increase their efficiency. Vail stressed that “dental operations require close physical application and any relief that may be furnished a dental officer has an important bearing on the quality and quantity of his service.” For each 1,000-person command, he proposed a dental office consisting of one dental officer and four enlisted technicians to act as the chair assistant, hygienist, dental mechanic, and record and supply clerk (who would also supervise office administration).<sup>25</sup>

The third factor, a sound dental health training program, required cooperation between dentists and patients. Frequent examinations, good personal habits, diet, and instruction all played parts in this area.<sup>25</sup> According to Vail,

In the Army a dental health training program offers great possibilities, provided it is properly planned and executed and there is sufficient dental personnel available to furnish the necessary cooperation with individual effort to make the program effective. Unfortunately individual effort is only partially successful, unless supplemented by appropriate dental examination and treatment. . . . Dental health measures should be prescribed, the necessary instruction provided, and regulations requiring reasonable compliance enforced. Dental attendance regulations should embrace the required cooperative effort of an adequate dental service. Such a program is the only practical means of applying preventive principles to dental health; otherwise, only corrective measures are applicable and these have proven ineffectual.<sup>25</sup>(p150)

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II



*Lieutenant Colonel (later Colonel) Walter D Vail in the mid 1930s.  
Reproduced from: Colonel James Vail. In: John Hyson Collection. Located at: Research Collections,  
Office of Medical History, OTSG/MEDCOM, Falls Church, Virginia.*

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

Vail also focused on the heavy burden imposed by the dental treatment of the “others” Army dentists treated in addition to active duty personnel. Vail noted that “inasmuch as Army Regulations provide for this character of treatment, it should be understood that the inadequacy of dental personnel is increased to that extent.”<sup>25</sup>(pp148–150)

Vail concluded his article with the following observations:

The wide prevalence of dental diseases in the Army is indicative that control measures have not been successfully employed. . . . The rates of extraction may be lowered and masticating function preserved with mutual benefits to health by (1) higher standards of dental requirements for admission into the Army, (2) the institution of an effective oral health training program, and (3) a suitable increase in dental service personnel.<sup>25</sup>(p151)

Virtually every discussion of the problems of the Army dental service came back to the inadequate number of trained dental personnel to undertake the heavy workload and develop an effective preventive dentistry program.

In his January 1936 article, “Dentistry as a Factor in Preventive Medicine in the Army,” Vail stressed preventive dentistry as preventive medicine and emphasized its potential role in the conservation of strength in the Army. He contended that Army dentistry was completely involved in preventive medicine, but “that the value of dentistry as a health factor is too often discussed in terms of ‘teeth.’” Army dentists prevented and removed infections that affected soldiers’ health.<sup>27</sup> Unfortunately, because of the ongoing shortages in the Dental Corps, Vail contended that “little is being accomplished in the true prevention of dental diseases.” He believed that “it would be difficult to define the limits of benefits derived by the Army through the practice of preventive dentistry.” An adequate dental service could definitely be “an effective factor in the field of military medicine,” though it was currently not being used to that end.<sup>27</sup>(p4) Going back to the arguments in his previous articles, Vail concluded “the only way to make military dentistry a more important factor in military medicine is to increase the amount of dental service. The question is, will the Army do it?”<sup>27</sup>(p6)

### *Dental Attendance and Professional Service, 1930–1935*

While the annual surveys and examinations that Vail analyzed measured the current dental health of the Army, they provided no measure of dental attendance, operations, diseases treated, and overall professional service (Table 18-3, Table 18-4, Table 18-5). Unlike the US Navy Dental Corps, the Army dental service also had to care for a large number of “others entitled by regulations to dental attendance,” which included the families of service members, military retirees, VA patients, and Army civilian employees.<sup>6,25</sup> These “others” continued to constitute a significant percent of the total workload, especially beginning in 1933 when the data included dental work that Regular Army and DORC personnel serving with the CCC completed at Army posts (see Table 18-3; see below, “Dental Service for the Civilian Conservation Corps, 1933–1936”).

In his last report in 1932, Bernheim noted some positive trends in the data with satisfaction, ascribing them to the dedication of the dental service’s professional personnel, better clinic management, and more and better equipment:

TABLE 18-3  
ADMISSIONS FOR DENTAL TREATMENT, 1930–1936\*

	1930	1931	1933	1934	1935	1936
	Number	Number	Number	Number	Number	Number
US Army						
Routine	NR	NR	66,550	485.1	76,561	565.78
Emergency	NR	NR	33,036	240.81	33,347	246.43
Total	105,198	NR	99,586	725.91	109,908	812.21
Others†	45,175	NR	69,423	NR	87,545	NR
Total admissions	150,373	157,702	169,009	NR	197,453	NR
Others as percentage of total admissions	30.0	N/A	41.4	N/A	44.3	N/A

\*No reports are available for 1932; beginning in 1933, rates are calculated based on cases per 1,000 Army strength annually.  
†“Others” include families of active duty military personnel, civilian employees, Veterans Administration patients, retirees, and, beginning in 1933, enrollees of the Civilian Conservation Corps who were seen by Regular Army dental officers.  
N/A: not applicable  
NR: not reported  
Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1931: 286–287. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1932: 211. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1933: 175. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1934: 164. (5) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1935: 158. (6) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1936: 152. (7) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1937: 178.

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

A study of the tables included in this section of the report indicates the high degree of efficiency maintained in the dental service for the period covered. The amount of dental attendance has, in a large degree, been due to the earnest effort put forth by dental officers. Economical clinic management and the installation in many dental clinics of additional equipment, so as to provide two operating chairs for each operator, has [sic] shown the expected advantages in accomplishment.<sup>3(pp210-211)</sup>

In his first report as chief of the dental subdivision in 1935, Frank Stone noted that the number of duty days that dental personnel worked per 1,000 military personnel had increased from 350 in 1932 to 418 in 1934. However, he attributed most of the increase to the increased number of DORC dentists on duty with the CCC, who accounted for most of this change in cases and service. He concluded that "while there was an increase of 15 percent in the amount of dental service available, little, if any, was available for military personnel."<sup>8(pp156-157)</sup>

Stone also noted the data showed that preventive dentistry was not being practiced "to the extent usually considered necessary for successful results. Preventive dentistry requires that prophylaxis be furnished, teeth examined, and necessary treatment accomplished at least twice a year."<sup>8(p157)</sup> He concluded that:

to have accomplished the prophylactic requisites for 812.21 admissions [total admissions per 1,000 cases per annum in 1934], prophylaxis at the rate of 1,624.42 would have been necessary in 1934. This is more than seven times that accomplished (224.31). Similar but more impressive data could be cited for fillings, which are essentially preventive measures.<sup>8(p157)</sup>

The continuing deficiencies in preventive dentistry bothered Stone because he realized the link between them and the burden placed on the prosthetic service from the resultant loss of teeth. Although he believed that the overall prosthetic service "appears to be satisfactory with the amount of time and personnel available for this service," he also knew that loss of teeth "due to the lack of prophylactic measures requires extensive numbers of prosthetic replacements."<sup>8(p157)</sup> He reiterated the dilemma facing the dental service because of the lack of trained personnel, saying,

the construction of such replacements requires a great amount of time, which in turn prevents the application of preventive measures. In the meantime dental diseases are not controlled, many foci of infection are developed and health is impaired long before the teeth are extracted as the last resort in an effort to overcome the damage done.<sup>8(p157)</sup>

In the professional service section of his 1936 report, Stone once again concluded "that no progress is being made in the prevention of dental disease."<sup>13(p152)</sup> As in 1935, he noted that "when it is considered that 7,459 bridges and dentures were necessary to restore 52,564 teeth the enormous amount of work involved in restoring teeth lost from dental diseases becomes apparent."<sup>13(p152)</sup> He planned a study to revive and expand the prosthetic laboratory service, originally set up in the late 1920s as the "central dental laboratories," to relieve dental officers and their technicians from time-consuming prosthetic work (see Chapter XVII: A Return to Normalcy: from the World War to the Depression, 1919-1929, and "Corps Area and Central Dental Laboratories, 1930-1936" below).<sup>8,13</sup>

A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

TABLE 18-4  
DENTAL ATTENDANCE IN THE US ARMY, CALENDAR YEARS 1930–1936\*†

	1930		1931		1932	
	Number	Rate	Number	Rate	Number	Rate
Cases completed	NR	NR	NR	NR	NR	NR
Prophylaxis	42,743	NR	47,426	NR	30,208	227.58
Extractions	77,259	NR	77,342	NR	48,990	369.08
Fillings						
Permanent	119,571	NR	117,799	NR	87,167	656.69
Temporary	7,119	NR	6,804	NR	3,793	28.58
Root canal	1,410	NR	1,253	NR	882	6.64
Prosthetic Appliances						
Bridges	1,110	NR	1,140	NR	989	7.45
Crowns	906	NR	886	NR	825	4.71
Dentures (all)	5,358	NR	6,342	NR	4,870	36.69

\*Numbers for 1930 and 1931 include all patients (US Army military personnel, families, civilian employees, Veterans Administration, and retirees) seen by dental officers. Beginning in 1932, numbers include Army personnel only, and rates are calculated based on cases per 1,000 Army strength annually.  
NR: not reported  
Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC:

TABLE 18-5  
SELECTED DENTAL DISEASES TREATED BY US ARMY DENTAL OFFICERS, 1930–1936\*

	1930		1931		1932	
	Number	Rate	Number	Rate	Number	Rate
Abscess, periapical	30,153	N/A	29,519	N/A	21,427	161.43
Calculus	38,525	N/A	39,921	N/A	28,901	217.73
Caries	131,048	N/A	132,780	N/A	101,346	763.52
Gingivitis	8,084	N/A	8,402	N/A	6,411	48.30
Malocclusion	609	N/A	586	N/A	445	3.35
Pulpitis	18,890	N/A	17,540	N/A	13,186	99.34
Stomatitis, Vincent’s	4,903	N/A	4,807	N/A	5,072	38.21
Total diseases treated	289,017	N/A	295,143	N/A	230,270	1,734.80

\*Numbers for 1930 and 1931 include all patients (US Army military personnel, families, civilian employees, Veterans Administration, and retirees) seen by dental officers. Beginning in 1932, numbers include Army personnel only, and rates are calculated based on cases per 1,000 Army strength annually.  
N/A: not applicable  
Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1931; 284, 286, 287. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*.



## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

**TABLE 18-4** *continued*

	1933		1934		1935		1936	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Cases completed	28,612	208.56	30,775	227.42	31,917	229.93	38,662	233.95
Prophylaxis	28,872	210.46	30,354	224.31	29,882	367.17	30,090	182.08
Extractions	49,630	361.77	48,873	361.17	51,306	358.39	53,368	322.94
Fillings								
Permanent	90,765	661.61	92,278	681.92	100,610	702.79	110,294	667.40
Temporary	4,446	32.41	4,906	36.25	4,839	33.80	7,508	45.43
Root canal	864	6.30	659	4.87	593	4.14	567	3.43
Prosthetic Appliances								
Bridges	971	7.08	1,095	8.09	1,212	8.47	1,150	6.96
Crowns	540	3.92	604	4.46	595	4.16	599	3.62
Dentures (all)	5,390	39.29	5,426	40.10	6,247	43.64	5,747	34.65

OTSG; 1931: 287 (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1932: 213. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1933: 176. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1934: 164. (5) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1935: 158. (6) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1936: 152. (7) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1937: 178.

**TABLE 18-5** *continued*

1933		1934		1935		1936	
Number	Rate	Number	Rate	Number	Rate	Number	Rate
20,316	148.09	20,940	154.74	20,514	143.30	21,100	127.68
28,160	205.27	29,932	221.19	30,263	211.40	30,118	182.25
102,122	744.39	97,990	724.14	108,272	756.31	115,510	696.79
5,472	39.89	6,062	44.80	5,620	39.26	6,098	36.89
450	3.28	530	3.92	634	4.43	676	4.09
12,735	92.83	11,770	86.98	12,598	88.00	14,728	89.12
4,414	32.17	4,751	35.11	4,951	34.58	5,104	30.88
233,734	1,703.75	234,253	1,731.10	248,388	1,735.06	259,047	1,567.52

Washington, DC: OTSG; 1932: 211, 213. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1933: 175, 176. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1934: 164, 165. (5) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1935: 158, 159. (6) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1936: 152, 153. (7) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1937: 178–179.

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

Echoing Rhoades and others, Stone summed up his 1936 report on professional service with a sober analysis of the current state of the Army dental service. "Considering the amount of dental service rendered," he wrote, "the record is commendable. It is regretted, however, that the type of dental service is unsatisfactory from the standpoint of providing a genuine health service. Dental service cannot function as a true health service until progress is made in the prevention of dental disease."<sup>13(p152)</sup>

### *The Demise of the Dental Reserve Officers' Training Corps, 1930–1935*

The Medical Department established Dental ROTC units at eight leading dental schools in 1920–1921 to attract dental students to serve in the Dental Reserve or even the Dental Corps after graduation. During the 1920s some notable Dental Corps officers were assigned as instructors in these units. Colonel Robert T Oliver's final active duty assignment was as assistant professor of military science and tactics at the University of Pennsylvania's School of Dentistry from 1926 until his retirement in January 1932. The units trained, graduated, and commissioned 1,165 officers into the DORC through 1929 and were a leading source for new reserve officers (see Chapter XVII: A Return to Normalcy: from the World War to the Depression, 1919–1929).

During the early 1930s Dental ROTC units continued to attract significant numbers of dental school students who were interested in the small remuneration received in the advanced course (approximately \$22.50 every 3 months) and to produce graduates who were commissioned in the DORC (Table 18-6).<sup>28</sup> As an economy measure, Congress did not provide funds in the Army appropriation bill of May 5, 1932 (for fiscal year 1933), for new enrollments in Medical Department ROTC units, but did not terminate students already enrolled or disband the existing units.<sup>6,28,29,30</sup> Similar provisions were included in the appropriations bills for 1934 and 1935, effectively killing the programs at two 3-year dental schools (State University of Iowa and University of Minnesota) on June 30, 1934, and at the remaining six schools on June 30, 1935.<sup>7,8,29,30</sup> Through 1935, these eight dental schools had provided 2,273 trained, commissioned officers for the DORC, and all of the Medical Department ROTC program taken together produced more than 50% of the newly appointed reserve officers in the Medical Department reserve.<sup>7,8,29,30</sup> The Medical Department received authority to reassign its eight dental instructors from ROTC duty on June 5, 1933, and immediately dispatched them to other duties. Instruction for the remaining students was picked up by Medical Corps officers, most of whom were also reassigned by the end of fiscal year 1934.<sup>7,31</sup>

The demise of the Dental ROTC units presented a major problem for the Medical Department in acquiring new reserve officers for the DORC and for the entire Medical Department Officers' Reserve Corps. The Army adjutant general issued new guidance to corps area and department commanders on August 29, 1934, on policies to be used to procure officers for the Medical Department Officers' Reserve Corps. Corps area commanders were encouraged to maintain contact with the most highly rated medical, dental, and veterinary colleges and to "utilize to the fullest extent possible the appropriate personnel at their disposal to effect friendly

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

and sympathetic contact" with these schools as well as state and county medical, dental, and veterinary societies and associations "in order to interest them in medical preparedness" and to identify potential new officers. Army Regulations were changed, waiving the requirement for a license and experience in a dental practice so select members of graduating classes could be commissioned at graduation.<sup>30,32</sup> What appeared to be a simple congressional cost-saving measure ended a successful and productive program for acquiring new reserve officers, and complicated the process of staffing the DORC. In August 1936, as national defense became a major concern, Congress repealed the law prohibiting funding medical ROTC units, and by the end of fiscal year 1937, 22 medical schools had reestablished their ROTC units. No dental or veterinary units were reestablished prior to World War II.<sup>33</sup>

Major George R Kennebeck, who later served as a major general and chief of the US Air Force Dental Corps (1949–1952), was the officer assigned to the dental ROTC unit at the College of Dentistry, State University of Iowa, in Iowa City from 1929 to 1933. In the October 1934 issue of the *Dental Bulletin*, Kennebeck wrote about his experiences with the dental ROTC and concluded:

It is regretted that the opportunity of selecting outstanding graduates of these dental colleges for the Dental Corps, Regular Army, passes out with the units. Many of the young members of our Corps were interested in this work by officers on R.O.T.C. duty and their commission in the Regular Army can be traced back to the R.O.T.C. instruction. . . . The writer feels confident that those officers who have had the opportunity to study the R.O.T.C. at first hand will agree that the termination of this instruction is a backward step and that the advantages accruing far outweigh the cost of this activity.<sup>28(pp213–214)</sup>

### *The Dental Officers' Reserve Corps, 1930–1936*

The DORC constituted a critical component of the Medical Department reserve, which the War Department required to staff the mobilization Army for future wars. The reserve dental officers were heavily concentrated in the tactical units assigned to the corps areas, especially in the infantry regiments' medical detachments, the divisional medical regiments, and various hospital units with mobilization assignments.<sup>34,35,36</sup> While DORC membership fluctuated during the period from 1930–1936, it was generally beyond its peacetime personnel targets and easily met the War Department procurement objectives for staffing the Organized Reserves.<sup>1,2,6–8,13</sup> With a strength of 4,688 in 1930, the DORC was 42% over its established quota of 3,308.<sup>1</sup> During the Depression, strength increased in 1931–1933 to 5,589, perhaps as dentists sought additional sources of income from reserve service to offset adverse economic times. Declining numbers in 1933–1935 were not considered problematic, despite the termination of dental ROTC, but were seen as a short-term positive trend that brought the DORC into "a much better balanced condition."<sup>8(p139)</sup> During these years, between 91.6% and 98.6% of the DORC were assigned to tactical units in the corps areas (Table 18-7). Beginning in 1933 a number of DORC personnel were called to active duty to serve with the CCC (see below, "Dental Service for the Civilian Conservation Corps, 1933–1936").<sup>6–8,13,36</sup>

A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

TABLE 18-6  
DENTAL RESERVE OFFICERS' TRAINING CORPS ENROLLMENT AND  
COMMISSIONED GRADUATES, 1930-1935

	1930	1931	1932	1933	1934	1935
Enrolled in basic first year	8	8	8	8	8	0
Enrolled in basic second year	237	258	230	0	0	0
Enrolled in advanced first year	306	296	286	185	0	0
Enrolled in advanced second year	143	191	192	171	163	NR
Total enrollment	883	941	890	512	304	NR
Graduated and commissioned in DORC	277	171	211	164	163	122
Graduates commissioned since 1921	1,442	1,613	1,824	1,988	2,151	2,273

DORC: Dental Officers' Reserve Corps  
NR: not reported  
Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1930: 280. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1931: 346. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1932: 197, 198. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1933: 163-164. (5) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1934: 152. (6) R.O.T.C. units. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1936;7(January):22.

Dental Service for the Civilian Conservation Corps, 1933-1936

On March 31, 1933, Congress approved President Franklin D Roosevelt's request to form the CCC to relieve unemployment among young men. It was intended to carry out useful public works, such as reforestation, flood control, and land reclamation on federal and state lands. Encouraged by the president's sense of urgency, 250,000 men joined the CCC by July, creating an administrative challenge that only the Army was equipped to handle. Combat units provided the cadres for the CCC camps, while the quartermaster and surgeons general struggled with the logistical and medical aspects.<sup>37,38</sup>

War Department CCC Circular No. 3, issued May 12, 1933, required dental and medical service to be provided to CCC enrollees. It called for Dental Reserve officers or contract dental surgeons to be employed in the camps. One reserve officer or contract dentist was provided per work district or reconditioning camp. In an emergency, civilian dentists could be employed on a fee basis. The limit of one dentist could be disregarded at the discretion of the corps area commander "when special conditions warrant."<sup>39</sup> Major Clarence W Johnson, Dental Corps, who served for 2 years on a processing board for CCC enrollees, noted that "records of over 5,000 candidates show that more than 50% of these would be rejected for enlistment in the Regular Army because of failure to meet dental requirements."<sup>40(p57)</sup>

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

The 1934 regulations (War Department Regulations, Relief of Unemployment, Civilian Conservation Corps, September 1, 1934) for the CCC covered only authorized emergency treatment and the repair of dental injuries incurred while on duty. They did not include follow-up treatment, such as fillings, replacement of lost teeth, or repair of prosthetic appliances made necessary through injury. When dental injuries involved the restoration of tooth substance, replacement of teeth, or the repair of prosthetic devices, it was recommended that the dentist get prior authorization from the surgeon general (like Regular Army personnel) to avoid misunderstandings that might occur when "fees charged by civilian dentists" were reduced because they were "in excess of the allowed amount."<sup>41</sup>(pp27,29)

A CCC enrollee was entitled to necessary medical and dental treatment for an injury or disease "not the result of his own misconduct" (par. 93, War Department Regulations, CCC).<sup>42</sup> The surgeon general had to authorize repairs (eg, fillings or appliances) following dental injuries treated by a civilian dentist. The use of gold was not authorized, except for the "repair of traumatic injuries received in line of duty." When a CCC enrollee was hospitalized, the War Department was reimbursed \$3.75 per day, which covered the entire cost of treatment, including dental. It was important that these cases be handled in Army hospitals so that the War Department could recover funds for gold used in dental treatment.<sup>42</sup>

In 1934, despite the successful CCC effort and the use of contract dentists and reserve dental officers, in his dental subdivision section of the *Annual Report of the Surgeon General*, Frank Stone stated "that the demand made on Regular Army Dental Corps officers in connection with C.C.C. activities has reduced the amount of dental service that otherwise would have been available to the Regular Army personnel."<sup>7</sup>(p165) A year later he repeated his opinion on the adverse effect of CCC work.<sup>8</sup> Stone presented no hard evidence to support his conclusions in the 1934 and 1935 annual reports; statistics for CCC enrollees were included within the "others" categories in the statistical tables of dental attendance and diseases treated in the annual reports of the surgeon general from 1933 through 1936.<sup>7,8</sup> Only two items in the *Dental Bulletin* of July 1936 provide a glimpse of the CCC workload during calendar year 1935. One piece reported on posts where only Regular Army dental officers were on duty. It reported 4,655 CCC admissions with 9,769 sittings for emergency and traumatic injuries, 108 permanent fillings, 5,358 extractions, 2,034 X-rays, 34 jaw fractures treated, and 13 prosthetic appliances repaired.<sup>13,43</sup> When compared to the total figures for "others" reported for 1935, these figures represented 5.4% of the admissions (86,480) and 0.02% of the permanent fillings (43,162), but 10.2% of the extractions (52,619). Another article stated that CCC enrollees accounted for 36,059 teeth extracted and 129 fractures reduced, which represented 68.5% (52,619) of all extractions for "others" and 87.2% (148) of all reduced fractures recorded for "others." Records for other posts where both regular and reserve dental officers served were incomplete and not reported.<sup>44</sup> It was not until the annual report of 1938 that separate statistics for CCC activities were reported for the preceding calendar year and the full workload was clearly explained.<sup>45</sup>

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

TABLE 18-7

### DENTAL OFFICERS IN THE ORGANIZED RESERVES, JUNE 30, 1930–JUNE 30, 1936

Year	Total Strength	Gross Gain/Loss	Promotions	Assigned to Corps Areas (Tactical Units)	Percent Assigned to Corps Areas
1930	4,688	477/453	221	4,297	91.6
1931	5,037	591/242	222	4,777	94.8
1932	5,557	707/187	118	5,303	95.4
1933	5,589	341/309	94	5,389	96.4
1934	5,299	538/828	110	5,144	97.1
1935	5,036	654/562	173	4,926	97.8
1936	5,128	475/370	145	5,059	98.6

Data sources: (1) Vail WD. The Dental Reserve Corps. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1936;7(January):21. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1930: 266. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1931: 326. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1932: 192. (5) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1933: 158. (6) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1934: 146. (7) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1935: 139–140. (8) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1936: 134.

### *The Army Dental School, 1930–1936*

Lieutenant Colonel Frank LK Laflamme's tenure as director of the Army Dental School encompassed the early years of the Depression. On August 5, 1932, Lieutenant Colonel Robert H Mills, future chief of the Dental Corps (March 17, 1942–March 16, 1946), took over as the director and Laflamme moved to Fort Sam Houston, Texas, to take Mills's former post as the dental surgeon for the Eighth Corps Area and officer in charge of the fort's dental clinic.<sup>46,47</sup>

Laflamme and Mills both confronted the problem arising from the paucity of new appointments in the Dental Corps (8 in 1930, 3 in 1931, and 1 in 1932), which meant that few officers required the school's basic course. With few students and an uncertain attendance, scheduling the course became difficult and the previously linked sequence with the basic course at the Medical Field Service School was no longer critical. In the 5-month basic course classes that graduated from 1930 to 1933, 19 majors, 9 captains, and 5 first lieutenants attended, and the first lieutenants were the only new Dental Corps officers undergoing the training.<sup>1–3,6,48,49</sup> The courses remained intense postgraduate courses. In 1929–1930, they comprised 685 hours of classroom instruction, laboratory, and clinical work focused on clinical dentistry, prosthesis, oral surgery, and preventive medicine and clinical pathology. In 1931–1932, 681 hours were required, and in 1932–1933, the number rose to 705 hours.<sup>48,49</sup> As fewer new officers attended the basic course, the Army Dental School

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

opened it to Dental Corps officers who had not previously attended. In January 1933 the 12th and final basic course graduated, and the course was discontinued as a result of the War Department's change to postgraduate courses in the special service schools (such as the Army Dental School).<sup>6,7,50,51,52</sup>

From 1930 through 1932, six officers attended the 4-month-long advanced course that was increasingly focused on surgery and oral surgery, preventive medicine, prosthetics and clinical dentistry, and the preparation of field-grade officers with the skills needed to command a large post or hospital dental clinic.<sup>4</sup> Frank Laflamme intentionally designed the "gentlemen's course," as he called it, to allow the greatest possible concentration in the area of dentistry that would most benefit each student. Major (later Brigadier General) Neal A Harper, a member of the fifth advanced course class, wrote a short piece on his experiences in the only issue of the *Dental Bulletin* published in 1932.<sup>53</sup> Harper explained how the course worked:

Emphasis was made by the Colonel [Laflamme] upon the fact that the session was to be conducted as a "gentlemen's course" in the sense that each student officer had the privilege of electing to major in that branch of dentistry in which he believed he would derive the greatest benefit, spending less time in the departments wherein he felt generally well qualified. Stress was laid, also, on the attitude of the faculty that better results would accrue to each member of the class if he would take all the time needed for mastery of a single problem or technique, rather than adhere to an inelastic schedule such as necessarily characterizes the intensive and wide scoped Basic Courses.<sup>53(p20)</sup>

The curriculum for the sixth and final advanced course session, which ran from February 1 to May 31, 1933, totaled 549 hours, with the majority of those in operative dentistry (154 hours), prosthesis (160 hours), and oral surgery (160 hours). The session began with six officers in attendance, but the dental service's need for dentists throughout the Army were so pressing that five of them were relieved and sent to new duty stations on March 1, leaving only one officer to complete the course.<sup>54</sup> The advanced courses recorded a total of seven graduates from 1930 to 1933.<sup>1-3,6</sup>

In fiscal year 1933 the War Department directed a major change in the officers' basic and advanced courses that was to be implemented in fiscal year 1934. In accordance with the new policy, the Medical Department professional special service schools (the Army Medical, Dental, and Veterinary schools) revised their basic and advanced courses into new postgraduate courses. Newly commissioned officers attended the basic course at the Medical Field Service School and later completed the postgraduate course that would constitute professional refresher training.<sup>6,7,51,52</sup>

The new 5-month postgraduate course for officers that replaced the basic and advanced courses in September 1933 provided 618 hours of instruction in a revised curriculum that included clinical dentistry (131 hours), prosthesis (125 hours), oral surgery (153 hours), and preventive medicine and clinical pathology (144 hours). It was first offered from September 1, 1933, to February 5, 1934.<sup>55</sup> Major (later Colonel) Frederic H Bockoven, who attended the initial class, remarked in a short piece

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II



*Colonel Frank LK Laflamme was chief of the dental division and Dental Corps in 1919 and later director of the Army Dental School (1929–1932).  
Photograph: Courtesy of Marie F Laflamme.*



## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR



*The Army Dental School and Walter Reed Central Dental Laboratory occupied parts of the first and second floors of the new north wing of the Army Medical Schools building, which is just visible to the left of the south building at Walter Reed Army Medical Center, when it opened in October 1932.*

*Reproduced from: A History of the Army Dental School, March 14, 1938–Sept. 17, 1940.  
Located at: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Virginia.*

in the *Dental Bulletin*, “I might here pause to leave the thought that the Corps is unusually fortunate in having a school so well equipped and offering post graduate work in so many subjects. One would hardly know where to look, if it were procurable at all, to find a course that duplicates the work that is given here.”<sup>51</sup>

Lieutenant Colonel Leigh C Fairbank, another future Dental Corps chief and the first brigadier general in Dental Corps history (March 17, 1938–March 16, 1942), completed the 14th officer session from August 30, 1934, to February 5, 1935.<sup>56</sup> In fiscal year 1936, the last of the postgraduate courses was offered from August 28, 1935, to February 5, 1936, and six Dental Corps officers completed it, including then Major Oscar P Snyder, a future Dental Corps chief (1954–1956).<sup>57</sup>

The new advanced graduate course that was introduced in 1936 with the 16th officer session came as a directive from the War Department. It reduced the course to 4 months and cut the number of hours to 507. Four Dental Corps officers, all lieutenant colonels, completed the first course offering, which ran from February 1 to May 29, 1936.<sup>58,59</sup>

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

Although the curriculum was in a constant state of flux from 1933 to 1936, the Army Dental School relocated several times. The school had been located on the Walter Reed compound in inadequate, temporary, wooden buildings from the World War I era since 1922. It moved to new quarters on June 1, 1930, when its building was condemned and scheduled for demolition, and it occupied semi-permanent quarters for the next 2 years.<sup>1,2</sup> In October 1932 the Army Dental and Veterinary schools occupied a new, modern addition to the Army Medical School (Building 40) at Walter Reed Army Medical Center in Washington, DC.<sup>6</sup> The Army Dental School occupied the entire second floor of the north wing. It contained the director's office, clerk's room, executive office, clerical office, main lecture room, mimeograph room, physical laboratory and office, library, oral surgery amphitheater, bacteriology laboratory, preparation room, pathology laboratory, prosthetic laboratory (which housed the Walter Reed Central Dental Laboratory), chemical laboratory, mail room, X-ray dark room, photographic room, and oral hygiene clinic (six chairs equipped with Ritter Tri-Dent units). During a visit to the school's new facilities, Dr G Walter Dittmar, then president of the American Dental Association (ADA), "pronounced it to be one of the finest and most completely equipped that it had been his pleasure to inspect."<sup>60</sup>

The Army Dental School had trained enlisted dental technicians in dental mechanics, hygiene, and X-ray procedures since 1923. Centralized training of enlisted technicians was important because the instruction at the Army Dental School was much more thorough than that provided by practicing dental officers who could not be spared from their operating responsibilities. From 1930 through 1932 a total of 39 students completed the training in the 5-month (January–May) course in dental mechanics, most of whom were then sent to the various installation prosthetics laboratories or to one of the functioning central dental laboratories.<sup>1-3</sup> This training was even more effective because trainees were given practical instruction in the Walter Reed Central Dental Laboratory.<sup>6,60</sup> Two technicians completed the 4-month (January–April) dental hygiene course in April 1932.<sup>3</sup> Although a clear need existed for trained dental hygienists throughout the dental service, a continuing shortage of funds prevented the training of a number sufficient to meet the large demand. Thus, once again, the dental officers themselves had to train enlisted soldiers as dental hygienists, taking valuable time from their primary duties.<sup>61</sup>

On September 1, 1932, the Army Dental School introduced a 9-month "enlisted specialists" course for dental technicians that included instruction in dental prosthetics, radiology, and hygiene, and was intended to produce more well-rounded enlisted dental technicians. Nine students graduated from the course on May 31, 1933.<sup>6</sup> In January 1934, 14 enlisted soldiers were assigned to the Army Dental School for a revised course that lasted 6 months. The new course offered a total of 887 hours of instruction, with 540 hours in dental prosthetics, 225 hours in hygiene, and 87 hours in radiology.<sup>62</sup> The 1935 dental technicians' course that ran from January 2 to June 30 was increased to 982 hours, with a 95-hour increase in dental prosthetics instruction (a total of 635 hours).<sup>63</sup> Funds were only available to support travel by 10 of the 14 enlisted soldiers selected to attend, but the four other candidates came to the course school at their own expense.<sup>64</sup> The enlisted training program was again limited to dental mechanics from February 1 to May 29, 1936.



*Brigadier General Leigh C Fairbank was first chief of the dental division and Dental Corps to hold the rank of general officer (March 1938).  
Photograph: Courtesy of the American Dental Association.*

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

TABLE 18-8

### OFFICER AND ENLISTED GRADUATES OF THE ARMY DENTAL SCHOOL, 1930–1936\*

	1930	1931	1932	1933	1934	1935	1936	Total
Officers								
Basic course <sup>†</sup>	8	8	9	8	N/A	N/A	N/A	33
Advanced course <sup>‡</sup>	1	1	4	1	N/A	N/A	N/A	7
Postgraduate course <sup>§</sup>	N/A	N/A	N/A	N/A	5	6	6	17
Advanced graduate course	N/A	N/A	N/A	N/A	N/A	N/A	4	4
Total officers	9	9	13	9	5	6	10	61
Enlisted								
Mechanics course	10	14	15	N/A	N/A	N/A	12	51
Hygienists course	N/A	N/A	2	N/A	N/A	N/A	N/A	2
Technicians course <sup>¥</sup>	N/A	N/A	N/A	9	16	12	N/A	37
Total enlisted	10	14	17	9	16	12	12	90

\*Figures were reported by fiscal year, ending June 30.

<sup>†</sup>The annual basic course for officers ended with the completion of the 12th course in January 1933.

<sup>‡</sup>The advanced course for officers was offered until May 1933.

<sup>§</sup>The postgraduate course replaced the advanced and basic courses from September 1933 until February 1936, when the advanced graduate course replaced it.

<sup>¥</sup>The dental technicians course offered training in dental mechanics, hygiene, and radiology.

N/A: not applicable

Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1930: 277, 278. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1931: 343, 344. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1932: 195, 196. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1933: 161, 162. (5) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1934: 149, 150. (6) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1935: 143, 144. (7) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1936: 137, 138. (8) Army Dental School. Sixth annual advanced course for Dental Corps officers, U.S. Army, session February 1, 1933 to May 31, 1933. In: *History of the Army Dental School, August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va. (9) Army Dental School. Postgraduate course for officers, thirteenth session, September 1, 1933, to February 5, 1934. In: *History of the Army Dental School, August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va. (10) Army Dental School. Postgraduate course for officers, fourteenth session, August 30, 1934, to February 5, 1935. In: *History of the Army Dental School, August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va. (11) Army Dental School. Postgraduate course for officers, fifteenth session, August 28, 1935, to February 5, 1936. In: *History of the Army Dental School August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va. (12) Army Dental School. Advanced graduate course for officers, sixteenth session, February 1, 1936, to May 29, 1936. In: *History of the Army Dental School, August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va. (13) Army Dental School. Course for dental technicians, tenth session, January 2, 1934 to June 28, 1934. In: *History of the Army Dental School, August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va. (14) Army Dental School. Course for dental technicians, eleventh session, January 2, 1935 to June 28, 1935. In: *History of the Army Dental School, August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va. (15) Course for dental technicians, twelfth session, February 1, 1936, to May 29, 1936. In: *History of the Army Dental School, August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR



*Colonel Robert H Mills, Dental Corps, director, Army Dental School,  
August 5, 1932–August 4, 1936.*

*Reproduced from: A History of the Army Dental School, August 5, 1932–August 4, 1936.*

*Located at: Research Collections, Office of Medical History, OTSG/MEDCOM,  
Falls Church, Virginia.*

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

This intensive course provided 650 hours of instruction in dental prosthetics, out of a total of 658 hours.<sup>65</sup> The dental division's ongoing plans to expand the central dental laboratories, and the resultant requirement for a large number of trained dental mechanics to complete and supervise this prosthetics work, shaped the revival of the dental mechanics course in 1936 (Table 18-8).

A tradition began on May 30, 1935, when a group of New York dentists presented a portrait of Captain John Sayre Marshall for permanent exhibition at the Army Dental School. Lieutenant Colonel John L Peters, formerly of the Dental Reserve Corps, headed the group, which included many reservists and war veterans. They collected the necessary funds and commissioned Bernard Godwin to paint the portrait. Their purpose was to commemorate Marshall's efforts in enhancing military dentistry and the reputation of the dental profession. Officers of the Regular Army Dental Corps commissioned the same artist to render a portrait of retired Colonel Robert T Oliver, Marshall's successor. Frank P Stone, the chief of the dental subdivision, presented the Oliver portrait to Colonel Robert H Mills, director of the Army Dental School, calling Oliver a pioneer who helped lay the foundation for the present corps. For many years thereafter, officers of the Dental Corps donated toward portraits of outgoing chiefs.<sup>66</sup>

### *Training at the Medical Field Service School, 1930–1936*

The Medical Field Service School at Carlisle Barracks, Pennsylvania, remained the hub of the Medical Department tactical training for all Medical Department officers. It offered a number of courses for Regular Army, Reserve, and National Guard officers and enlisted soldiers, but its most important offerings were the officers' basic and advanced courses. Of 35 new appointments in the Dental Corps from 1930 to 1936 (see Table 18-1), only five attended the basic course at the Army Dental School (all of them from 1930 to 1933, when the course was terminated) before attending the following basic course at Carlisle Barracks.<sup>48</sup> Most newly commissioned Dental Corps officers were sent directly to the basic course at the Medical Field Service School, which 35 officers completed in 1930–1936, including some regulars who had not previously attended (Table 18-9). Because of continuing personnel shortages and heavy demand for field grade officers, only five officers attended the advanced course at Carlisle Barracks during this time, one in 1933 and four in 1936.<sup>6,13</sup>

The senior Dental Corps officer assigned to Carlisle Barracks doubled as the station dental surgeon and the senior dental representative at the school.<sup>3</sup> This was an important assignment not only because the Medical Department's training was conducted at the Medical Field Service School, but also because medical doctrine and field organization were developed there, and the research and development of new field medical and dental equipment was concentrated at the medical equipment laboratory. Moreover, the Medical Field Service School's importance to the Medical Department meant that the faculty and staff assigned there were usually among the "best and brightest" officers of the Medical, Dental, and Veterinary corps. Major (later Colonel) Leslie D Baskin held the posts from July 1929 to July 1934 and played a critical role in the research and development of the field dental

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

equipment that would be used during World War II (see below, “Development of Field Dental Equipment, 1930–1939”). Major Thomas L Smith (later Major General and Dental Corps chief (March 17, 1946–April 20, 1950) was then assigned to the Medical Field Service School from July 1934 to January 1939.<sup>67,68</sup>

### *Corps Area and Central Dental Laboratories, 1930–1936*

In the late 1920s the dental service had organized and staffed three central dental laboratories—Walter Reed General Hospital in Washington, Letterman General Hospital at the Presidio of San Francisco, and the Fort Sam Houston Station Hospital—to provide prosthetic laboratory work for dental officers without trained dental technicians or for laboratory facilities in the various corps areas (see Chapter XVII: A Return to Normalcy: From the World War to the Depression, 1919–1929). For dentists lacking the proper laboratory equipment and technicians to fabricate and repair bridges, partials, crowns, and full dentures for their patients, the central dental laboratories were a blessing. In 1933 a new laboratory opened at Corozal to provide support to dental patients in the Panama Canal Zone and department.<sup>7</sup> Once the laboratories were fully operational, output rose and remained relatively steady until 1933 (Table 18-10).<sup>1-3,6,7</sup> A lack of trained technicians resulted in closure of the Fort Sam Houston laboratory for 6 months during 1933.<sup>7</sup> In 1934 the continuing lack of personnel prevented the laboratories at Letterman, Fort Sam Houston, and Corozal from functioning for much of the year. This left the prosthetics laboratory at the Army Dental School carrying most of their workloads, as well as providing prosthetic appliances to dental clinics that it already supported.<sup>8,13</sup>

While the laboratory at Fort Sam Houston returned to a functioning level in 1935, early in the year this deteriorating situation prompted Frank Stone to study how to establish a viable, Army-wide prosthetics laboratory structure.<sup>8,13,69</sup> Stone’s study looked at expanding the capacity of the existing laboratories and establishing new ones for those corps areas lacking them. Once operational, these corps area dental laboratories and the central dental laboratory at Walter Reed would substantially improve the Army’s dental service. At Stone’s request, Patterson queried the corps area surgeons in April 1935 about the proposal and its potential costs, especially in limited dental personnel (two officers and 16 enlisted technicians).<sup>70-72</sup> Patterson explained:

the purpose of these laboratories is to provide an improved and comprehensive service for the Army. It is intended that dental officers located in the respective areas to be served will send impressions or models to the designated laboratory from which the necessary teeth replacements may be fabricated and returned for use by the patient.<sup>71</sup>

The arguments that Patterson advanced in support of the proposal were that the laboratories’ special facilities would permit the fabrication of more and better prosthetic replacements than the individual dental officers and clinics could produce, the supplies and equipment now required at individual dental clinics could be reduced, and

A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

TABLE 18-9  
DENTAL CORPS GRADUATES OF THE MEDICAL FIELD SERVICE  
SCHOOL, FISCAL YEARS 1930–1936\*†

	1930	1931	1932	1933	1934	1935	1936	Total
Basic course	7	8	5	3	4	4	4	35
Advanced course	0	0	0	1	0	0	4	5
<b>Total graduates</b>	<b>7</b>	<b>8</b>	<b>5</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>40</b>

\*Figures were reported as of June 30 of each year.  
†The heavy demands of mobilization resulted in the cancellation of the regular 5-month Medical Field Service School Basic Course (which ran January–May or February–June) and the substitution of 3-month courses in fiscal years 1940 and 1941. Six Dental Corps officers attended the first course (December 4, 1939–March 9, 1940), 10 attended the second (March 11–June 8, 1940), and 15 attended the third (September 9–December 3, 1940). As of December 9, 1940, the basic course was replaced with an officers’ course, which typically ran for 1 month.  
Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1930: 277. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1931: 343. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1932: 195. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1933: 161. (5) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1934: 149. (6) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1935: 143. (7) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1936: 137. (8) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1937: 161. (9) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1938: 168. (10) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1939: 180. (11) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1940: 180. (12) Office of The Surgeon General, Dental Division. History of the Army Dental Corps, personnel, 1940–1941–1942–1943. In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.

the time spent by station dentists constructing replacements may be more profitably employed in preventive dental operations, such as fillings, treatments and oral hygiene, on a greater number of patients. . . . Infections about the teeth necessitate careful clinical examinations, supplemented by X-ray exposures, and time consuming preventive and curative treatments in cases not too far advanced. Many teeth may be saved and disabilities prevented if the average dental officer is given more time to spend on this important work.<sup>71</sup>

The corps area surgeon agreed, and in 1936 the surgeon general approved the establishment of corps area dental laboratories at Fort McPherson, Georgia, for the Fourth corps area; the US Army General Dispensary, Chicago, Illinois for the Fifth, Sixth, and Seventh corps areas; Fort Sam Houston, Texas, for the Eighth corps area; and the Presidio of San Francisco, California, for the Ninth corps area. Until the new laboratories were fully equipped, staffed, and functional, the dental laboratories at Walter Reed and at Fort Sam Houston carried the burden of the prosthetic work. Once the new facilities were operational, the Walter Reed laboratory supported only the First, Second, and Third corps areas and continued to furnish special Vitallium castings for all stations in the United States.<sup>33,73</sup>



## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

### *Turning the Corner: The Thomason Bill, 1935*

On February 1, 1935, during discussion of the War Department's budget for fiscal year 1936, Representative R Ewing Thomason (1879–1973) of El Paso, Texas, introduced a bill to amend the National Defense Act of 1916. HR 5232, which came to be known as the "Thomason Bill," proposed increasing the Army by approximately 47,000 enlisted troops and the Army Air Corps by 400 officers, and recalling 2,000 reserve officers of the combat arms to active duty. No proportionate increases were called for in the services, such as the Medical Department or Quartermaster Corps, which would be required to support such increases. The Medical Department was already strained by its commitments to the expanding CCC. On February 14 Surgeon General Patterson responded to an inquiry from Representative Fontaine Maury Maverick (1895–1954) of San Antonio, Texas, on the Thomason Bill. Patterson pointed out the dire personnel situation facing the Medical Department and recommended possible changes in the bill that would help clarify and relieve some of its present problems.<sup>74</sup> He noted:

While it would be much better to increase the strength of the Regular Army Medical Corps, the changes indicated in the law would give us our share of the enlisted men, which is most important, and we would be able to use a proportionate share of Reserve Officers, called to active duty, which would probably meet the needs until such time as a Bill can be sponsored by the War Department to take care of the various inequities existing in the Medical Department at the present time.<sup>74</sup>

**TABLE 18-10**

#### **DENTAL PROSTHETIC CASES COMPLETED AT CENTRAL DENTAL LABORATORIES, 1930–1935\*†**

Location of Laboratory	1930	1931	1931	1932	1933	1934	1935
Presidio of San Francisco, California	88	39	54	60	38	24	N/A
Fort Sam Houston, Texas	527	683	595	839	366	97	236
Walter Reed General Hospital, Washington, DC	756	828	818	1,021	1,096	1,702	1,715
Panama Canal Zone	N/A	N/A	N/A	N/A	187	35	N/A
<b>Total</b>	<b>1,371</b>	<b>1,740</b>	<b>1,467</b>	<b>1,920</b>	<b>1,687</b>	<b>1,858</b>	<b>1,941</b>

\*Figures are calculated by fiscal year for 1930 and by calendar year for 1931 and after.

†Includes repair and construction of bridges, crowns, and all dentures.

N/A: not applicable

Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1930: 245. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1931: 286. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1932: 213. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1933: 174. (5) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1934: 163. (6) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1935: 156. (7) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1936: 151.

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

The Thomason Bill also stirred the ADA into action on behalf of the Medical Department and the Dental Corps. On March 1, 1935, Dr J Ben Robinson, dean of the Baltimore College of Dental Surgery at the University of Maryland Dental School and chairman of the ADA's Committee on Dental Legislation, wrote to Surgeon General Patterson addressing his concerns that the bill would not provide "for an increased personnel of the Medical Department" that would include an increase in the size of the Dental Corps.<sup>75</sup> Robinson noted that "the Dental profession has felt for some time that the number of members in the Dental Corps of the United States Army is too limited for the duties which it must meet."<sup>75</sup> He offered his assistance in promoting a suggested amendment to the Thomason Bill "that would increase the personnel of the Medical Department to conform to the requirement of the National Defense Act, June 3, 1916."<sup>75</sup>

The same day, Robinson reported to the ADA's legislative committee that he had requested that an amendment be added to House Resolution (HR) 5232 to increase the size of the Dental Corps to one dentist per thousand service members. The 1922 appropriation act had limited the size of the Dental Corps to 158. Robinson believed that the Dental Corps was "stretched to its maximum capacity and can not stand the load of an additional quota as provided in the Bill," for the present Army of approximately 136,000.<sup>76</sup> There were now 21 posts with commands ranging in strength from 311 to 804 soldiers, and another 23 with commands ranging in size from 31 to 283 soldiers, that depended on occasional visits from dental officers. An increase in Army strength would only "make a bad situation worse." Robinson advocated a ratio of two dental officers per thousand strength (the long-sought 1-to-500 ratio), as ideal if a "satisfactory dental service" was "to be expected."<sup>77</sup>

On March 7, Frank Stone, the ranking Dental Corps officer in the surgeon general's office, replied for the surgeon general to Dr Robinson. He said that the surgeon general suggested Robinson contact the secretary of war and the chairmen of the military affairs committees in the Senate and House of Representatives to let them know that the Army Dental Corps was "unable to properly care for the dental needs of the military personnel of the Army with the small number of dental officers provided for such service." The surgeon general thought that "this will be useful in the future as well as directing their attention to this matter at the present time."<sup>78</sup>

On April 22, 1935, Secretary of War George H Dern replied to Dr Robinson's appeal to increase the size of the Dental Corps. Although he was sympathetic to the "difficulty meeting the load" they had to carry, he assured Robinson that an increase in the size of the Dental Corps would be given "careful consideration" in the future.<sup>79</sup> No further action was taken on HR 5232, but instead HR 6250, containing substantially the same provisions (the number of reserve officers called to active duty was 1,000 instead of 2,000), was passed by Congress. In May 1935 a companion appropriations bill for the Army, HR 5913, increased the authorized enlisted strength of the Army from 118,750 to 165,000, with no additional Medical or Dental corps officers provided for this 39% increase in the enlisted force.<sup>80</sup> Congress was not favorable to overtures about an increase in officers. Members thought it best to defer the bill until the next Congress convened in January 1936.<sup>81</sup>

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

On October 23, 1935, Frank Stone informed Robinson that the new surgeon general, Major General Charles R Reynolds (1877–1961; surgeon general June 1, 1935–May 31, 1939), who replaced Patterson on his retirement, had recommended to the general staff an increase of 172 officers for the Dental Corps, which was “28 officers short of one to five hundred of the whole military strength;” that is, it was “based on the enlisted strength rather than the officer and enlisted strength.” Stone thought the chances of getting a “proper number of enlisted men for duty with the Dental Corps and a proper head to the Corps in the grade of Brigadier General” was favorable. The general staff drafted the bill, not the surgeon general.<sup>82</sup> In retrospect, the events of 1935 that were spurred by the introduction of the Thomason Bill in February changed the direction being taken by the Medical Department and the Dental Corps. The ADA was galvanized into action on behalf of the Dental Corps, and the War Department general staff came to realize that the situation in the Medical Department demanded corrective action for the Army’s well being.

### *A Corner Turned, 1936–1939*

On November 7, 1935, Frank Stone sent a memorandum to Surgeon General Reynolds outlining the results of his study of enlisted personnel assigned to the dental service. Stone, in light of a new bill to be submitted to Congress in 1936 that requested an increase in the strength of the Dental Corps, “recommended that a more or less definite number of enlisted men be provided for the dental service. An act to increase the number of dental officers naturally increases the need for enlisted assistants.”<sup>83</sup> Stone outlined the reasons for his request and how his ongoing effort to revive a functioning prosthetics laboratory system was central to his calculations:

It is a fact that practically all the dental officers in the Army are engaged in professional work. This will also obtain in war time as well as peace time, as no provision for other than professional work is made except for a few administrative positions which would not affect the proportion of enlisted men to officer personnel. . . . In the event that an increase in dental officer personnel is provided by law, it is hoped to be able to make the dental service a real factor in the health of individuals in the military service. In order to do this it will be necessary for each dental officer to have at least two dental assistants. That is provided laboratory facilities are established to give laboratory service to the majority of dental officers; if this provision is not deemed advisable then the proportion of enlisted men to officer personnel should be three to each dental officer.<sup>83</sup>

Stone’s proposal used the increase of 172 dental officers as the basis for his calculation of the minimum number of enlisted soldiers needed. In the attachment, he provided a detailed layout of the distribution of enlisted personnel required by corps areas, posts, grades, and functions. For an Army of 169,126 and the 330 dental officers provided by the desired increase of 172, the dental service required 636 assigned enlisted soldiers and 24 officers.<sup>83</sup>

Colonel James D Fife, Medical Corps, then chief of the planning and training division in the surgeon general’s office, endorsed Stone’s memorandum to Reynolds:

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

Our practice has been to give a \$5000. dentist an enlisted assistant at \$24. a month. I do not believe that this is a proper division of labor. The \$5000. a year man will be wasting a good deal of his time doing what should be done by trained assistants. He should be freed from the routine duties that are generally performed by a nurse or by a dental technician. The more proficient his assistants are, the more the dental surgeon's time can be spent in performing his strictly professional duties. We probably cannot provide them with nurses or female technicians except in general hospitals and larger station hospitals. The next best bet is the trained enlisted man. If we are to establish central laboratories to supply prosthetic appliances then it seems to me that the requirements for enlisted assistants stated herein are reasonable.<sup>83</sup>

On November 29, 1935, Surgeon General Reynolds reorganized his office, eliminating the functional subdivisions in the professional service division established in 1931 and elevating the statistical, nursing, library, veterinary, and dental subdivisions to full division status. As in the many years before 1931, the new divisions reported directly through the executive officer to the surgeon general. The assignment of two dental officers to the office, the chief and an assistant, remained unchanged.<sup>13,84</sup>

As the War Department negotiated with Congress and the budget bureau over the fiscal year 1937 Army appropriation, on February 13, 1936, Surgeon General Reynolds sent a detailed memorandum to the adjutant general for consideration by the general staff. Reynolds began his case as follows:

The Medical Department of the Army is confronted with a shortage of medical and dental officers. This condition has existed for many years and has been aggravated by the advances and developments in the practice of medicine and dentistry and by the added responsibilities of the Medical Department since 1920 when the proportion of medical and dental officers was prescribed by Congress. This condition will be greatly augmented by the recent Act of Congress increasing the authorized strength of the enlisted force of the Army by nearly 40% without providing any increase in the number of medical and dental officers.<sup>85</sup>

Reynolds was careful to point out that the changes outlined in the attached proposal were not intended as a reorganization of the Medical Department.

This legislation in my opinion is vitally needed in all particulars if the Medical Department of the Regular Army is to be properly organized and enabled to accomplish its main purposes, which are to care for the sick and wounded in time of peace, exercise its duties in preventive medicine and sanitation, and to make its contribution to military preparedness by the training of its own officers and those of the civilian components. The proposed legislation is so framed as to provide only the absolute and actual requirements of the medical and dental service and does not aim to effect a complete reorganization of the Medical Department as defined by the National Defense Act as amended. In other words, no violation is to be done to this Act except to make these simple provisions.<sup>85</sup>

Reynolds requested an increase in the authorized strength of the Medical Corps from 983 to 1,183, of the Dental Corps from 158 to 258, and in the number of brigadier generals from 2 to 7. Among the new brigadier generals would be the

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

chief of the Dental Corps, who would serve as assistant to the surgeon general.<sup>85</sup>

In his detailed review of the dental service, Reynolds followed many of the lines of argument advanced by Stone and his predecessors since 1923. He proposed an increase to one dental officer for every 500 soldiers and one brigadier general, and followed the general distribution of new dental officers that Stone recommended in his November 7, 1935 study.<sup>85</sup> He argued that

Dentistry can and should be made a health service. Dental survey records indicate only about 50 percent of the military personnel is receiving dental treatment. . . . To carry out the functions of a health service the Dental Corps should be provided with an enlisted force which can be trained for the dental service and retained in the dental service to obtain the benefits of training.<sup>85</sup>

The Army Appropriations Act for fiscal year 1937 (July 1, 1936–June 30, 1937), as finally passed and approved on May 15, 1936, provided for an increase of 50 officers in the Medical Corps and 25 officers in the Dental Corps. This brought the total strength of the Dental Corps to 183, or one dental officer per thousand service members, which included 165,000 enlisted soldiers, 12,125 officers, and approximately 6,000 Philippine scouts (a total of 183,000 members).<sup>86</sup> This was the first increase in the Dental Corps' authorized strength since the Act of June 30, 1922, which set its strength at 158. With two vacancies, the Dental Corps now had six colonels, 32 lieutenant colonels, 89 majors, 26 captains, and 28 first lieutenants, for a total of 181 on duty.<sup>87</sup>

In 1937 Surgeon General Reynolds again proposed legislation to increase the Medical Corps by 200 officers and the Dental Corps by 100 officers, and to add five brigadier generals to the Medical Department, one to be a Dental Corps officer and one to be a Veterinary Corps officer. While he was unsuccessful in gaining what he wanted, each of the appropriation acts of 1937 and 1938 provided a quarter of the proposed increase, 50 medical and 25 dental officers.<sup>88</sup> On January 22, 1937, Representative Ross A Collins (1880–1968) of Mississippi introduced HR 3491. It provided "that hereafter there shall be a Chief of the Dental Service with the rank of brigadier general, appointed from officers holding the grade of colonel in the Dental Corps, who shall be an assistant to The Surgeon General. Provided further, that 8 per centum of enlisted men of the Medical Department shall be assigned to duty with the Dental Corps."<sup>88(pp85–86)</sup> The bill also provided for "officers of the Dental Corps at a ratio of one per each five hundred enlisted strength of the Regular Army" and argued that "all contract service credited to dental officers for the purpose of promotion shall also be credited for the purpose of retirement."<sup>88(p86)</sup> The ADA sponsored the Collins bill through its Committee on Dental Legislation, following a study of the dental needs of the Army. The ADA encouraged its members to write their congressmen "urging vigorous support of this measure. . . . It is imperative that this be done now!"<sup>89,90</sup>

In March 1937 hearings on the bill were held before the House Military Affairs Committee. However, the surgeon general was not called upon to appear before the House committee because he had not initiated the legislation. Consequently, the bill was not reported out of the committee, and Congress took no further action.<sup>88</sup>

On January 29, 1938, the 75th Congress passed and the president signed S 2463

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

(Public Law No. 423), "an act to authorize an additional number of medical officers for the Army." The act authorized 1,183 medical officers, 258 dental officers, and two additional assistants for the surgeon general with the rank of brigadier general, one of whom was to be a dental officer. In other words, the 1938 act created an additional 100 officer vacancies in the Medical Corps and 50 in the Dental Corps.<sup>88</sup>

Public Law No. 423 was essentially the bill that Surgeon General Charles R Reynolds had recommended in February 1936 and the War Department had supported. It authorized the remaining half of the 200 medical and 100 dental officers recommended in 1936, amending the National Defense Act and increasing the strength of the Medical Corps from 983 to 1,183, and the Dental Corps from 158 to 258. The increase was based on reports and recommendations of corps area commanders, post commanders and surgeons, and the inspector general. The increase was to be effected in two increments, the first increase of 50 medical and 25 dental officers was to be commissioned on December 1, 1938, and the remainder during calendar year 1939 (Exhibit 18-1).<sup>88</sup>

As a result of Public Law No. 423, Colonel Leigh C Fairbank was appointed brigadier general in the Medical Department (Dental Corps) and reported to the surgeon general on March 14, 1938. He assumed duties as dental division chief and Dental Corps chief on March 17.<sup>91</sup> Fairbank, the Army's premier orthodontist, was the first general officer in the history of the US Army Dental Corps.

In May 1938 the *American Journal of Orthodontics and Oral Surgery* reported that Surgeon General Reynolds's broad policy gave dentistry "a useful place in the field of medicine," and that the "road is open and progress thereby assured in conjunction with medicine." It also noted that an orthodontist was the Dental Corps' first general. Fairbank was a member of the American Association of Orthodontists and was certified by the American Board of Orthodontia. He had been in charge of the orthodontic clinic at the general dispensary in Washington, DC, the past 3 years.<sup>92</sup> He referred to a "new concept: facial orthopedics," which "brings about the movement of bone segments, not individual teeth, restoring original occlusion or original relation of the maxillary arches." Furthermore, he stated:

As in the larger orthopedic problems in general bone surgery, orthodontics is important in many cases of loose fibrous union, those with small loss of osseous structure, etc. In many of these cases, after slow reduction, followed by fixation, spontaneous regeneration and union will take place. There are many maxillofacial conditions where orthodontic therapy will correct the malposition without surgical interference. The principles of anchorage, fixation, stabilization, intermaxillary force, and retention are better understood by the orthodontist in the restoration of function for these mutilated faces. Developments in orthodontics during the past twenty years provide newer methods to assure the desired results today. Not only has there been splendid advancement in orthodontic technique but also there has been a great advancement in our understanding of bone repair, so essential in these maxillofacial problems. Orthodontics is recognized today as one of the most important specialties in military dentistry.<sup>93(p314)</sup>

On April 3, 1939, the 76th Congress increased the strength of the Regular Army Dental Corps to 316 officers in Public Law No. 18. The increase was to be attained

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

“by equal increments over a period of 10 years from July 1, 1939.”<sup>94</sup> The 76th Congress approved an additional increase of six officers on July 1, 1939 (Public Law No. 164).<sup>95</sup> Events in Europe and the Far East soon changed the national security landscape, but the authorized Regular Army Dental Corps prior to American entry into World War II only reached 269 in November 1941 (Table 18-11).

### *The Army Dental School, 1937–1941*

After 4 busy years as the director of the Army Dental School, Colonel Robert Mills headed to his new post as supervising dental surgeon at the Presidio of San Francisco and dental surgeon for the Ninth Corps Area. He turned over command on August 5, 1936, to Lieutenant Colonel John W Scovel, who transferred from Fort Lewis, Washington. During Scovel’s tenure, the new advanced graduate course for officers and the twice-yearly course for dental mechanics were both fully implemented. When Scovel left the director’s position on March 14, 1938, due to his pending retirement for disability, Lieutenant Colonel Harold E Albaugh, the assistant secretary, took over until the new director, Lieutenant Colonel Terry P Bull (then the dental surgeon at Fort Myer, Virginia), assumed command on May 26, 1938.<sup>96–99</sup> Bull was promoted to colonel in May 1940, and on September 18, 1940, was transferred to the headquarters of the Seventh Corps Area at Fort Omaha, Nebraska, to serve as dental surgeon. He was replaced by Colonel Lowell B Wright from Tripler General Hospital in Hawaii.<sup>98,99</sup>

Bull oversaw the transformation of the two annual dental technicians courses offered from August 1936 through May 1938 into a single, 12-month training course in accordance with Army regulations “so that the courses could be balanced by supplementing the instruction with practical experience, under adequate supervision” and produce more highly qualified technicians.<sup>94,100</sup> The old 4-month course varied from 573 to 611 total hours of instruction, and each course graduated an average of 14 enlisted technicians (56 total) during its run. The new course totaled 1,789 hours, of which 1,755 were in dental prosthesis, but enrolled only 16

#### EXHIBIT 18-1

##### ROBERT B SHIRA

One of the new Regular Army Dental Corps officers commissioned in June 1938 was Robert B Shira, a graduate of Kansas City’s Western Dental School in 1932 and then a captain in the Dental Officers’ Reserve Corps. Shira was commissioned a first lieutenant to replace a retired officer. He served as assistant surgeon general (dental) and Dental Corps chief from November 1967 to November 1971. The Robert B Shira Dental Clinic at Fort Polk, Louisiana, is named in his honor.

Data sources: (1) Examination for appointment in the Dental Corps. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1938;9(July):129,141. (2) Biographical file of Major General Robert B Shira. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.

A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

students from September 1938 to September 1939.<sup>94,97,99</sup>

To fill the requirements for highly skilled dental mechanics for the prosthetics laboratories throughout the Army, beginning in the fall of 1936 the Army Dental School expanded its course for dental laboratory technicians. Its enlisted training focused entirely on dental prosthetics after the August–December 1936 class, which had 12 students in mechanics and only one in hygiene and radiology.<sup>101</sup> Trained dental technicians were needed to staff the new corps area and central dental laboratories as well as the station and hospital prosthetics laboratories. Well-trained enlisted technicians who could take full advantage of the laboratories’ new equipment and facilities were critical to the long success of Frank Stone’s plan for relieving overworked Army dentists. The modern facilities and professional staff of the Walter Reed Central Dental Laboratory at the Army Dental School enhanced classroom instruction with large amounts of practical experience.<sup>97,99,100</sup> With the fiscal year 1939 enlisted class that entered in September 1938, the school began offering a 1-year course with 1,789 hours of instruction in dental mechanics to provide more practical experience and more thoroughly trained technicians for the

TABLE 18-11  
REGULAR ARMY DENTAL CORPS: STRENGTH, LOSSES, APPOINTMENTS, AND VACANCIES, 1937–1941\*

	1937	1938	1939	1940	1941
Authorized strength	183 <sup>†</sup>	208 <sup>‡</sup>	233 <sup>§</sup>	264 <sup>¶</sup>	267 <sup>¶¶</sup>
Actual strength	181	208	221	253	267
Losses	0	3	2	8	1
Appointments	23	28	16	40	15
Vacancies	2	0	12	11	0

\*Figures reported as of June 30 each fiscal year.  
<sup>†</sup>The Army Appropriations Act of May 15, 1936 (for fiscal year 1937) increased authorized strength by 25 to 183, effective July 1, 1936.  
<sup>‡</sup>The Military Appropriations Act of July 1, 1937 (for fiscal year 1938) increased authorized strength by 25 to 208, effective July 1, 1937.  
<sup>§</sup>The Military Appropriations Act of January 29, 1938 (for fiscal year 1939) increased authorized strength by a total of 50, in increments of 25, to 258 as of December 1, 1939; 233 effective December 1, 1938; and 258 effective December 1, 1939.  
<sup>¶</sup>The Military Appropriations Act of April 3, 1939 (for fiscal year 1940) increased the authorized end strength to 316 to be achieved in 10 equal increments from July 1, 1939 through June 30, 1949.  
<sup>¶¶</sup>An act of July 1, 1939, increased the authorized strength by 6 to 264 effective December 1, 1939.  
Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1937: 156. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1938: 162, 184. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1939: 172, 197. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1940: 167, 203–204. (5) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1941: 141, 183. (6) Recent legislation for the medical department. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1938;9(April):85–86. (7) Administrative notes: the Army and the Dental Corps. *The Dental Bulletin Supplement to the Army Medical Bulletin*. 1939;10(July):138–140.



## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

prosthetics laboratories.<sup>94,102</sup> Two cycles of the 12-month course were completed and 36 students were trained before mounting mobilization requirements forced a change. The class that began in September 1940 was cut down to 3 months and two classes were given; 20 students completed it in December 1940 and 21 in February 1941.<sup>103</sup> From 1937 through 1941, the Army Dental School trained 184 new enlisted dental technicians for service in the Army's prosthetics laboratories.<sup>33,45,94,95,103</sup>

The requirements for dental technicians resulting from the mobilization of 1940–1941 reduced the Army Dental School's role in training enlisted dental technicians. The Medical Department's three newly opened medical replacement training centers assumed much of the responsibility for training enlisted medical, dental, and veterinary personnel beginning in 1941. That year, the centers trained 340 dental technicians.<sup>103</sup> The Army Medical Center and the Army and Navy, William Beaumont, Brooke, Fitzsimons, and Letterman general hospitals also set up special 4- to 12-week training courses in 1940–1941 that trained another 690 technicians and were preparing to train 115 monthly (Table 18-12).<sup>4,103,104</sup>

The final prewar advanced graduate course for officers was conducted from February 1 to May 27, 1939. The outbreak of war in Europe on September 1, 1939, the initial implementation of the Protective Mobilization Plan (PMP; issued in 1937 as an initial defensive mobilization plan for the War and Navy Departments that established military and industrial mobilization requirements in case of the declaration of a national emergency), the increase in the Regular Army to 280,000 soldiers, the activation of the National Guard, and the initiation of the Selection Service System (draft) all happened by the late summer of 1940. Experienced Dental Corps officers were required for critical posts on installations and with activating field medical units, and the 1940 advanced graduate course was cancelled.<sup>95</sup> In its place, two 3-month special graduate courses in maxillofacial surgery were given to Regular Army dental officers at the school. Fourteen officers completed the first course from September 9 to December 3, 1940, and 26 completed the second from December 9, 1940, to March 13, 1941.<sup>103</sup> After February 1941, the school also ran a series of refresher courses of 1 to 4 weeks "designed to train dentists in oral surgery, prosthetics, or operative dentistry in preparation for assignment as chiefs of such services in dental clinics."<sup>4(p125)</sup> Beginning in September 1941, the school also began another series of 4-week courses for maxillofacial plastic teams, in cooperation with the Army Medical School and Walter Reed General Hospital.<sup>4</sup> By the time the United States entered the war in December 1941, the Army Dental School was fully involved in extensive training programs to prepare dental officers and enlisted technicians for their wartime roles.

### *Training at the Medical Field Service School, 1937–1941*

The attendance of Dental Corps officers in the basic course at the Medical Field Service School rose significantly with the increase in the strength of the Regular Army Dental Corps beginning in fiscal year 1937 (Table 18-13). Even the number of dental officers completing the advanced course grew in 1936–1937, before falling off as a result of the demands of mobilization after 1939. The demands of the PMP and then full mobilization after August 1940 forced the school to restructure its courses. A large number of new Medical Department officers required field

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II



*Lieutenant Colonel John W Scovel, Dental Corps, director,  
Army Dental School, August 3, 1936–March 14, 1938*

*Reproduced from: A History of the Army Dental School, August 3, 1936–March 14, 1938.  
Located at: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Virginia.*

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR



*Colonel Terry P Bull, Dental Corps, director, Army Dental School,  
May 26, 1938–September 17, 1940.*

*Reproduced from: A History of the Army Dental School, March 14, 1938–Sept. 17, 1940.  
Located at: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Virginia.*

training, so the regular 5-month Medical Field Service School basic courses were cancelled in fiscal years 1940 and 1941 and a 3-month course was substituted. Six Dental Corps officers attended the first course (December 4, 1939–March 9, 1940), 10 attended the second (March 11–June 8, 1940), and 15 the third (September 9–December 3, 1940).<sup>103,105</sup> As of December 1940, the basic course was replaced with an officers' course that normally ran for 1 month. The Medical Field Service School went from training 100 officers and 100 noncommissioned officers every

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

year to training 500 officers, 100 enlisted soldiers, and 200 officer candidates every month.<sup>103</sup>

Thomas L Smith remained the station dental surgeon and dental representative at the Medical Field Service School until January 1939, when Major (later Colonel) Beverley M Epes (1894–1953) replaced him. In September 1940 Lieutenant Colonel (later Brigadier General) Neal A Harper (1892–1970) took over as the director of what was then called the “department of dental field service,” and remained at the Medical Field Service School at Carlisle Barracks until February 1946, when the Medical Field Service School moved to Brooke Army Medical Center at Fort Sam Houston, Texas. In this position, he was responsible for the training of 4,473 dental officers.<sup>4,106,107</sup>

### *The Dental and Oral Pathology Register*

In 1933 the Army Medical Museum established a new dental and oral pathology registry, which became the first part of the American Register of Pathology formed in cooperation with the National Research Council Division of Medical Sciences in 1930. The ADA supported the development of the new registry. Within 3 years, the dental and oral pathology registry had 483 accessions, and more were being received from dental professionals through the ADA as well



*Oral hygiene classroom at the Army Dental School, 1939–1940.*

*Reproduced from: A History of the Army Dental School, March 14, 1938–Sept. 17, 1940.  
Located at: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Virginia.*

TABLE 18-12

OFFICER AND ENLISTED GRADUATES OF THE ARMY DENTAL SCHOOL, 1937–1941<sup>\*</sup>

	1937	1938	1939	1940	1941	Total
Officers						
Advanced graduate course <sup>†</sup>	4	4	6	N/A	N/A	14
Special graduate course in maxillofacial surgery	N/A	N/A	N/A	N/A	40	40
Total officers	4	4	6	0	40	54
Enlisted						
Dental mechanics course	25 <sup>‡</sup>	31	16 <sup>§</sup>	20	41 <sup>¥</sup>	184
Dental hygienists course	1					1
Total enlisted	26	31	16	20	41	236

<sup>\*</sup>Numbers were reported by fiscal year (ending June 30).

<sup>†</sup>The advanced graduate course was offered from 1936 through 1939, when it was replaced with two sessions of a special graduate course in maxillofacial surgery, which ran from September 1940 through March 1941.

<sup>‡</sup>In fiscal year 1937 the Army Dental School began offering two 4-month courses for dental technicians heavily focused on dental mechanics to provide trained dental mechanics for the corps area and central dental laboratories that were to be established.

<sup>§</sup>In fiscal year 1939, with the September 1938 class, the Army Dental School began offering a 1-year course for dental technicians in dental mechanics to provide more practical experience and more thoroughly trained technicians.

<sup>¥</sup>In fiscal year 1941 the 12-month dental technicians course was shortened to 3 months and given to only two classes.

N/A: not applicable

Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1937: 161, 162. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1938: 168, 170. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1939: 173–174, 180, 182. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1940: 180, 182. (5) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1941: 159–161, 183–184. (6) Army Dental School. Course for dental technicians, thirteenth session, August 31, 1936 to December 22, 1936. In: *History of the Army Dental School, August 5, 1936–March 14, 1938*. In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va. (7) Army Dental School. Course for dental technicians, fourteenth session, February 1, 1937 to May 29, 1937. In: *History of the Army Dental School, August 5, 1936–March 14, 1938*. In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va. (8) Course for dental technicians, fifteenth session, August 30, 1937 to December 22, 1937. In: *History of the Army Dental School, August 5, 1936–March 14, 1938*. In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va. (9) Course for dental technicians, sixteenth session, January 31, 1938 to May 28, 1938. In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va. (10) Army Dental School. Course for dental technicians, seventeenth session, September 15, 1938 to September 14, 1939. In: *History of the Army Dental School, March 14, 1938–September 18, 1940*. In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va. (11) Course for Dental technicians, fourteenth session, February 1, 1937 to May 29, 1937. In: *History of the Army Dental School, March 14, 1938–September 18, 1940*. In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va. (12) Course for dental technicians, eighteenth session, September 15, 1939 to September 14, 1940. In: *History of the Army Dental School, March 14, 1938–September 18, 1940*. In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

as from Dental Corps officers.<sup>7,33,108</sup> This collection provided significant research potential and allowed the resident dental officer at the Army Medical Museum to provide consultation services and to conduct important pathological research. Lieutenant Colonel James B Mann, Dental Corps, held this post through much of the 1930s and made major strides on periodontoclasia and its surgical treatment.<sup>109–111</sup> Captain Joseph L Bernier, a trained oral pathologist and future chief of the Dental Corps (1960–1967), followed Mann as chief of oral pathology at the museum in 1938–1939.<sup>11</sup> By 1941 the registry had grown to 2,485 items.<sup>103</sup>

### *Corps Area and Central Dental Laboratories, 1936–1941*

In 1936–1937 a prosthetics laboratory was reopened at Fort Clayton to provide limited service in the Panama Canal Department.<sup>45</sup> In 1937 the proposed corps area dental laboratory for the Fifth, Sixth, and Seventh corps areas was relocated from Chicago to Jefferson Barracks, Missouri. After several years of delay, it opened on July 1, 1939.<sup>112–114</sup>

In 1937–1938, however, the surgeon general had to change aspects of the plan for the new laboratories as it became clear that War Department approval was required. The resultant study had “occasioned some delay in establishing these facilities but it will assure their development in a thorough and orderly manner.” However, the delay was beneficial because it allowed sufficient time to complete the design, construction, and equipping of the laboratories and to develop the dental mechanics training program at the Army Dental School.<sup>45</sup>

The central dental laboratories finally received official War Department approval in War Department Circular No. 42, dated August 3, 1938.<sup>115</sup> The corps area dental laboratories were designated “central dental laboratories,” and the following five were established in 1938–1939:

1. Army Medical Center, Washington, DC, serving the First, Second, and Third corps areas;
2. Fort McPherson, Georgia, serving the Fourth and Fifth corps areas;
3. Jefferson Barracks, Missouri, serving Forts Knox, Benjamin Harrison, and Hayes and the Sixth and Seventh corps areas;
4. Fort Sam Houston, Texas, serving the Eighth Corps Area; and
5. Presidio of San Francisco, serving the Ninth Corps Area.<sup>116</sup>

As outlined in the Surgeon General’s Circular Letter No. 9 of March 16, 1938, these laboratories were to “construct all classes of dental appliances to be supplied the military personnel within its designated area of service, leaving only the operative procedure necessary in construction of these appliances to be done at the stations served.”<sup>116</sup> In 1939 a laboratory was established at Schofield Barracks, Hawaii, to provide limited prosthetic service to the Hawaiian Department.<sup>95</sup> The central dental laboratories were intended to eventually function for all posts within the continental United States except Walter Reed General Hospital, the Army and Navy Hospital, Letterman General Hospital, William Beaumont General Hospital, Fitzsimons General Hospital, the US Military Academy, Fort Benning, and the general dispensary in Washington, DC.<sup>94,116</sup>

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR



*Students in the dental technicians course at the Army Dental School, 1939–1940, working in the carving room.*

*Reproduced from: A History of the Army Dental School, March 14, 1938–Sept. 17, 1940.  
Located at: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Virginia.*

The central dental laboratories were exempt from the control of local post commanders, except for the purpose of “supply, inspection, and discipline.” The Army Dental School trained most of the enlisted supervisors and mechanics for the central dental laboratories, the War Department assigned their personnel, and the surgeon general prescribed the number, grades, and ratings of the enlisted soldiers. The laboratory personnel could not be detailed for other duties except in case of a “definite emergency.” No supplies and equipment for making dentures were to be given to other stations within the continental United States.<sup>117</sup>

Although Vitallium castings were only made at the central dental laboratory at the Army Dental School in Washington, Luxene dentures were fabricated by all central laboratories. In 1939 the central dental laboratories were provided with Kerr’s Crystolex, a new methyl methacrylate denture base material, to replace vulcanite. DuPont worked with the LD Caulk Company for 2 years researching Kerr’s Crystolex. The *Dental Bulletin* commented, “we can anticipate a new material in the near future surpassing those now on the market,” and the new denture base material completely replaced vulcanite by the late 1940s (Table 18-14).<sup>118</sup>

A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

TABLE 18-13  
DENTAL CORPS GRADUATES OF THE MEDICAL FIELD SERVICE  
SCHOOL, FISCAL YEARS 1937–1941\*

	1937	1938	1939	1940	1941	Total
Basic course	23	4	8	0	0	35
Advanced course	9	3	1	0	0	13
Officers' course	N/A	N/A	N/A	16	172	188
Total graduates	32	7	9	16	172	236

\*Fiscal years ended on June 30 each year.  
N/A: not applicable  
Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1938: 168. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1939: 180. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1940: 180. (4) Office of The Surgeon General, Dental Division. History of the Army Dental Corps, personnel, 1940–1941–1942–1943. In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.

The work of the new laboratories during their first full year of operation in 1939 indicated their success. The 7,859 cases completed were 735 more than the total completed in the years 1936 through 1938 (2,169 in 1936, 2,097 in 1937, and 2,858 in 1938).<sup>33,45,94,95</sup> During the first 10 months of 1939, 1,000 more prosthetic replacements were made than in any 12-month period since World War I.<sup>114</sup> The *Dental Bulletin* of January 1940 extolled the quality of the prosthetic work being done in the new laboratories, saying “with the facilities now provided, it is known that the quality of the replacements surpass anything ever produced in the Army at any time in the past. This marked improvement is a valuable asset to our dental service.”<sup>114(p31)</sup> Although the “possibilities of the new laboratory provide[d] one of the most far-reaching and beneficial developments of the Dental Corps,” a short information piece in the same bulletin reminded readers who was ultimately responsible for the quality of the dental service rendered:

The completion of satisfactory replacements is contingent upon the care exercised by the individual dental officers in the preparation of mouths of patients requiring replacements, and the accuracy of impression technique and other primary steps. This is your responsibility. Take personal pride in this portion of your work for three reasons—for your own sake, for the benefit of your patient, and for your good name!<sup>114(p31)</sup>

Speaking at a meeting of Medical Department officers at the Army Medical Center in March 1939, Leigh Fairbank noted that the dental laboratories cost almost \$100,000 and were mostly functioning. Early reports, Fairbank continued, “indicate that the work is superior to anything ever produced by our dental service in the past.”<sup>119(p59)</sup> The trained enlisted personnel coming from the Army Dental School meant that the laboratories would “become a great asset to our



## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

expanding dental service for it will permit the extension and development of the Dental Corps in the direction most necessary in relation with medicine."<sup>119(p59)</sup> Fairbank believed that revitalizing the dental laboratories was going to produce the results that he and Stone had hoped for. "The mechanical processes will now be delegated to properly trained enlisted men under the supervision of a few dental officers," he said, "while the great majority of dental officers can devote their entire time to the dental health problems of a greater number of our personnel."<sup>119(p59)</sup>

### *Development of Field Dental Equipment, 1930–1939*

Major Leslie D Baskin, Dental Corps, the station dental surgeon and senior dental representative at the Medical Field Service School from 1929 to 1934, initially began developing new dental field equipment in the early 1930s. The new equipment was intended to replace the World War I equipment. Working at the Medical Department equipment laboratory at Carlisle Barracks, Pennsylvania, Baskin redesigned the dental outfit, which consisted of a chair, engine, instruments, and supplies, to fit into one chest instead of five. In World War I transportation for dental field equipment was problematic because the outfit weighed nearly 1,000 pounds. Its bulk made it difficult to transport and no space was assigned to it in any of the Medical Department's transportation. When troops advanced into the combat zone, dental officers did not have field kits to take with them for dental emergencies. Baskin's dental outfit, called "Medical Department Chest No. 60," fit in one chest a little larger than a standard foot locker and weighed approximately 165 pounds. It contained a chair designed by the equipment laboratory; a standard SS White Company all-cord engine with no modification; a small, collapsible instrument sterilizer heated by an alcohol burner; a portable light (which consisted of two automobile headlights mounted on cross-bars on an upright stand); a selection of operative instruments and extraction forceps; and filling materials.<sup>120</sup> The new chair was constructed of aluminum alloy, and some of the infrequently used instruments were discarded.<sup>121,122</sup>

Baskin also developed Medical Department Chest No. 61 and Medical Department Chest No. 62.<sup>121,122</sup> These contained the laboratory units to be used at all mobile, station, surgical, evacuation, and convalescent hospitals, preferably in buildings, not tents. They included hydrochloric acid (for pickling gold after soldering), a large Medical Field Service School alcohol lamp and boiler, a casting machine, a vulcanizer (alcohol operated), a Medical Field Service School hand lathe, Medical Field Service School Prosthetic Assortment No. 122 made by the Dentists Supply Company (Steele's facings, porcelain teeth, and stock crowns), and a selection of prosthetic instruments and supplies.<sup>120</sup>

Medical Department chests numbers 60, 61, and 62 provided the standard dental equipment and supplies for operating a dental service in mobile tactical units and theater of operations hospitals in field settings around the world during World War II. While some changes were made during the war to lighten and improve the chests (principally the replacement of the foot-engine with an electric dental engine in 1944), the three dental chests were used throughout the war.<sup>4</sup>

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

TABLE 18-14

### DENTAL PROSTHETIC CASES COMPLETED AT CENTRAL DENTAL LABORATORIES 1936–1941<sup>\*†</sup>

	1936	1937	1938	1939	1940	1941
Presidio of San Francisco, California	N/A	N/A	140	1,544	1,585	1,759
Fort Sam Houston, Texas	639	777	871	1,125	1,765	2,723
Walter Reed General Hospital, Washington, DC	1,530	1,320	1,328	1,881	2,407	2,095
Panama Canal Zone	N/A	N/A	231	513	886	1,735
San Juan Hospital, Puerto Rico	N/A	N/A	N/A	N/A	N/A	195
Fort McPherson, Georgia	N/A	N/A	204	1,304	1,435	1,814
William Beaumont General Hospital, Fort Bliss, Texas	N/A	N/A	65	756	868	767
Fitzsimons General Hospital, Arvada, Colorado	N/A	N/A	19	177	886	549
Jefferson Barracks, Missouri	N/A	N/A	N/A	550	1,348	1,784
<b>Total</b>	<b>2,169</b>	<b>2,097</b>	<b>2,858</b>	<b>7,859</b>	<b>10,658</b>	<b>13,421</b>

\*Figures were calculated by calendar year.

†Figures include repair and construction of bridges, crowns, and all dentures.

N/A: not applicable

Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1937: 176. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1938: 187. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1939: 200. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1940: 206. (5) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1941: 186. (6) Annual statistics. *The Army Dental Bulletin*. 1942;13:208.

### *Organization and Doctrine for the Field Dental Service in the 1930s*

By 1936 the dental service in field tactical units had been well defined and had changed little since 1920. At the division level, the division dental surgeon (a Dental Corps major) was responsible to the division surgeon (a Medical Corps lieutenant colonel) for the dental health and care of the division's personnel in camp and at the front. Division dental surgeons served as staff officers to division surgeons, exercising general technical supervision over the other dentists and monitoring the dental supplies and equipment. They supervised 22 other dentists assigned to the subordinate infantry, artillery, engineer, and quartermaster units. Six of these officers were in the medical regiment, normally two in each of its three hospital companies. The dental officers in the medical regiment were "the final check against losses in his division due to dental defects."<sup>123,124</sup>

In combat, the dental officers in the infantry regiments were usually expected to function as additional medical officers, as they had in World War I. Those in the medical regiment also prepared maxillofacial injuries for evacuation. In an article

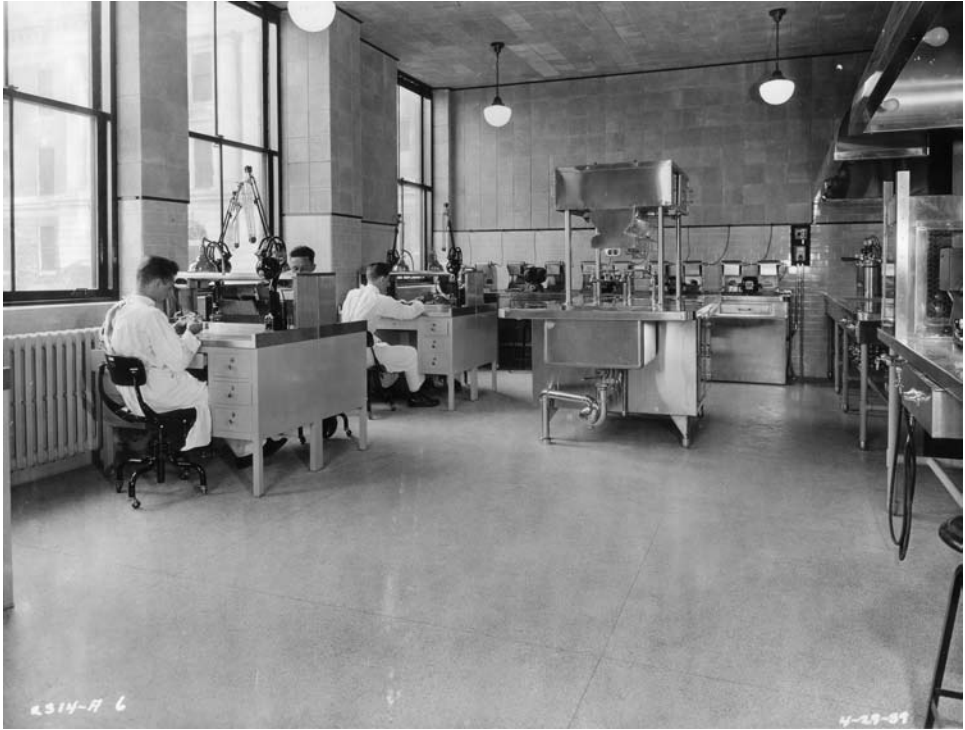
## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR



*The vitallium casting laboratory at the Walter Reed Central Dental Laboratory in April 1939.  
Reproduced from: A History of the Army Dental School, March 14, 1938–Sept. 17, 1940.  
Located at: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Virginia.*



## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II



*The vulcanite section of the new Walter Reed Central Dental Laboratory in the north wing of the Army Medical Schools building in 1939.*

*Reproduced from: A History of the Army Dental School, March 14, 1938–Sept. 17, 1940.  
Located at: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Virginia.*

on the division dental service in the July 1937 issue of the *Dental Bulletin*, Major Leslie D Baskin, who knew the doctrine well from his 5 years at the Medical Field Service School from 1929 to 1934, wrote that the dental surgeon's duties in the regiment went well beyond the regimental aid station and down into the infantry battalions:

The dental surgeons of the regiment must be prepared to function in the capacity of medical officers during combat because it is perfectly apparent that after two medical officers are assigned to each of the three battalions and to headquarters section, the dental officers form the only reserve within the regiment that is available for the reinforcement of any of these [battalion aid] stations.<sup>124(p134)</sup>

At the battalion aid station, the dental officer's role largely ceased to be that of a dentist:

... his greatest usefulness is as an assistant to the surgeon, either in charge of the aid station itself or of the collection of casualties from the field. The responsibility of the

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR



*The entrance of the new Walter Reed Central Dental Laboratory in the north wing of the Army Medical Schools building in 1939.*

*Reproduced from: A History of the Army Dental School, March 14, 1938–Sept. 17, 1940. Located at: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Virginia.*

dental service to participate in the evacuation mission of the Medical Department, becomes, for the time being, the principal duty of the dental officer.<sup>124(p135)</sup>

At the corps level, the dental surgeon, a Dental Corps lieutenant colonel, headed 24 dentists who performed dental duties within the corps' units. These duties were similar to those within the division. The corps dental surgeon was only concerned "with supply, evacuation, and hospitalization from and to the combat divisions" when in combat.<sup>123(p194)</sup>

A Dental Corps colonel acting as Army dental surgeon supervised the 113 dentists assigned to the medical units, hospitals, and tactical units of a 325,000-person

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II



*The field dental operating equipment set, standardized as Medical Department Chest No. 60 in the 1930s, was used by dental officers throughout the world during World War II.*

*Reproduced from: Jeffcoat GF. A History of the United States Army Dental Service in World War II. Washington, DC: Office of the Surgeon General; 1955; 181.*

field army. Many of the dental assets in each army were in its 18 assigned medical units—four medical regiments (12 captains and 12 lieutenants), a medical supply depot (one major), 12 evacuation hospitals (12 captains and 12 lieutenants), 10 surgical hospitals (10 lieutenants), and one convalescent hospital (one major, two captains, and two lieutenants). Additional dental personnel were also assigned to various troop units. The medical units at this level were focused on “supply toward the front and evacuation toward the rear.” The dental officer at the medical supply depot was responsible for all dental unit supplies within the entire Army, and the primary mission of dental officers in the hospitals was to treat and evacuate maxillofacial cases until they were moved to the rear.<sup>123,125</sup>

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

The surgeon general also formed six “auxiliary surgical groups” of surgical specialists, one per authorized field army, that would augment the personnel of surgical and evacuation hospitals whenever the casualty flow of combat operations required. As outlined in 1939, each of these groups had as many as 25 5-person maxillofacial surgical teams composed of one Medical Corps plastic surgeon, one Dental Corps oral surgeon, one nurse-anesthetist, one surgical nurse, and one dental technician (by 1942, only four, six-person maxillofacial surgical teams were part of the six auxiliary surgical groups activated during the war).<sup>126,127</sup> By the end of 1939 the surgeon general’s office was forming a roster of plastic and oral surgeons throughout the United States who could staff these units on mobilization, but by then the entire structure of medical support in tactical units was in a state of change (see below, “Dental Field Service in a Changing Army, 1939–1941”).<sup>123,126</sup>

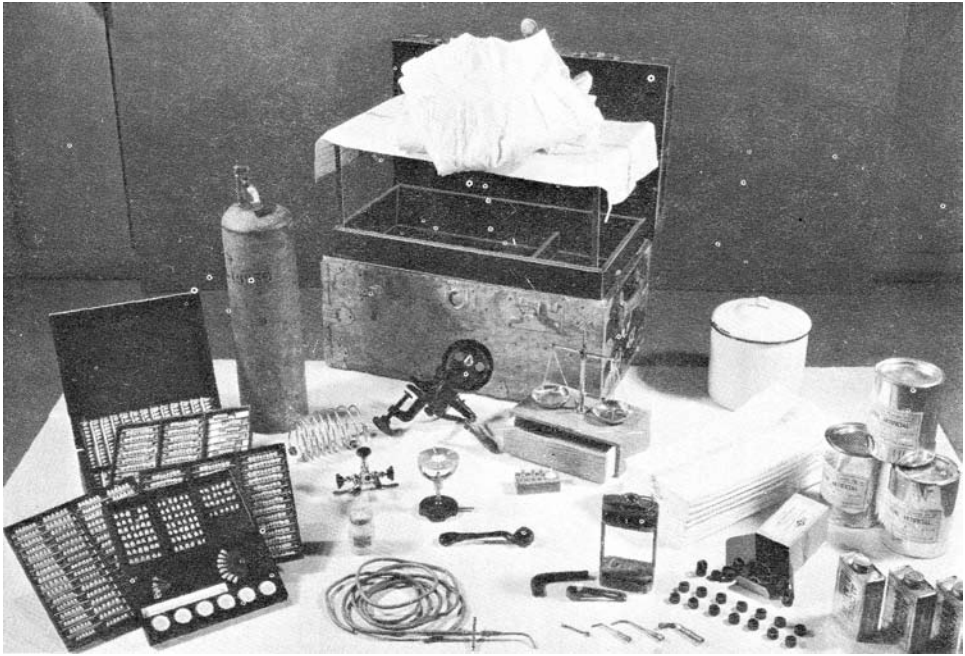
### *Dental Service for the Civilian Conservation Corps, 1937–1942*

In January 1937 the War Department developed a new plan to improve the dental service for enrollees of the CCC. Corps area commanders were authorized to organize dental teams in their respective corps areas. Each team consisted of a reserve dental



*The dental field laboratory developed and standardized in the 1930s consisted of Medical Department Chest No. 61 (shown here) and No. 62 was used worldwide during World War II. Reproduced from: Jeffcoat GF. A History of the United States Army Dental Service in World War II. Washington, DC: Office of the Surgeon General; 1955; 185.*

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II



*Medical Department Chest No. 62 was the second chest of the dental field laboratory.  
Reproduced from: Jeffcoat GE. A History of the United States Army Dental Service  
in World War II. Washington, DC: Office of the Surgeon General; 1955; 186.*

officer below the grade of major on extended active duty, one enrollee as a dental assistant, and one enrollee as a truck driver and orderly (Table 18-15).<sup>128</sup> Each team was supplied with a truck and a dental field operating set with the three standard Medical Department dental chests. The teams visited each CCC company every 6 months and remained for a period of about 2 weeks. The dental officer treated emergency cases and provided other care commensurate with the time in camp. Some amalgam and silicate fillings were permitted, but no denture or crown and bridgework was done. In addition, the dental officer conducted a survey of the enrollees and gave a talk on oral hygiene.<sup>128</sup> One dental officer said of his work with the CCC, "I have found the boys in the camps to be very much interested in oral hygiene, and they listen attentively when I talk on this subject. They are vitally interested in preserving their general health, and as a rule are willing to submit to the necessary dental treatment. They are very appreciative, and many of them thank me for the work I do for them."<sup>129</sup>

Working with the CCC enrollees revealed much about the state of their dental health and their knowledge of dental care. One dental officer said, "we have found boys who did not know what a dentist was or that there was such a thing as a tooth brush until they came into the CCC."<sup>129</sup> Another commented, "I learned also that at least ninety-five percent of the boys never had any dental attention, regardless of what their need might have been."<sup>129</sup>



## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

On June 16, 1939, the War Department directed that all reserve medical and dental officers on active duty be replaced by reserve officers employed in a civilian status by December 31, 1939. This change was actually completed on July 1, 1939, and there was no interruption in dental service in the CCC camps.<sup>94,95</sup>

The figures for dental attendance for the CCC were reported as a distinct, separate category beginning with January 1937 (Table 18-16). Over 4 years, the Army dental service admitted and treated 1,297,508 CCC enrollees, or an average of 324,377 per year, and made a significant contribution to their dental health. With the growing demands of mobilization, the War Department recalled all reserve officers employed in the CCC to active duty in September 1940.<sup>34</sup> The introduction of the draft reduced the need for the CCC, and with the outbreak of the war, Congress terminated the CCC in April 1942.

### *Dental Officers' Reserve Corps, 1937-1941*

From fiscal year 1937 through fiscal year 1941, the DORC declined from 5,233 to 4,428. The major reason for the drop was that the surgeon general halted procurement of additional officers in September 1938, and the War Department suspended new appointments in October 1938 because the Dental Reserve was over its authorized peacetime strength 5,100 for mobilization.<sup>4,94,119</sup> Current mobilization plans in 1938 called for 4 million troops and a ratio of 1.4 dental officers per 1,000 soldiers, resulting in a Dental Corps of about 5,600 officers. With 258 Regular Army and 250 National Guard dental officers, planners concluded that the 5,197 Dental Reserve officers as of September 1938 were more than sufficient to cover the requirements for any general mobilization. The surgeon general believed "that dental officers could be procured rapidly and put on active duty with very little training," and that the Dental Reserve could even drop to 50% of its authorized strength without major concern.<sup>4</sup> In the Medical Department's official history, *A History of the United States Army Dental Service in World War II*, Colonel George Jeffcoat, Dental Corps, concluded that it "was certainly not foreseen that the Army would reach a strength of over 8 million men, that a drastic lowering of physical standards would be necessary, and that the 1.4 ratio, which had failed to measure up to the lesser needs during and following World War I, would be completely inadequate for this expanded force."<sup>4</sup>

The suspension of procurement for the Dental Reserve remained in effect for more than 2 years, until October 26, 1940, when Surgeon General Magee envisioned the "early exhaustion of the Dental Reserve" and recommended the immediate lifting of the ban on new recruitment. The War Department approved this recommendation on October 29, allowing corps area commanders to fill existing vacancies.<sup>4</sup> However, few vacancies existed in the dental service, "and it was found impossible in some cases to even offer commissions to those few dentists who had been inducted as enlisted men" under selective service.<sup>4</sup>

During these years, however, a number of reserve dental officers were called to active duty in support of the CCC or on other selective, voluntary, extended active duty tours beginning in January 1937. In 1939 under the provisions of Public Law No. 415, the Medical Department was authorized to bring on to "extended active

A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

TABLE 18-15  
DENTAL TEAM DISTRIBUTION

Corps Area	Number of Dental Teams
First	10
Second	12
Third	17
Fourth	28
Fifth	14
Sixth	18
Seventh	22
Eighth	20
Ninth	27
Total	168

Data source: Dental service for the Civilian Conservation Corps enrollees. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1937;8(April):92-93.

duty” the reserve personnel required to support the increased enlisted strength in the build up to the 280,000-person Regular Army. The duty commitment was initially for 1 year, with indefinite extension possible “contingent upon satisfactory service, and upon Congressional appropriations.” Under this authority and existing orders, a total of 157 DORC officers were on active duty on June 30, 1939 (Table 18-17).<sup>34,95</sup> A year later, 219 DORC officers were authorized and 101 were on duty or on orders to report as of June 30, 1940, but 121 remained to be ordered to active duty as of August 30 because of the difficulty in finding qualified junior officers who were willing to serve.<sup>95,103</sup>

*Dentists in the Affiliated Hospital Units, 1939-1941*

During World War I a number of hospitals and medical schools had sponsored, equipped, and staffed affiliated hospitals and surgical units. This system “assured a well-balanced, highly competent, professional service and coherent integrated hospital units.” Although revived in 1922, War Department policies for mobilization and training reserve personnel during the 1920s and 1930s isolated these units from the surgeon general, allowing the program to die.<sup>94</sup> Based on his own experience in the war, Surgeon General Reynolds attached great significance to the units, which were “composed of men and women highly skilled and already trained to work together as a unit and could be quickly mobilized if needed.” In March 1939 Reynolds proposed the revival of the affiliated reserve hospital units as part of the PMP.<sup>34</sup>

The War Department finally approved Reynolds’s recommendation in August 1939, and Major General James C Magee (1883-1975; surgeon general June 1, 1939-May 31, 1943), who succeeded Reynolds, submitted a proposed list of units in October. On November 22, 1939, the secretary of war authorized the formation

# THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

TABLE 18-16

## DENTAL ATTENDANCE FOR CIVILIAN CONSERVATION CORPS ENROLLEES, 1937-1940\*

	1937		1938		1939		1940	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
<b>Admissions</b>								
Routine	312,222	1,164.29	285,470	1,063.36	287,085	1,042.19	300,991	1,126.65
Emergency	29,068	108.40	25,233	93.99	31,228	113.36	26,211	98.06
Total	341,290	1,272.68	310,703	1,151.35	318,313	1,155.45	327,202	1,224.11
<b>Frequent operations</b>								
Permanent fillings	270,275	1,007.86	224,573	836.52	225,321	817.97	223,968	837.99
Extractions	169,730	632.93	117,613	438.10	141,041	512.01	134,833	504.43

\*Figures were reported per calendar year; rates were calculated per 1,000 Army strength annually. Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1938: 190. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1939: 203. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1940: 209. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1940: 189.

of 62 "affiliated" units as part of the medical PMP in accordance with existing War Department tables of organization and equipment that could be activated in time of war. The list included 32 general, 17 evacuation, and 13 surgical hospitals. This meant there were four dental officers per general hospital, two for each evacuation hospital, and one per surgical hospital. An additional 36 general, 13 evacuation, and 10 surgical hospital units were authorized in July 1940 in the first augmentation of the PMP, bringing the number of affiliated units to 68 general, 30 evacuation, and 23 surgical hospitals.<sup>34,95,130</sup>

In February 1941 the secretary of war "authorized the waiver of restrictions governing age and grade for the appointment of Reserve officers assigned to 'affiliated' units of the Medical Department." As a result of this action, a separate category of reserve officers was created in peacetime "whose appointment in the Reserve was contingent upon their eligibility for and assignment to specific vacancies authorized as affiliated positions in these units." Medical, dental, and nursing personnel who were "members of the staff or faculty . . . or are officially associated with the sponsoring institutions" were eligible for appointment in the Medical Department reserve and could serve with the units upon their activation for federal service. These appointments terminated upon the individual's separation from the unit or institution, and were not part of the regular Medical or Dental reserve.<sup>95</sup>

Affiliated medical units were organized in many of the nation's major hospitals, medical centers, and medical schools and were staffed by some of the best available medical and dental personnel. The affiliated institutions organized and staffed the units with their own personnel, who were augmented by Army personnel upon activation for federal service.<sup>95</sup> There were a total of 355 Dental Reserve

A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

positions in the affiliated units; 272 were in the general hospitals, 60 were in the evacuation hospitals, and 23 were in the surgical hospitals. These units began to be organized and staffed during 1941. By February 1941 72 dental officers were in affiliated units, and by June 30, 1941, 176 were assigned; there were 157 in 41 general hospitals, 15 in 11 evacuation hospitals, and 4 in 4 surgical hospitals.<sup>34,103</sup> During the war, affiliated hospitals accounted for a total of 52 general and 20 evacuation hospitals that were activated for service and deployed to theaters of operation around the world.<sup>130,131</sup>

The Dental Internship Program, 1939–1941

In the April 1939 issue of the *Dental Bulletin*, the dental division announced what it called “one of the most significant developments in recent months.” The War Department and surgeon general had authorized eight dental internships at Army general hospitals to augment the dental service and “provide suitable candidates for appointment in the Dental Corps, Regular Army,” effective July 1, 1939. Interns would receive a salary of \$60 a month plus maintenance.<sup>94,132,133</sup> In Circular Letter No. 6 of February 14, 1939, the surgeon general clarified the status of dental interns in Army hospitals. Interns were to be considered “civilian employees,” but were unofficially to be “recognized and treated” as if they were commissioned officers. Three interns were assigned to Walter Reed General Hospital, Washington, DC, and one was assigned to each Letterman General Hospital, San Francisco, California; Fitzsimons General Hospital, Denver, Colorado; Army and Navy General Hospital, Hot Springs, Arkansas; William Beaumont General Hospital, El Paso, Texas; and the Station Hospital, Fort Sam Houston, Texas.<sup>133,134</sup>

TABLE 18-17  
DENTAL OFFICERS IN THE ORGANIZED RESERVES, 1937–1941\*

Year	Total Strength	Gross Gain/Loss	Promotions	Assigned to Corps Areas (Tactical Units)	Percent Assigned to Corps Areas
1937	5,233	475/370	145	5,175	98.9
1938	5,199	516/550	137	5,150	99.0
1939	5,063	221/357	127	5,018	99.1
1940	4,665	0/398	NR	NR	NR
1941	4,428	722/959	327	4,207	95.0

\*Figures were reported as of June 30 of each year.  
NR: not reported  
Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1937: 159. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1938: 165. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1939: 175. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1940: 170. (5) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1941: 146–147.

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

At each general hospital, the dental interns were under the supervision of a "training officer" and the commanding officer of the hospital.<sup>133,134</sup> The Army Dental School developed a standardized training program that was "comprehensive and methodical in character embracing clinical dentistry and oral surgery, as well as the relation of dental diseases to the more generalized diseases with which they are commonly associated."<sup>133,134</sup> According to the *Dental Bulletin*, the dental interns served as an important "new source of supply for the annual requirements of the Dental Corps by providing a group of adequately trained candidates, familiar with military dentistry."<sup>133</sup> Looking ahead to the completion of the dental internships, the War Department requested and the 76th Congress approved Public Law No. 517 on May 15, 1940, which amended the existing entrance requirements. In the past, dental candidates had to be graduates of "acceptable dental Schools" who had been engaged in practice for at least 2 years; Public Law No. 517 added "or must have, after such graduation, satisfactorily completed a dental internship of not less than 1 year in a hospital or dispensary."<sup>95,135</sup> The first eight interns successfully completed their training programs on June 30, 1940, and were commissioned.<sup>95</sup> In fiscal year 1941, the program was expanded to 10 interns, with three each at Walter Reed and Fort Sam Houston, two at Fitzsimons, and one each at Letterman and Army and Navy General hospitals, and William Beaumont was dropped. All the interns in this group completed their training on June 30, 1941, and were subsequently commissioned.<sup>103,136</sup> One of them was Edwin H Smith, Jr (May 3, 1916–June 19, 2001), a 1940 graduate of the dental school at the University of Pennsylvania, who went on to become a major general and assistant surgeon general for dental service and Dental Corps chief (December 1971–August 1975).<sup>137,138</sup>

### *Mobilization and Expansion of the Dental Corps, 1938–1941*

At the end of 1939 the Regular Army numbered 224,252 soldiers, had two new, activated infantry divisions, and had an authorized strength of 264 dental officers.<sup>95</sup> Within 6 months under the PMP, it had grown to 264,118 and was on its way to 375,000 with the activation of four infantry and two armored divisions during 1940, bringing the number of Regular Army divisions in active service to 13.<sup>139</sup> Looking ahead to the planned federalization of the National Guard, the beginning of selective service, and the addition of four more divisions to the Regular Army in 1941, Surgeon General Magee reported in July that the Medical Department lacked the medical and dental officers necessary to sustain such an expansion. He was short 391 dental officers, would be short 1,259 with the activation of the National Guard, and would need 2,044 additional officers with the implementation of selective service.<sup>34</sup>

For the first time since World War I, the DORC "was called upon to fulfill its real function—to furnish the additional officer personnel required for an extensive increase in the individuals and units of the Army of the United States" in fiscal year 1941. It was evident early on that the number of reserve officers needed for the rapidly expanding Army in the summer of 1941 could not be obtained on a "purely voluntary basis." In order to furnish the necessary personnel to solve the

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

problem that Surgeon General Magee had outlined, "provisions were therefore necessary to order to active duty the necessary number of Reserve officers, with or without their consent." A declaration of a national emergency or other legislation was required, and on August 27, 1940, it came. By a joint resolution, Congress authorized the president to "order to active duty for 12 months' training and service, with or without their consent, any or all individuals and units of the reserve components (the Officers' Reserve Corps, the National Guard of the United States, the Regular Army Enlisted Reserve and the Enlisted Reserve Corps)." <sup>103</sup>(pp142-143) Congress also granted President Roosevelt the authority to bring the 250,000-person National Guard into federal service, marking the beginning of full mobilization and the end of the early emergency period. The first four of 18 infantry divisions of the National Guard were federalized and called to active duty for 1 year in September 1940. By year's end, nine National Guard divisions were in federal service, and by March 1941 all 18 were in service. <sup>34,139</sup> While the National Guard had medical personnel in its tactical units, caring for and treating guard members in federal service added another dimension to the mobilization problems confronting the Medical Department, as Magee had predicted. As of December 1940, 145 National Guard dental officers were on active duty, and that number grew as the additional divisions were federalized. <sup>4,104</sup> By July, 300 federalized National Guard dentists were serving (Table 18-18). <sup>103,104</sup>

On September 16, 1940, the Selective Training and Service Act was passed, providing for the drafting of dentists, as well as physicians and veterinarians, and their commissioning in the Medical Department. <sup>34</sup> The induction of thousands of draftees placed the Medical Department and its dental officers in a difficult position. By the close of fiscal year 1941 on June 30, the number of reserve dental officers on extended active duty to support the Army of nearly 1,500,000 soldiers had mushroomed from 101 on June 30, 1940, to 449 on January 1, 1941, and to a required 2,263 officers on June 30, 1941, of whom 1,844 were on active duty. <sup>34,103</sup> During 1941 the reserve dental officers on extended active duty grew from 449 on January 1 to 2,531 on January 1, 1942 (see Table 18-18). In 18 months the active duty Dental Corps grew from 357 on June 30, 1940, to 918 on January 1, 1941, to 2,421 on July 1, 1941, and 3,101 on January 1, 1942. <sup>104</sup>

With the enactment of selective service, another source of commissions in the Dental Corps came into being on September 22, 1941, when a joint resolution of Congress authorized the president "to commission newly appointed officers in the Army of the United States (AUS) as an alternative to one of its several components (including the Reserves)." <sup>34</sup>(p130) Until the passage of the Selective Service Act, the AUS had consisted only of the Regular Army, Reserves, and National Guard. Now, however, it included vast numbers of officers and enlisted soldiers who were not in any of the three traditional components but were "Army of the United States personnel." <sup>34</sup>(p5) On November 7, 1941, the adjutant general directed that most "dentists taken on active duty directly from civilian life would thereafter be commissioned in the AUS, which was the emergency force, rather than in the permanent Reserves." The first dentist in the AUS was commissioned in April 1941, followed by 47 others that year. Through the end of the war in September 1945, 12,780 dental officers were commissioned in the AUS and constituted the majority

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

of dental officers who served during the war years.<sup>4</sup>

Congress provided the funds for adequate hospital facilities in the Army's new cantonments and for a full dental clinic in every station and general hospital. The station hospitals consisted of numerous frame buildings joined by runways. This type of construction allowed for unlimited expansion and reduced fire hazards. A standardized one-story, 15-chair dental clinic (categorized as DC-2) with 15 dental officers and 25 technicians was provided for all the new cantonment hospitals in camps of 10,000 soldiers and for station hospitals of 250 beds or more.<sup>4,140</sup> In addition to the hospital dental service, dental clinics were centrally located in areas where there were large numbers of troops. For divisional camps or installations of 15,000 soldiers, a two-story, 25-chair clinic (DC-1) with 25 dental officers and 42 technicians was provided. The DC-1 clinic had "the most modern base equipment, including laboratory, X-ray, prosthetic, and oral surgical facilities."<sup>4,140</sup> An eight-chair dental clinic (DC-3) with eight dental officers and 13 technicians was designed in mid 1941 and built for the Air Corps fields under construction and for intermediate-sized camps of 3,000–6,000 soldiers.<sup>4,141</sup> By the end of 1941, 41 DC-1 and 52 DC-2 clinics were completed and operational in the United States, and by September 1942 a total of 100 DC-1, 150 DC-2, and 138 DC-3 clinics were operational.<sup>4,140</sup> In addition, many of the permanent station hospital dental clinics were expanded to care for the increase in Army strength, especially in Puerto Rico, Panama, Hawaii, and Alaska.<sup>103,140</sup>

A tremendous amount of supplies and equipment was necessary for this expanded Army dental service. In the fiscal year ending June 30, 1941, the total spent was \$3,859,685 for dental equipment and \$1,042,564 for dental supplies, and within the next 6 months an additional \$1,395,203 was expended for dental supplies and equipment. This procurement program placed a "severe load" on the dental manufacturers, but they were able to fill the giant orders placed with them. At many camps, the dental clinics became the "show places" of the hospitals.<sup>140</sup>

Having learned from the World War I experience, in 1939 the War Department authorized an increase in officer personnel for the dental division of the surgeon general's office. As a result, on November 20, 1939, Lieutenant Colonel (later Brigadier General) Rex M McDowell, a dental supply specialist, reported for duty to the surgeon general's office and was in place to manage the more complex supply and equipment issues arising from mobilization.<sup>142</sup> In the years immediately preceding the war, the dental division was expanded to a total of six officers, including Fairbank, and eight civilians, and was loosely organized into sections for finance and supply, military personnel, plans and training, and statistical information.<sup>4</sup>

### *Dental Health of the Army, 1936–1941*

The general dental health of the Army, as measured by annual examinations and surveys, tended to improve consistently through the late 1930s. The annual report for 1940 ascribed the improvement in Class III cases for enlisted soldiers directly to newly operational prosthetic laboratories. The increases in Classes I and II for enlisted personnel were due to the large number of soldiers involved in

A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

TABLE 18-18  
GROWTH OF THE DENTAL CORPS ON ACTIVE DUTY SERVICE,  
JANUARY 1941–JANUARY 1942\*

	January 1941	February 1941	March 1941	April 1941	May 1941	June 1941	July 1941	August 1941
Regular Army	267	267	267	267	267	267	267	267
Reserve	449	565	705	1,024	1,360	1,693	1,844	2,090
National Guard	202	273	304	307	308	309	310	305
Total	918	1,105	1,276	1,598	1,935	2,269	2,421	2,662

\*These numbers, reported on the first of each month, include Regular Army, Reserve, and National Guard soldiers. Data sources: (1) Jeffcoat GF. *A History of the United States Army Dental Service in World War II*. Washington, DC: Office of The Surgeon General, Department of the Army; 1955: 48–49.

maneuvers where adequate dental care was not provided (Table 18-19).<sup>95</sup> The rates for fiscal year 1941 showed a marked decline in all categories for enlisted personnel, as much as 47.5% in Class I cases requiring immediate care.<sup>103</sup> The cause for the increases lay in the increase in the size of the Army, especially during the January to June 1941 period. The 1941 annual report concluded:

Although the facilities for rendering dental care and the personnel of the dental service have been increased proportionately with the increase in the size of the Army, it will be some time before the dental health of the new troops can be brought up to that of the Army before the present emergency. . . . during periods when the Army is growing rapidly, the need for immediate and early dental treatment is greater than the need for extended treatment.<sup>103(pp185–186)</sup>

*Dental Attendance and Professional Service, 1937–1941*

In his section of the 1937 annual report, Frank Stone noted that the record for dental attendance in fiscal year 1937 was “very satisfactory when the amount of service available is considered.”<sup>33(p177)</sup> He went on to say:

results have been accomplished, though, through corrective rather than preventive measures, a condition that is unsatisfactory from the standpoint of a health service. Without adequate personnel the requirements of corrective measures is so great that no progress can be made in the prevention of dental diseases.<sup>33(p177)</sup>

For 1938 the general improvement in the amount of dental service available and provided was attributed to the additional Regular Army personnel on duty. The number of those seeking dental treatment had also increased, so the rates did not “indicate a corresponding improvement.”<sup>94(p203)</sup> Within 2 years, however, the large numbers of soldiers entering the Army with poor dental and oral health and requiring treatment, many of them under emergency conditions, increased



## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

TABLE 18-18 *continued*

	September 1941	October 1941	November 1941	December 1941	January 1942
Regular Army	267	267	269	269	267
Reserve	2,231	2,354	2,441	2,531	2,566
National Guard	301	301	301	301	291
Total	2,779	2,922	3,011	3,101	3,124

(2) Historical report 1940–1943, The Army Dental Corps: Personnel. In: Office of The Surgeon General, Dental Division. History of the Army Dental Corps (unpublished manuscript). Research Collection. Office of Medical History, OTSG/MEDCOM, Falls Church, Va.

the rates for fillings and extractions and dropped those for prosthetic restorations. The number of “others” treated decreased as the Medical Department focused on improving the troops’ dental health (Table 18-20, Table 18-21, Table 18-22).<sup>103</sup>



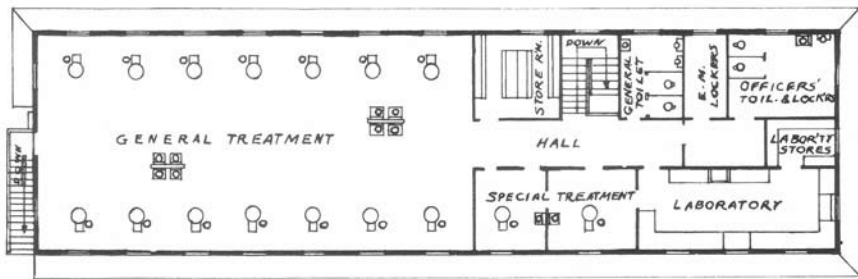
*The DC-1 dental clinic had a 14-chair general operating room.  
Reproduced from: Jeffcoat GF. A History of the United States Army Dental Service in  
World War II. Washington, DC: Office of the Surgeon General; 1955; 258.*

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

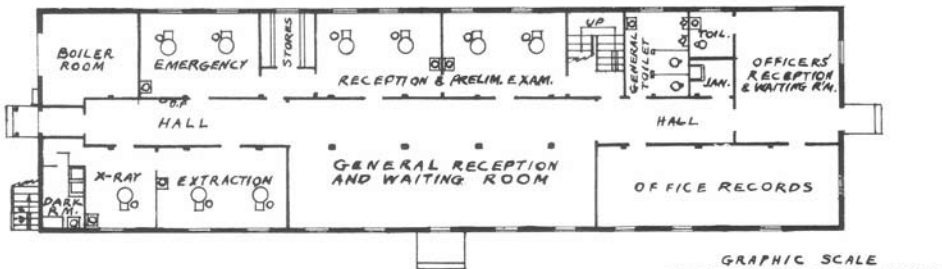
### *With Some Help from Your Friends: the American Dental Association and the Army, 1939–1941*

As the state of national emergency grew, Dr Arthur H Merritt, president of the ADA, appointed a committee on national defense in December 1939 that he charged with organizing the dental profession to meet a national emergency. The committee met on February 29, 1940, in Washington, DC, and requested the state dental societies appoint committees on military affairs to work in conjunction with the ADA committee. During 1940 the ADA Committee on National Defense required the certification of qualified dentists, dental hygienists, and dental technicians by the American Red Cross. It also cooperated with the surgeons general of the Army and Navy in procuring professional personnel for the service dental corps.<sup>143</sup>

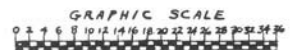
On July 19, 1940, the ADA committee met to discuss the deferment of predental and dental students. They also discussed a recommendation of the surgeons general that a questionnaire be sent to all members of the dental profession to survey their status. The information was to be used if full mobilization occurred.



SECOND FLOOR PLAN



FIRST FLOOR PLAN



*The 25-chair Dental Clinic-1 (DC-1) of 1940, with a staff of 25 dentists and 42 dental technicians, could provide full dental support for a 15,000-person division. Reproduced from: Jeffcoat GF. A History of the United States Army Dental Service in World War II. Washington, DC: Office of the Surgeon General; 1955; 258.*

TABLE 18-19

**DENTAL HEALTH OF THE ARMY BASED ON ANNUAL PHYSICAL EXAMINATIONS OF OFFICER PERSONNEL AND ANNUAL DENTAL SURVEYS OF ENLISTED PERSONNEL, 1936-1941\***

Classification <sup>†</sup>		1936	1937	1938	1939	1940	1941
I	Officers and warrant officers	30	10	21	14	8	NR
	Enlisted personnel	98	84	82	77	80	118
II	Officers and warrant officers	153	144	141	103	125	NR
	Enlisted personnel	245	268	284	282	307	373
III	Officers and warrant officers	41	36	41	34	23	NR
	Enlisted personnel	56	55	51	52	41	52
IV	Officers and warrant officers	786	810	797	849	844	NR
	Enlisted personnel	601	593	583	589	572	457

\*Statistics are reported as a percentage of those surveyed from 1930 through 1932 and as a rate per 1,000 per annum thereafter.

<sup>†</sup>Classifications were as follows: (I) in need of immediate treatment; (II) in need of early treatment; (III) in need of extended treatment; and (IV) no treatment needed.

NR: not reported

Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1937: 175. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1938: 186. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1939: 199. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1940: 205. (5) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1941: 185.

On September 11, 1940, the ADA House of Delegates approved the questionnaire and it was sent out to all practicing dentists in the United States. The same day, the committee's name was changed to the Committee on Dental Preparedness.<sup>143</sup>

On October 28, 1940, the Army closed applications for appointments in the DORC, except for inducted dentists and those with low call numbers. In early November, the surgeon general recommended that priority be given to "applicants who had been placed in Class 1-A by local draft boards." However, in January 1941, "contrary to the wishes of the Surgeon General's Office," appointments were completely suspended in the Dental Reserve Corps. As a result of the War Department's decision and the failure of selective service to defer dentists, approximately 100 dentists were inducted into the Army as privates. All dentists with low call numbers were in jeopardy. Despite the committee's appeal, the War Department stood firm on the issue. Their argument was that there were "sufficient dentists already in the Reserve Corps to serve the tables of organization for two years, and therefore the reserve could not be opened for additional appointments."<sup>143</sup>(pp82-83)

On May 5, 1941, the War Department adjutant general issued a directive to all commanding generals that individuals qualified for appointment in the Dental Reserve Corps and inducted by the Selective Service Act of 1940 should be "encouraged

TABLE 18-20  
ADMISSIONS FOR DENTAL TREATMENT IN THE US ARMY, 1937-1941

	1937		1938		1939		1940		1941	
	Number	Rate*	Number	Rate*	Number	Rate*	Number	Rate*	Number	Rate*
Routine admissions <sup>†</sup>	96,983	550.29	101,910	555.47	114,618	596.24	184,890	548.82	NR	754.43
Emergency admissions <sup>†</sup>	41,724	236.74	42,865	233.64	42,664	221.94	88,322	262.17	NR	364.94
Total <sup>†</sup>	138,707	787.03	144,775	789.11	157,282	818.18	273,212	810.99	NR	1,119.37
Others <sup>‡</sup>	73,469	NR	77,878	NR	77,280	NR	77,890	NR	NR	NR
Total admissions	212,176	NR	222,653	NR	234,562	NR	351,121	NR	NR	NR
Others as percentage of total admissions	34.6	NR	35.0	NR	32.9	NR	22.1	NR	NR	NR

\*Rates are calculated per 1,000 total Army strength annually.

<sup>†</sup>US Army personnel only.

<sup>‡</sup>"Others" includes families of active duty military personnel, civilian employees, Veterans Administration patients, retirees, and enrollees of the Civilian Conservation Corps who were treated by Regular Army dental officers.  
NR: not reported

Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1938: 188. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1939: 201. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1940: 208. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1941: 207. (5) Statistics: summary of dental attendance, 1941. *The Army Dental Bulletin*. 1943;14:38.

TABLE 18-21  
DENTAL ATTENDANCE, US ARMY PATIENTS ONLY, 1937-1941<sup>+</sup>

	1937		1938		1939		1940		1941	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Cases completed	43,105	244.58	47,923	261.21	46,666	242.76	76,153	226.06	NR	299.35
Prophylaxis	31,982	181.47	35,311	192.47	35,471	184.52	53,777	159.63	NR	187.86
Extractions	55,594	315.44	62,060	338.26	67,697	352.16	124,438	369.38	614,143	457.27
Fillings										
Permanent	115,256	653.97	138,849	756.81	143,789	747.99	257,453	764.21	1,544,166	1,149.74
Temporary	6,060	34.88	6,385	34.80	5,682	29.56	11,853	35.18	75,815	56.45
Root canal	668	3.79	752	4.10	594	3.09	826	2.45	3,103	2.31
Prosthetic appliances constructed										
Bridges	1,037	5.88	1,328	7.24	1,284	6.68	1,603	4.76	2,970	2.21
Crowns	607	3.44	698	3.80	618	3.21	820	2.43	1,787	1.33
Dentures (all)	5,776	32.77	6,715	36.60	8,059	41.92	8,788	26.09	18,953	14.11

<sup>+</sup>Numbers were gathered per calendar year.  
<sup>+</sup>Rates are figured per 1,000 total Army strength annually.  
NR: not reported  
Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1938: 188. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1939: 201. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1940: 207. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1941: 187. (5) Annual statistics. *The Army Dental Bulletin*. 1942;13-210. (6) Statistics: summary of dental attendance, 1941. *The Army Dental Bulletin*. 1943;14:38.

TABLE 18-22  
SELECTED DENTAL DISEASES TREATED BY US ARMY DENTAL OFFICERS, 1937-1940\*\*†

	1937			1938			1939			1940		
	Number	Rate		Number	Rate		Number	Rate		Number	Rate	
Abscess, periapical	19,556	111.02		18,913	103.09		22,325	116.13		52,540	155.98	
Calculus	35,115	199.24		32,821	178.89		35,844	186.46		53,291	158.19	
Caries	130,751	741.89		145,611	793.66		157,004	816.73		283,842	842.55	
Gingivitis	6,530	37.05		6,791	37.01		7,463	38.82		13,986	41.52	
Malocclusion	548	3.11		639	3.48		802	4.17		1,160	3.44	
Pulpitis	17,375	98.59		18,161	98.99		16,748	87.12		35,282	104.73	
Stomatitis, Vincent's	5,400	30.64		5,304	28.91		4,656	24.22		9,042	26.81	
<b>Total diseases treated</b>	<b>286,702</b>	<b>1,626.76</b>		<b>309,283</b>	<b>1,685.77</b>		<b>329,877</b>	<b>1,716.01</b>		<b>560,370</b>	<b>1,663.38</b>	

\*Figures include US Army cases only.

†Rates were calculated per 1,000 total Army strength annually.

Data sources: (1) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1938: 189. (2) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1939: 202. (3) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1940: 208. (4) Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1941: 189-190.

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

to apply for appointment in order that they may serve in a professional capacity." After April 1941 dentists were commissioned as officers in the AUS. In August 1942 dental students "in good standing" were being deferred and dentists inducted as privates were gradually commissioned.<sup>143</sup> The quick reaction of the ADA, Congress, and the War Department was a reflection of the lessons learned from the previous war, the increased status of dentistry, and a new appreciation for its wartime role.

### *Dental Field Service in a Changing Army, 1939–1941*

From 1939 to 1941, the Army was in an almost constant state of flux as PMP and then full mobilization hit. At the same time, the Army's tactical organization underwent an equally swift and turbulent transformation to the mechanized Army needed to fight World War II. For the Dental Corps, that meant a significant change in the number of dental officers and their responsibilities in the divisions, corps, field armies, and communication zones in potential theaters of operations around the world. Much of the medical structure changed as the infantry division was restructured from the former "square division" of four infantry regiments into the more flexible "streamlined" or "triangular division" of three infantry regiments for mobile, mechanized operations. A large part of the divisional support structure was pushed back to the corps, army, and communication zone levels. The divisional medical regiment was reduced to a medical battalion, with three collecting companies aligned with the regiments and a clearing company for holding and moving the sick and wounded to the rear.<sup>95,103,139,144</sup>

The division's dental service remained under the command of a major as division dental surgeon, but the number of Dental Corps officers dropped from 23 in the 1930s to 12 in the new infantry division. The medical detachment of the infantry regiment had two dental officers, who often acted as assistant battalion surgeons because of a lack of dental work while in combat. Two other dental officers were assigned to the divisional clearing station, where they generally performed emergency dental work and prepared maxillofacial casualties for evacuation. During the interwar years, a ratio of 1 dental officer to a thousand soldiers was the standard for allocation, and that ratio remained the yardstick during restructuring; it even rose to 1 officer to 1,200 soldiers in many allocations.<sup>4</sup>

The missions of the corps and Army became more focused on hospitalization and evacuation, and the corps medical regiment was reorganized and eventually replaced by the medical group, with separate medical battalions to treat corps troops and evacuate the front line divisions. All of these changes had consequences for the dental service in the field army. As the hospitalization and evacuation functions were pushed back, so too were many of the assigned dental officers.<sup>301</sup>

### *A Dental Corps Ready for War*

When the Japanese struck Pearl Harbor on December 7, 1941, Leigh C Fairbank presided over an Army Dental Corps that was preparing, but not yet ready, for war. The Army Dental School led a network of training facilities intended to provide qualified "clinicians, prosthetists and oral surgeons." Dental officers

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

supervised fully equipped clinics at 46 new camps and posts, and 60 dental laboratories served the various clinics. Each of the 35 combat divisions in training and a number of additional tactical and service units had a full complement of dental personnel, and plans were underway to supply the dental needs of units envisioned for future activation. The dental division in the surgeon general's office, aware of the hit-and-miss approach of 1917–1918, was staffed to deal adequately with the problems of personnel, training, equipment, and doctrine. It sustained a close relationship with the dental profession to maintain its interest and support and to assure the greatest technical currency.<sup>103,145</sup> On December 1, 1941, as Japanese carriers steamed toward the Hawaiian Islands, the Dental Corps stood trained and ready, with 3,101 officers of the Regular Army, National Guard, and DORC who staffed an Army dental service that was still expanding to meet the demands of the growing Army.

On the 21st anniversary of dentistry in the Army in 1922, the editor of *The Military Dental Journal* likened the growth of the Dental Corps to that of a person. Prior to 1911, like any growing individual, it had experienced numerous disappointments from which it had developed and learned. Army dentists were recognized with commissioned status for what they contributed to the well-being of the Army. Between 1911 and 1917, the corps matured and became increasingly accepted as other members of the Army and Medical Department came to value the contributions it made to conserving fighting strength. World War I completed the process of maturation and acceptance, and the Dental Corps itself learned all the requirements necessary for a full wartime dental service. The editor concluded that the corps had passed its probationary period and "with the support of a progressive dental profession . . . the Dental Corps has reached the age of full citizenship, prepared to carry on and perform the full functions of an integral part of the Medical Department."<sup>146</sup> The lessons of the First World War were fully absorbed during the lean times of the 1920s and 1930s, when problems steeled the Dental Corps and brought forth new and creative solutions that helped it prepare to meet the great challenges of a world war.

When Robert H Mills succeeded Brigadier General Leigh C Fairbank as director of the dental division in the surgeon general's office on March 17, 1942, the United States was again at war. By this time, 267 Regular Army, 2,777 reserve, and 287 National Guard dental officers were already on duty, with more to come in a concerted dental system capable of serving the expanded force. The Dental Corps had matured and grown in stature within the Medical Department and the US Army, as well as in its profession, in the 31 years since its establishment in March 1911. Dentistry in the US Army had come a long way from its predecessors in the nation's earlier conflicts. Under Robert Mills's leadership, it expanded to provide dental service to a US Army and Army Air Force that grew to more than 8.2 million in fighting a world war.

The change in the status of the dental profession in such a relatively short period was a reflection of a growing modernization of many professions to assure standards and the social and economic status related to them. Educational and training requirements were clarified, along with the criteria of acceptable professional performance. One of the symbols essential to the completion of this process



## **THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR**

was public recognition of a profession's practitioners as highly skilled professionals. Many people thought that the dental profession had not been legitimized until dentists achieved the same status as their medical counterparts as commissioned military officers in a career progression. This explains the tenacity and high degree of interest that the dental profession displayed in achieving this goal. The validation of their objective lay partly in the support of the numerous military veterans in Congress who also persevered until the Dental Corps became a reality. Their vindication was in the improved health of the Army and the alleviation of suffering through their skills.<sup>147</sup>

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

### References

1. Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1930.
2. Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1931.
3. Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1932.
4. Jeffcoat GF. *A History of the United States Army Dental Service in World War II*. Washington, DC: Office of The Surgeon General, Department of the Army; 1955.
5. National Archives and Records Administration. Record Group 112. Major General Robert U Patterson, surgeon general, to the adjutant general, "Medical department bill," October 6, 1931. Memo. Document file no. 333.9 Med Dept (4)10-6-31, File 011.-1 (Enactment of Laws, General), 1928-1931. Box 2. Entry E29B.
6. Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1933.
7. Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1934.
8. Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1935.
9. An announcement. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1933;4:1.
10. Office of The Surgeon General, Dental Division. History of the Army Dental Corps (unpublished manuscript). Research Collection. Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
11. Biographical file on Joseph L Bernier. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
12. Enlisted personnel for the dental service. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1934;5(April):99-103.
13. Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1936.
14. Distribution of dental service. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1935;6(April):81-88.
15. Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1929.

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

16. Dental reserve officers relieved. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1933;4(July):123–124.
17. Appointments in the Dental Corps. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1933;4(October):175.
18. Appointment in the Dental Corps. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1934;5(January):55.
19. Appointment in the Dental Corps. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1935;6(January):33.
20. Appointment in the Dental Corps. *Dental Bulletin Supplement to the Army Medical Bulletin* 1935;6(October):218.
21. Distribution of Dental Service. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1933;4(April): 88.
22. Smalley HE. Itinerary dental service. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1935;6(January):13–15.
23. Harper NA. The dental service of Schofield Barracks, T.H. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1933;4(July):108–109.
24. Vail WD. A study of dental conditions of officers of the Army with reference to the loss of teeth and their replacements. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1933;4(July):103–107.
25. Vail WD. Dental health in the Army. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1934;5(July):144–151.
26. Annual sanitary report (an extract). *Dental Bulletin Supplement to the Army Medical Bulletin*. 1933;4(January):20–23
27. Vail WD. Dentistry as a factor in preventive medicine in the Army. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1936;7(January):4–6.
28. Kennebeck GR. The Dental R.O.T.C. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1934;5(October):210–214.
29. R.O.T.C. units. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1934;5(July):164.
30. R.O.T.C. units. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1936;7(January):22.
31. Dental officers with R.O.T.C. units released. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1933;4(July):124–125.

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

32. Conley ET. Officers' Reserve Corps, Medical Department. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1934;5(October):228.
33. Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1937.
34. McMinn JH, Levin M. *Personnel in World War II*. Washington, DC: Office of The Surgeon General; 1963: 111–124.
35. Gaynor CJ. The Organized Reserve Corps: procurement, training, distribution and purpose of the medical section. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1937;8(July):111–121.
36. Vail WD. The Dental Reserve Corps. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1936;7(January):25.
37. Salmond JA. *The Civilian Conservation Corps, 1933–1942: a New Deal Case Study*. Durham, NC: Duke University Press; 1967.
38. Risch E. *Quartermaster Support of the Army: A History of the Corps, 1775–1939*. Washington, DC: Government Printing Office; 1962: 728–729.
39. Dental service for the Civilian Conservation Corps. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1933;4(July):130.
40. Johnson CW. Dental problems in the present mobilization scheme. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1936;7(April):57.
41. Civilian dental attendance. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1935;6(January):27,29.
42. Repair of dental injuries for Civilian Conservation Corps enrollees involving the use of precious metals, gold, etc. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1936;7(January):36–37.
43. Dental attendance furnished C.C.C. enrollees (calendar year, 1935). *Dental Bulletin Supplement to the Army Medical Bulletin*. 1936;7(July):163.
44. Summary of dental attendance (Dental Corps, U.S. Army, 1935). *Dental Bulletin Supplement to the Army Medical Bulletin*. 1936;7(July):158,159.
45. Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1938.
46. A curriculum vitae of Colonel Frank L.K. Laflamme, December 1967. In: Biographical file of Frank LK Laflamme. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
47. Biographical file of Robert H Mills. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

48. *A History of the Army Dental School, 1 July 1929–4 August 1932*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
49. *A History of the Army Dental School, Aug. 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
50. Army Dental School. Twelfth annual basic course for officers, session: August 29, 1932 to January 27, 1933. In: *History of the Army Dental School, Aug. 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
51. Bockoven FH. The post graduate course for dental officers. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1934;5(April):85.
52. Rhoades RH. Army Dental School, thirteenth session. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1933;4(October):181.
53. Harper NA. The advanced course. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1932;3(June):20–22.
54. Army Dental School. Sixth annual advanced course for Dental Corps officers, U.S. Army, session February 1, 1933 to May 31, 1933. In: *History of the Army Dental School, August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
55. Army Dental School. Postgraduate course for officers, thirteenth session, September 1, 1933, to February 5, 1934. In: *History of the Army Dental School, August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
56. Army Dental School. Postgraduate course for officers, fourteenth session, August 30, 1934, to February 5, 1935. In: *History of the Army Dental School, August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
57. Army Dental School. Postgraduate course for officers, fifteenth session, August 28, 1935, to February 5, 1936. In: *History of the Army Dental School August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
58. Army Dental School. Advanced graduate course for officers, sixteenth session, February 1, 1936, to May 29, 1936. In: *History of the Army Dental School, August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
59. Summary of personnel activities for 1936. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1937;8(January):33.

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

60. Rohde SJ. Annual local clinic of the District of Columbia Dental Society and formal opening of the new Army Dental School building. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1933;4(April):60,64–66.
61. Enlisted personnel for the dental service. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1934;5 (1934):99–100.
62. Army Dental School. Course for dental technicians, tenth session, January 2, 1934 to June 28, 1934. In: *History of the Army Dental School, August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
63. Army Dental School. Course for dental technicians, eleventh session, January 2, 1935 to June 28, 1935. In: *History of the Army Dental School, August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
64. Enlisted men's class, Army Dental School. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1935;6(January):33.
65. Course for dental technicians, twelfth session, February 1, 1936, to May 29, 1936. In: *History of the Army Dental School, August 5, 1932–August 4, 1936*. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
66. The presentation of the portraits of Captain John S. Marshall and Colonel Robert T. Oliver to the Army Dental School. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1935;6(July):124–134.
67. Tousey TG. *Military History of Carlisle and Carlisle Barracks*. Richmond, Va: The Dietz Press; 1939: 433, 436, 438.
68. Biographical file of Thomas L Smith. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
69. Central (or corps area) dental laboratories. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1935;6(April):89.
70. National Archives and Records Administration. Record Group 112. Lieutenant Colonel Robert C McDonald, executive officer, surgeon general's office, to corps area surgeons, "Dental service," April 27, 1935, letter with attachments. Decimal file no. 703.1 (dental attendance) 1935, in Office of The Surgeon General, Correspondence, 1928–1937. Box 105. Entry 29.
71. National Archives and Records Administration. Record Group 112. Major General RU Patterson, surgeon general, to the adjutant general, "Corps area dental laboratories." Draft letter. Decimal file no. 703.1 (dental attendance) 1935, in Office of The Surgeon General, Correspondence, 1928–1937. Box 105. Entry 29.
72. National Archives and Records Administration. Record Group 112. "Dental laboratories." Draft circular letter. Decimal file no. 703.1 (dental attendance) 1935, in Office of The Surgeon General, Correspondence, 1928–1937. Box 105. Entry 29.

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

73. Corps Area Dental Laboratories. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1936;7(July):152.
74. National Archives and Records Administration. Record Group 112. Major General Robert U Patterson, surgeon general, to Honorable Maury Maverick, February 14, 1935, letter with attached comments on the Thomason Bill. Document File No. SGO 011-1 (Enactment of Laws), 1933–1935. Box 2. Entry E29B.
75. Dr J Ben Robinson, dean, Baltimore College of Dental Surgery, to Surgeon General Patterson, March 1, 1935, letter. In: Robinson Papers, National Museum of Dentistry Archives, Baltimore, Md.
76. Dr J Ben Robinson, dean, Baltimore College of Dental Surgery, to ADA Legislative Committee, March 1, 1935, letter. In: Robinson Papers, National Museum of Dentistry Archives, Baltimore, Md.
77. House Resolution 5232, report. In: Robinson Papers, National Museum of Dentistry Archives, Baltimore, Md.
78. Frank P Stone to Dr J Ben Robinson, March 7, 1935, letter. In: Robinson Papers, National Museum of Dentistry Archives, Baltimore, Md.
79. George H Dern, secretary of war, to Dr J Ben Robinson, April 22, 1935, letter. In: Robinson Papers, National Museum of Dentistry Archives, Baltimore, Md.
80. Kreidberg MA, Henry MG. *History of Military Mobilization in the United States Army, 1775–1945*. Washington, DC: Department of the Army, 1955: 451.
81. Frank P Stone to Dr J Ben Robinson, August 29, 1935, letter. In: Robinson Papers, National Museum of Dentistry Archives, Baltimore, Md.
82. Frank P Stone to Dr J Ben Robinson, October 23, 1935, letter. In: Robinson Papers, National Museum of Dentistry Archives, Baltimore, Md.
83. National Archives and Records Administration. Record Group 112. Memorandum for the surgeon general, Frank P Stone, "Assignment of enlisted men to the dental service," November 7, 1935, with attachment, "Distribution of dental personnel," and comment, Colonel James D Fife, "Increase enlisted strength for Dental Corps." Document File No. SGO 011.-1 (Enactment of Laws), 1933–1935. Box 2. Entry E29B.
84. Office of The Surgeon General, Dental Division. Reorganization, surgeon general's office. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1936;7(January):34.
85. National Archives and Records Administration. Record Group 112. Memorandum, Major General CR Reynolds, surgeon general, to the adjutant general, "Proposed legislation to increase the efficiency of the medical department," February 13, 1936, with attachment, "Proposed legislation to increase the efficiency of the medical department." Document File No. SGO 011.-1 (Enactment of Laws), 1936. Box 2. Entry E29B.

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

86. Vail WD. The Army and the Dental Corps. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1936;7(July):145.
87. Summary of personnel activities for 1936. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1937;8(January):33.
88. Dabney AS. Recent legislation for the Medical Department. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1938;9(April):85–86.
89. Patterson AB. Committee on legislation report. *Illinois Dental Journal*. 1937;6(March):85.
90. The Army Dental Corps. *J Amer Dent Assoc*. 1937;24(July):1176.
91. Administrative notes. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1938;9(April):88.
92. Pollock HC. The new Army dental bill. *Amer J Orthod Oral Surg*. 1938;24(May):596.
93. Fairbank LC. Orthodontics: its place in military dentistry. *Amer J Orthod Oral Surg*. 1940;26(April):314.
94. Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1939.
95. Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1940.
96. Colonel John W. Scovel Retires. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1938;9(July):158.
97. Army Dental School. *History of the Army Dental School, August 5, 1936–March 14, 1938*. In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
98. US War Department, The Adjutant General's Office. *Official Army Register January 1, 1941*. Washington, DC: US Government Printing Office; 1941: 1195.
99. Army Dental School. *History of the Army Dental School, March 14, 1938–Sept 18, 1940*. In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
100. Richeson V. Dental technicians' course. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1938;9(January):22–26.
101. Army Dental School. Course for dental technicians, thirteenth session, August 31, 1936 to December 22, 1936. In: *History of the Army Dental School, August 5, 1936–March 14, 1938*. In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.



## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

102. Army Dental School. Course for dental technicians, seventeenth session, September 15, 1938 to September 14, 1939. In: *History of the Army Dental School, March 14, 1938–September 18, 1940*. In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
103. Office of The Surgeon General. *Annual Report of the Surgeon General*. Washington, DC: OTSG; 1941.
104. Office of The Surgeon General, Dental Division. Historical report, 1940–1943: the Army Dental Corps: personnel. In: *History of the Army Dental Corps* (unpublished). In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
105. Office of The Surgeon General, Dental Division. History of the Army Dental Corps, personnel, 1940–1941–1942–1943. In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
106. Biographical file of Beverley M Epes. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
107. Biographical file of Neal A Harper. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
108. Henry RS. *The Armed Forces Institute of Pathology, its First Century, 1862–1962*. Washington, DC: Office of The Surgeon General; 1964: 220.
109. Fairbank LC. An address (New York State Dental Society, May 11, 1938). *Dental Bulletin Supplement to the Army Medical Bulletin*. 1938;9(July):114.
110. Mann JB. The purpose and value of the registry of dental and oral pathology. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1939;10(July):109–114.
111. Bernier JL. The registry of dental and oral pathology. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1938;9(October):193–194.
112. Office of the Surgeon General, Dental Division. Corps area dental laboratories. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1937;8(April):95.
113. Central dental laboratories. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1939;10(January):30.
114. Central dental laboratories. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1940;11(January):31.
115. Central dental laboratories. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1938;9(October):195.
116. Central dental laboratories. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1938;9(April):89.

## A HISTORY OF DENTISTRY IN THE US ARMY TO WORLD WAR II

117. Central dental laboratories. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1938;9(July):132.
118. New denture base materials. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1939;10(January):31.
119. Fairbank LC. The dental policy of the Medical Department, US Army. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1939;10(April):59.
120. Smith TL, Sydenham HR. A report on the dental field equipment of the US Army. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1937;8(April):87–91.
121. The new dental field equipment. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1940;11(January):28–29.
122. Thompson RF. The scope of dental service with field equipment in the theatre of operations. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1937;8(January):5–6.
123. Fairbank LC. A resume of the dental service in war. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1936;7(October):192–194.
124. Baskin LD. Duties of dental officers in the divisions. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1937;8(July):131–137.
125. Nicklies EH. Dental service in fixed and mobile hospitals in the theatre of operations. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1938;9(January):9–12.
126. National Archives and Records Administration. Record Group 112. Lieutenant Colonel Frank M Fitts, MC, to surgeon, Second Corps Area, "Assignment of Plastic Surgeons," January 9, 1940, letter with attachment, letter, Fitts to Captain David E Mayer, Med-Res, January 9, 1940. In: Decimal File 211 (Surgeons Oral & Plastic), in Office of the Surgeon General, Correspondence, 1928–1937. Box 28. Entry 29.
127. Table of Organization 8-571 (T/O 8-571), Auxiliary Surgical Group, July 13, 1942. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
128. Dental service for the Civilian Conservation Corps enrollees. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1937;8(April):92–93.
129. Laflamme FLK. Dental service for C.C.C. enrollees in the Eighth Corps Area. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1938;9(July):106–108.
130. Lull GP. Fifty thousand doctors and half a million personnel. In: Fishbein M, ed. *Doctors at War*. New York, NY: EP Dutton and Company, Inc; 1945.
131. Smith CM. *The Medical Department: Hospitalization and Evacuation, Zone of Interior*. Washington, DC: US Army Center of Military History; 1989: 157–158.
132. Fairbank LC. The dental service of the Army. *J Amer Dent Assoc*. 1939;26(December):2068.

## THE DEPRESSION AND BUILDUP FOR ANOTHER WORLD WAR

133. Dental interns. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1939;10(April):94.
134. National Archives and Records Administration. Record Group 112. Office of The Surgeon General, Circular Letter No. 6, February 14, 1939. Box 54. Entry 240.
135. DM. The Dental Corps of the United States Army. *Journal of the Missouri State Dental Association*. 1940;20:12.
136. Brown PW. Training of dental officers in the Army Dental Corps (unpublished manuscript). In: Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
137. Dental interns. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1940;11(April):84.
138. Biographical file of Edwin H Smith, Jr. Research Collections, Office of Medical History, OTSG/MEDCOM, Falls Church, Va.
139. Wilson JB. *Firepower and Maneuver: the Evolution of Divisions and Separate Brigades*. Washington, DC: Center of Military History, US Army; 1998: 143–152, 157.
140. Kelly EK. Problems of providing professional care for one and a half million men. *J Amer Dent Assoc*. 1942;29:100.
141. The Dental Clinic Number Three. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1941;12(July):249.
142. Administrative notes. *Dental Bulletin Supplement to the Army Medical Bulletin*. 1940;11(January):24.
143. Camalier CW. Preparedness and war activities of the American Dental Association: a resume. *J Amer Dent Assoc*. 1946;33(January):80–84.
144. Darby TE, Zuver PE. The medical service with the stream-lined division. *Milit Surg*. 1940;80:1940:1–8.
145. New items—the Army Dental Corps. *J Amer Dent Assoc*. 1941;28:1897–1898;
146. Twenty-first anniversary of the Dental Corps, U.S. Army. *Milit Dent J*. 1922;5:41–42.
147. Wiebe RH. *The Search for Order, 1877–1920*. New York, NY: Hill and Wang; 1967. Chapter 5.

