

Development of Medical Doctrine for Amphibious Warfare by the U.S. Navy and Marine Corps, 1936–39

PART III

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For the U.S. Marines, 1936 started with a controversy that could have derailed all of the plans and effort of the Corps to transform in line with a new mission. In 1935, the Joint Action of the Army and Navy had removed the language inserted in 1927 that had made amphibious warfare the main Marine Corps mission.¹ The U.S. Army was focused elsewhere and was not interested in becoming involved with amphibious assault. In 1928, Army Colonel William L. Mitchell had predicted that air forces would devastate any amphibious assault fleet before a landing, and in the early 1930s, General Douglas MacArthur, then chief of staff, had indicated the Army had “extreme reluctance” to undertake amphibious operations.² The Navy and Marine Corps mounted a vigorous response to this change, with the acting Secretary of the Navy, William H. Standley, sending a letter to the Joint Board urging in the strongest way that this action be reversed: “In the seizure and temporary defense of advanced bases, the Marine Corps can, it is believed, make its most valuable contribution to a naval campaign. The Marine Corps considers this functions [sic] its primary mission . . .”³

The amphibious mission was promptly reassigned

to the Marines, and they would remain the lead Service in this area. It is worth noting that, when the amphibious mission was taken from the Marine Corps in 1935, it was not given to anyone else. Though it has been suggested that the change represented a “Parthian Shot” from General MacArthur as he left his position. MacArthur, like many senior Army officers who had been in France during World War I, harbored resentment against the Marines for the publicity they had garnered during that conflict.⁴ Although this episode may have increased inter-Service resentment, its prompt resolution prevented any significant change in Navy and Marine transformation efforts.

In the early winter of 1936, Fleet Landing Exercise (FLEX) 2 was held in and around Culebra, Puerto Rico. The 1st Brigade surgeon, Lieutenant Commander John B. O’Neill, USN, submitted a detailed report on the exercise, and Colonel G. I. McKinney, an Army medical observer, also made a report. Lieutenant Commander O’Neill had significant experience as a junior medical officer (lieutenant) with the Marines during the Second Nicaragua Campaign, and had been awarded the Navy Cross twice for valor for his actions in that campaign.⁵ Additionally, the overall report from the commanding general of the Fleet Marine Force (FMF) contained a section analyzing medical aspects of the FLEX.

¹ Joint Board, “Joint Action of the Army and Navy, 1927,” Chapter 1, Section VII, Historical Amphibious File, Gen Alfred M. Gray Research Center (GRC), Marine Corps University (MCU), Quantico, VA.

² William Felix Atwater, “United States Army and Navy Development of Joint Landing Operations, 1898–1942” (PhD thesis, Duke University, 1986), 38–39.

³ W. H. Standley to Joint Board, 18 May 1936, Historical Amphibious File, GRC, MCU, Quantico, VA.

⁴ Atwater, “United States Army and Navy Development of Joint Landing Operations,” 85. During WWI, Gen Pershing had a policy that individual units were not to be identified in press releases so that credit could be attributed to the American Expeditionary Forces (AEF) as a whole. It was initially thought that a well-known reporter, Floyd Gibbons, had been killed covering the Belleau Wood action, and his fellow reporters identified the Marines and the action as a tribute to him. In actuality, the reporter was wounded but survived. Pershing was furious about this episode, and Army officers attributed the violation to deliberate Marine publicity seeking. Harry S. Truman, who had been an Army artillery officer in France, as president complained about the Marines’ “publicity machine.”

⁵ “Navy Cross Recipients: Second Nicaragua Campaign, 1926–1933,” ValorDefense.gov, updated 29 March 2013.

The report of the brigade surgeon followed the pattern established in FLEX 1, which was to become basically a template for future reports. The actual medical care delivered to achieve the overall health of the force was good. However, when it came to the purpose of the exercise—simulated assaults—the shortcomings were obvious. Lieutenant Commander O'Neill distilled the biggest problem down to a single comment: "The operations ashore demonstrated the outstanding fault of the medical service—lack of personnel. A secondary fault was inadequacy of training."⁶

The table of organization (T/O) for medical personnel attached to units participating in the exercise was inadequate, even for peacetime needs. The T/O was not filled for the exercise, with shortages particularly of corpsmen. Furthermore, approximately 50 percent of the corpsmen reported with little or no experience or training in field operations, and there was insufficient time between when they reported and when they departed for the exercise to remedy this fault. Equipment was also deficient. What equipment they had was too bulky, and while Lieutenant Commander O'Neill wanted changes, he urged more experimentation and trials before any new equipment was procured.

The report of the Army observer, Colonel McKinney, echoed the analysis of Lieutenant Commander O'Neill. Colonel McKinney noted that the overall number of medical personnel assigned to the brigade was inadequate and that there was no collecting company. Those medical personnel who were present were neither adequately trained nor integrated into the units they supported or the medical detachments.⁷ Colonel McKinney recommended a publication by Navy Captain William L. Mann Jr. on joint operations—the division of responsibility be-

tween Navy and land components for medical care was the same for both Army and Marine landings. That is, the Navy and the attack force surgeon were responsible for the casualty collection stations on the beach or beach evacuation stations, and transport of the wounded to the appropriate ships and care once they were on board. The land component and its senior medical officer were responsible for all medical issues forward of the beach.

The overall Marine Corps after action report on FLEX 2 contained a section on medical aspects. Again, a major issue presented was the lack of sufficient medical personnel and the fact that many of those assigned arrived late and had no training prior to the exercise.⁸ Recommendations were made to increase the number of enlisted medical personnel in the brigade to 76, to establish permanent brigade medical staff (officer and enlisted), and to send some personnel to the Army field medical school as soon as possible.⁹ Arriving with the signature of the commanding general of the 1st Marine Brigade, this report carried a great deal of weight.

In July 1936, Commander Joel T. Boone, USN, arrived in San Diego to assume the position of FMF surgeon. Commander Boone was experienced, well known, and well connected. He joined the Navy in 1914 and served in Haiti prior to service with the Marines in France during World War I, where he was awarded the Medal of Honor. Subsequent to the war, he was the physician assigned to the presidential yacht, and following that assignment, attended an advanced course at the naval medical school in the early 1930s.¹⁰ Dedicated, a man of action, and unafraid to use his influence for a good cause, Commander Boone was just the sort of Navy doctor to organize and develop medical support for the FMF. When he arrived, he found no job description, no files, and for

⁶ LCdr John B. O'Neill, USN, "Medical Activities of First Marine Brigade, Fleet Marine Force, report of [FLEX 2] (CONFIDENTIAL)," 13 March 1936, Record Group (RG) 127, National Archives, Washington, DC.

⁷ Col G. I. McKinney, USA, "Extract from a Report on Fleet Landing Exercise No. 2 (CONFIDENTIAL)," 1 September 1936, RG 127, National Archives, Washington, DC.

⁸ To approximate the T/O for Marine support, medical personnel (officer and enlisted) would be detached from their normal duty stations, clinics, or hospitals for temporary duty during an exercise. Typically, they were detached from their parent unit as late as possible; and if they had never served with the Marines before, they had no training in medical care in the field or with a specific type of field medical unit. Thus, while these personnel might be well qualified medically, they were totally unqualified for field duty, absent at least minimal training. When they came at the last minute, time that should have been spent doing the exercise was needed to train them to a minimal standard simply to be safe in the field environment.

⁹ "Report on U.S. Fleet Landing Exercise Number Two (CONFIDENTIAL)," 30 March 1936, RG 127, National Archives, Washington, DC.

¹⁰ "Biographical Information Sheet (NavPers): VAdm Joel T. Boone, MC, USN," 19 November 1973, Biographical Files, Navy Historical Center, Operational Archives, Washington Navy Yard.

better or worse, was confronted with a *tabula rasa*, or blank slate.¹¹ One of Commander Boone's first actions was to study the reports on Gallipoli.

Boone wasted no time in beginning to cover the blank slate with writing. In August 1936, he sent a letter to Rear Admiral Percival S. Rossiter, the surgeon general of the Navy, on the subject of FMF medical organization. Unsurprisingly, he requested an increase in the strength of the assigned personnel and urged that the appropriate officers and enlisted men be assigned as quickly as possible to allow for unit integrity.¹² Also in August, Boone received a letter from Captain George F. Cottle, (MC) USN, the Pacific fleet surgeon and an old friend.¹³ Besides welcoming Commander Boone to San Diego and his new job, Captain Cottle pointed out the new landing manual and suggested that Commander Boone review it and make recommendations to improve the medical section. Cottle also mentioned that Boone should review the lectures on field medicine by Captain Mann. This communication illustrates the relatively small circle of Navy medical officers dealing with the issue of amphibious warfare, and the prominent position of Mann in the center of that circle.

One of the issues that the Marines had to deal with during the 1930s was a lack of interest by most of the Navy line in amphibious warfare. The struggles of the Marines to get the Navy to support amphibious shipping in both the right quantity and the right design, and the uphill struggle to acquire proper landing craft, has been well presented by such authors as Jeter A. Isely and Philip A. Crawl, Allan R. Millett, and others. In conjunction with Captain Cottle, Commander Boone presented lectures to the Navy line staff of the Pacific Fleet on amphibious operations and the medical aspects thereof. One might expect a lecture by a Medal of Honor recipient on any subject to be attractive to a military audience, however, the line staff was described as "bored" at the first lecture, although showing somewhat more interest at the second.¹⁴

Throughout the fall of 1936, Commander Boone worked closely with Captain Cottle to get the medical service of the FMF on a sound basis. One of the junior medical officers in the FMF, Lieutenant Commander J. L. Manion, (MC) USN, had produced the most detailed plan for the medical service of the FMF to date. Twenty-two pages long with 68 attached tables, this analysis set out the T/O and proposed table of equipment (T/E) for the brigade medical organization and defined the roles and responsibilities of the various levels of medical staff (battalion, regimental, and brigade surgeons). A sample medical annex to the field order was included in the plan, as well as a discussion of the actions of the various medical units from embarkation through the assault until there was a hiatus in combat.¹⁵ Commander Boone forwarded a summary of this to Captain Cottle and strongly urged the adoption of the concept of four smaller, 66-bed field hospitals for the FMF rather than one larger one, citing the ease of combat loading, lighter weight of each unit, and the added flexibility with this scheme.¹⁶ Commander Boone used Cottle as another advocate to get the Bureau of Medicine and Surgery (BUMED) and the Navy line command to make the changes that those medical officers working with the Marines saw as necessary and urgent. He was able to do this and remain cognizant of the chain of command because of the change made several years prior that designated Marine expeditionary forces as the Fleet Marine Force. By adding another direction to the line of attack, Boone was attempting to overcome inertia and disinterest in Washington.

As 1936 drew to a close, all indications showed that the letters and reports forwarded to Washington by Commander Boone and others had some effect. In December 1936, Boone received a letter from Captain G. E. Thomas, (MC) USN, at BUMED, which was very supportive of his efforts. Captain Thomas agreed with the concept that medical officers with the FMF should be there for a full cruise

¹¹ VAdm Joel T. Boone, USN (Ret), "Memoirs" (unpublished manuscript, 1963), Joel T. Boone Papers, Library of Congress, Washington, DC, XXV-6.

¹² Cdr Joel T. Boone, (MC) USN, to Admiral P. S. Rossiter, 17 August, 1936, Joel T. Boone Papers, Library of Congress, Washington, DC.

¹³ Capt George F. Cottle, (MC) USN, to Cdr Joel T. Boone, (MC) USN, 24 August 1936, Joel T. Boone Papers, Library of Congress, Washington, DC.

¹⁴ Boone, "Memoirs," XXV-7.

¹⁵ LCdr J. L. Manion, (MC) USN, "Organization Brigade Medical Service Fleet Marine Force 1936," September 1936, RG 52, National Archives, Washington, DC.

¹⁶ Cdr Joel T. Boone, (MC) USN, to Capt George F. Cottle, (MC) USN, 11 December 1937, RG 52, National Archives, Washington, DC.

(i.e., a regular tour of duty) and not temporarily assigned. He also supported the development of an FMF/Marine Corps field medical course for corpsmen, who would attend a two-week course following graduation from the Hospital Corps School in San Diego, California. Captain Thomas urged Commander Boone to develop and submit a curriculum for this course to BUMED.¹⁷ The support of BUMED was encouraging and also illustrated that higher authorities in the Navy and Marine Corps, whether medical or line, basically had given the medical officers with the Marines, like Commander Boone and his compatriots, free rein to devise solutions. It was also clear that Washington was not supplying much if any guidance, and that the efforts to devise doctrines and solutions for medical support of Marine Corps amphibious operations would have to be done on an informal and ad hoc basis, in stark contrast to the way the Marines had gone about devising the *Tentative Manual for Landing Operations* (1934).¹⁸

Early in 1937, the Navy and Marines conducted FLEX 3 in the waters of the Pacific Ocean, with the landings taking place on San Clemente Island, California. For the Marines, and the exercise as a whole, the rougher surf of the Pacific compared with the Caribbean and the less friendly beaches of San Clemente highlighted the inadequacies of standard ships' boats for landing. For the medical personnel, difficulties moving personnel and equipment onto the beach only indicated how challenging moving stretcher cases off the beach would be using the current boats.

Lieutenant Commander O'Neill, as brigade surgeon, once again submitted a detailed after action report. He described routine medical care as adequate, and that care had been stressed by the explosion of a gun on the USS *Wyoming* (BB 32), resulting in several deaths and serious injuries. O'Neill noted that only the proximity of the exercise to onshore medical facilities had allowed the most seriously wounded to be transported to facilities that could provide needed care in time. Many of the organizational and equipment-related themes highlighted in FLEXs 1

and 2 were again stressed by Lieutenant Commander O'Neill. Stretcher-bearers needed to be assigned and trained prior to the exercise. A medical detachment needed to be ashore with the beach detachment early on to relieve the battalion medical staff of having to care for wounded awaiting evacuation—a task that impaired their ability to do their primary mission. Once again, equipment packs needed to be lightened, modularized, and waterproofed. Finally, Lieutenant Commander O'Neill urged that a type C field hospital be included in the next exercise to test the ability to land it, set it up, and provide care in the field.¹⁹

Lieutenant (junior grade) Robert S. Snyder, (DC) USN, submitted a report on the dental activities during FLEX 3. This was the only dental report found in the archives, and it is notable for two observations. The dental field equipment was not landed during the exercise as had been scheduled because it was too bulky and difficult to transport, and Lieutenant Snyder also requested that an enlisted dental technician be assigned to the dental officer to provide needed assistance. The equipment and personnel issues of the medical officers were very much the same for the dentists. In a prescient analysis, Snyder described his view of how the dental officer would function during the assault phase.

Considering these landing operations carried out against an actual enemy in position, the dental surgeon would take over the duties of a battalion medical officer or assist the regimental medical officer until the desirable enemy positions had been secured. After these positions have been secured the dental officer could then revert back to the duties of the dental officer and place the dental field equipment in position and perform his prescribed duties.²⁰

In two sentences, this junior dental officer had defined the role of dental officers during the early phases of an amphibious assault, and this doctrine persists to the present day.

Commander Boone performed the most com-

¹⁷ Capt G. E. Thomas, (MC) USN, to Cdr Joel T. Boone, USN, 29 December 1936, Joel T. Boone Papers, Library of Congress, Washington, DC.

¹⁸ *Tentative Manual for Landing Operations* (Quantico, VA: Marine Corps Schools, 1934).

¹⁹ At this point in time, all field hospitals were tent based; LCdr John B. O'Neill, (MC) USN, "Medical Department Activities of First Marine Brigade, Fleet Marine Force, Report of [FLEX 3]," 26 February 1937, RG 127, National Archives, Washington, DC.

²⁰ Lt R. S. Snyder, USN, "Dental Activities, Report of Fleet Landing Exercise No. 3 (CONFIDENTIAL)," 23 February 1937, RG 127, National Archives, Washington, DC.

plete analysis of FLEX 3. In his memoirs, Commander Boone described his feelings as he prepared to supervise medical aspects of this exercise: "Amphibious operations were understood but rather nebulously. There was much to learn how they should be executed."²¹ In his 13-page report, Commander Boone supported and expanded upon the comments made by Lieutenant Commander O'Neill, reiterating the recurrent personnel issues. The T/O was inadequate, and enough personnel were not assigned to even fill the inadequate T/O. The issue of stretcher-bearers had yet to be solved, and Commander Boone was very clear that stretcher-bearers could not be corpsmen because using highly trained medical personnel in that role was a misuse of scarce resources. The medical officers assigned to the beach party were both inadequate in number and training. A more pointed set of comments highlighted what Commander Boone felt was a lack of interest and commitment on the part of the Navy to this exercise. He emphasized that the fleet medical officer did not attend the exercise, the designated attack force medical officer cancelled his appearance due to other commitments, and no other medical officer had been assigned to the staff of the transport group commander even though it had been mandated by the landing manual.²² Commander Boone went on to state that the Navy needed to understand that the wounded were not disposable but repairable and that conservation of the trained personnel, who would need to be replaced from bases far away during amphibious operations, was an important task. He lamented, "There is reasonable apprehension that too little thought is being given by our naval officials to the greatest of military assets—manpower conservation."²³

Commander Boone enumerated the need for a permanent FMF medical staff, as had others. This staff needed to be included in all aspects of the planning for an exercise or an actual assault. In typically strong language, Boone described the shortage of personnel, especially the enlisted corpsmen: "In the

event of hostilities, a marked expansion of medical enlisted requirements would be urgently necessary. The present corpsman quotas barely meet actual [peacetime] need."²⁴

Commander Boone also echoed the comments of Lieutenant Commander O'Neill concerning equipment. Medical equipment for the FMF needed to be man portable as much as possible, put together in smaller containers, and properly waterproofed. Lightweight collapsible stretchers needed to be provided for the assault phase. There was a need for a lightweight field hospital that could be landed through the surf, as opposed to being only capable of landing ashore once more formal docking facilities could be seized by the landing force. Another note was the need for experimentation, the need to try out any new equipment before buying it. The Marines were not immune from criticism; they were faulted for failing to provide a complete field uniform issue to the assigned Navy personnel, which not surprisingly caused difficulties and dissatisfaction. This last point, although seemingly minor, was yet another example of the problems that were caused by the medical personnel assigned to the Marines existing in two worlds, but not fully part of either.

Commander Boone did not simply identify failings without offering constructive suggestions. He recommended that medical personnel not be sent ashore in their own boats but be dispersed among the troops they were to care for. Proposals were laid out for improving the entire evacuation chain from the point of injury to the hospital ships, which he felt should be present for the exercise. Once again, Commander Boone emphasized the need for training and practice: "Unless thorough, complete and long training is provided, care of casualties and their evacuation will be woefully deficient."²⁵ While the overall state of medical support for amphibious operations and the level of expertise actually demonstrated at FLEX 3 was not encouraging, the Navy medical officers assigned to the Marines were developing a good idea of what was workable, where the major

²¹ Boone, "Memoirs," XXV-69.

²² Cdr Joel T. Boone, (MC) USN, "Report of Medical Officer on U.S. Fleet Landing Exercise No. 3," HQ FMF MCB San Diego, CA, 12 March 1937, Historical Amphibious File, GRC, MCU, Quantico, VA.

²³ Ibid.

²⁴ Ibid.

²⁵ Ibid.



Official U.S. Navy photo

Medical personnel set up an aid tent on San Clemente Island, CA, during casualty movement training in the winter of 1937.

problems were, and an outline of how to solve those problems. Looking back in his memoirs then-Vice Admiral Boone commented:

I had learned during World War I overseas that medical contingents serving with the Marines must be an integral part of them. Without those discouraging and tragic days, as they seemed then, on San Clemente, it would be most depressing to contemplate what would have happened when World War II came upon us.²⁶

The state of the medical support might be best visualized through photographs taken during those exercises.

Following FLEX 3, the task was to incorporate the lessons learned into the doctrine and move forward. Commander Boone used the network of like-minded doctors and corresponded with Captain Mann on the East Coast, where he was still post surgeon at Quantico. Captain Mann agreed with Commander Boone concerning equipment issues and again stressed the need to lighten and modularize equipment; he also was convinced that the issue of medical evacuation, especially the shore-to-ship and ship-to-ship movements, was an unsolved problem. Captain Mann illustrated the utility of using the network of Marine and amphibious-oriented medical officers when he

said: "I am very glad to see the interest you are taking in such matters, and it is best for the service that we interchange ideas as much as practicable so all can pull towards a common objective."²⁷

The month following this exchange with Captain Mann, Commander Boone wrote an article for the BUMED medical newsletter that is distributed to all Navy medical officers. He intended this article to not only inform other medical officers about field medicine and amphibious operations but also to inform all fleet medical officers about their connection to this special area and their obligation to get involved. Boone attempted to not only interest "non-Marine" medical officers in amphibious warfare but also to solicit their ideas. He described field medicine as a specialization within military medicine and emphasized that, no matter what billet they held, naval medical officers needed to be aware of the greater military aspects of their situation. He listed several sources of information, including the *Tentative Manual for Landing Operations* and the *Official History of the Australian Army Medical Services, 1914-18*, which detailed the medical errors and overall failure at Gallipoli.²⁸ Commander Boone had loaned his copy of the Australian Army medical history to Captain Mann for his use in researching medical care for amphibious operations.

Captain Mann was coauthor with Lieutenant Col-

²⁶ Boone, "Memoirs," XXV-71.

²⁷ Cdr Joel T. Boone, (MC) USN to Capt W. L. Mann, (MC) USN, 29 March 1937, Joel T. Boone Papers, Library of Congress, Washington, DC.

²⁸ Cdr Joel T. Boone, (MC) USN, 12 April 1937, Joel T. Boone Papers, Library of Congress, Washington, DC; and A. G. Butler et al., *Official History of the Australian Army Medical Services, 1914-18*, vol. 1 (Canberra, Australia: Australian War Memorial, 1930).



Official U.S. Navy photo

During casualty movement training in the winter of 1937, stokes litters transport casualties.

onel Edgar E. Hume, (MC) USA, on a work published by the naval medical school entitled “Medical Tactics of Combined Operations of the Army and Navy,” which was released in 1937. While this publication was partly applicable for amphibious operations, it did not deal exclusively with them or specifically with amphibious assault. The publication was about 35 pages long and included a historical review of many joint operations carried out from Sir Francis Drake in 1588 through World War I, specifically Gallipoli and to a small extent the German Baltic assault. While the work concerned primarily Army/Navy operations, most of the overarching principles were the same for Navy/Marine operations.

The authors emphasized the need for a predefined and unified scheme of command and distinct responsibilities as well as joint planning to prevent a repeat of the medical fiasco at Gallipoli. Several single-spaced typed pages were devoted to extensive quotations from the Australian experience at Gallipoli. The essence of the command structure was that the Navy was in charge from the gangway at the port of embarkation to the landing beach; inland from the beach, the Army (land component) was in charge. This put the control of evacuation from the beach and triage at the beach stations in the hands of the Navy, which was responsible for the medical

regulation of moving casualties off the beach and between ships. The authors also stressed the need for proper loading and unloading plans for medical equipment and field hospitals, as well as ensuring medical troops were dispersed among the boats with the forces they were supposed to support.²⁹

The bibliography of this work gives insight into the scholarly approach taken by the authors. The earliest article the authors cite comes from Benjamin Rush about military medical organization and duties in 1777. All other works, however, are from the twentieth century, with the bulk being post-1918. Most of the titles focus on the British experience at Gallipoli, though the book by General Erich von Tschischwitz on combined German operations in the Baltic Islands is also cited—Gallipoli and the Baltic Islands being the two modern amphibious campaigns.³⁰ Gallipoli was repeatedly studied by the medical officers devising Navy/Marine amphibious doctrine because it was used by their line counterparts as a comprehensive guide on what not to do and mistakes to avoid.

In the fall of 1937, the Navy embarked upon a review of the medical equipment for Marine Corps support with special emphasis on the aid stations. Captain Mann was president of this board, and shortly thereafter, probably at his request, Commander

²⁹ Capt W. L. Mann, (MC) USN, and LtCol Edgar Erskine Hume, (MC) USA, “Medical Tactics of Combined Operations of the Army and Navy,” Naval Medical School, 1937, Historical Amphibious File, GRC, MCU, Quantico, VA.

³⁰ The book by von Tschischwitz was written in 1931 and translated in 1933 by the U.S. Army Command and General Staff School, see Michael B. Barrett, *Operation Albion: The German Conquest of the Baltic Islands* (Bloomington: Indiana University Press, 2009), 233.

Boone was also appointed to the review board.³¹ At about the same time, Lieutenant Commander O'Neill was appointed to the Marine Corps Equipment Board to provide input on items that impacted the medical service. These officers and other doctors attached to the Marines hoped that these actions would result in much needed changes being made. Rearmament, in particular naval rearmament, was beginning to pick up steam, and there were expectations that funding to solve these long-standing equipment issues might be secured by the Navy and Marines.

The action on the part of the BUMED to conduct a thorough review of field-related equipment may have been helped along by Commander Boone's willingness to light fires in sensitive places. He worked with Brigadier General Louis M. Little, the FMF commanding general, to write a memo that the Commandant, Major General Thomas Holcomb, eventually endorsed. In this memo addressed to Rear Admiral Rossiter, the surgeon general, the Marines complained that supply and evacuation were not being adequately stressed by the Navy medical command and that requests for changes and increases in both supply and assigned personnel had gotten nowhere. These deficiencies, the Marines averred, had caused the readiness of the medical elements of the FMF to lag.³²

In December 1937, in anticipation of FLEX 4, Commander Boone wrote yet another strongly worded letter to BUMED. He requested eight medical officers and 48 enlisted corpsmen to cover the landings as well as a "skeletonized" type C field hospital, which they would staff and use to treat both real and simulated casualties. In his own words and quoting Captain Mann, Commander Boone reemphasized the need for realistic training to expose shortcomings in doctrine and equipment. He stated his understanding of and sympathy for the shortage of doctors and corpsmen, but claimed that the FLEX was a vital exercise. In spite of increasing budgets and the beginnings of rearmament, the habits

of parsimony died hard among the bean counters. Commander Boone argued strongly, and eventually successfully, for Captain Mann to receive funding to attend FLEX 4 in light of both his acknowledged expertise and his position as president of the board reviewing medical equipment for Marine Corps use.³³ That it took this level of effort to get the minimal funding necessary for Captain Mann to attend the FLEX, while not surprising, is indicative of the lack of any sort of urgency or priority given to the issue of medical support for the Marines.

In preparation for FLEX 4 to take place in the Caribbean, Lieutenant Commander O'Neill had been corresponding with Commander Boone to develop plans for the exercise. Commander Boone as FMF surgeon was in charge of the medical arrangements and planning. Commander Boone was impressed with Lieutenant Commander O'Neill's ideas and considered them very good. In his memoirs, Boone described Lieutenant Commander O'Neill as "[a] very experienced medical officer serving with the Marines," and adding, "The Marines thought he was really one of them."³⁴

Prior the 1938 winter fleet exercise, FLEX 4, Commander Boone prepared the medical Annex G to the operations order for the exercise. This set out the general parameters for the exercise but did not go into great detail.³⁵ This exercise was to see three significant figures involved: Captain Mann was the attack force surgeon, Commander Boone was the FMF surgeon, and Lieutenant Commander O'Neill was the 1st Brigade surgeon. Their time together was cut short as Commander Boone became very ill with a case of food poisoning, which led to his evacuation back to the United States. The illness was quite serious and required a long convalescence, and fortunately, Commander Boone's relief as FMF surgeon was Captain Mann, continuing a long and close association with the Marines and putting the Navy's foremost expert in the area of field medicine in just the right spot at just the right time.

³¹ Boone, "Memoirs," XXV-205-06.

³² Ibid., XXV-196-97.

³³ Cdr Joel T. Boone, (MC) USN, to BUMED, 11 December 1937, RG 52, National Archives, Washington, DC.

³⁴ Boone, "Memoirs," XXV-218. The Marines have always regarded highly the Navy medical personnel assigned to support them, because for the Marines to consider a medical officer or corpsman "one of them" is considered a high compliment by both the Marines and the "adopted" Navy individual.

³⁵ Cdr Joel T. Boone, (MC) USN, "Annex 'G' to FMF Operation Plan 1-38," 10 March 1938, Joel T. Boone Papers, Library of Congress, Washington, DC.

This unfortunate illness put an end to Commander Boone's service with the Marines, although he would stay in the Navy and rise to great heights. An entry in his memoirs from late 1938, however, illustrates once again the web that bound this group of Navy physicians together. Boone mentions the graduation of Commander Walter A. Vogelsang from the Naval War College and his assignment as battle force surgeon and refers to him as a friend.³⁶ Commander Vogelsang had a long experience with the Marines and was another member of this small group of medical officers considered experts in field medicine.

Due to his illness and premature departure, Commander Boone did not submit an after action report, although both Captain Mann and Lieutenant Commander O'Neill did so. FLEX 4 made less use of constructive units than the previous exercises, and there was some actual casualty evacuation training involving shore-to-ship movement. Certain specialized transport equipment and hoisting devices for the wounded were tried for the first time.³⁷ Unfortunately, from a medical standpoint, the exercise was another example of trying to decide if the glass was half empty or half full. Both Captain Mann and Lieutenant Commander O'Neill highlighted problems that had been identified with proposed solutions in the previous exercises. One can almost see Lieutenant Commander O'Neill biting his tongue to restrain himself as he wrote his report. The same personnel problems occurred: the total number of personnel was inadequate and most of the personnel reported too late to receive any training before they needed to board ship. While the type C field hospital was added to the exercise as requested by Lieutenant Commander O'Neill and Commander Boone, the lack of adequate numbers of medical personnel meant that the personnel from the field hospital became a pool for assignment to other areas, such as line units.³⁸ Naturally, robbing Peter to pay Paul had the predictable result of reducing the ability of the

field hospital to perform its duties and to participate fully in the exercise as a unit.³⁹

Convening the equipment review board of the Navy and assigning Lieutenant Commander O'Neill to the Marine Corps equipment board had not yet produced any results. Equipment issues persisted, and as Lieutenant Commander O'Neill's comments make clear, the issues had not changed appreciably.

As has been reported previously, this equipment is excellent for certain types of medical work, but many of the units are quite unfit for use in landing operations as they are too heavy, too bulky, not waterproofed, contain many superfluous or obsolete items, and lack a unit designed for care of chemical casualties.⁴⁰

When Lieutenant Commander O'Neill was on the Marine Corps equipment board, the minutes for 1938–40 have only one mention of a piece of equipment for medical use.⁴¹

Two important tactical errors were described by O'Neill as well; both concerned medical activity on the beach while the beach was still under heavy fire. First, wounded were evacuated by forward units to the beach before the beach was relatively secure, and medical stations were established by the Marines on the beach when and where they were subject to heavy fire. While complete freedom from enemy fire on the beach was not a requirement for establishing collection points or medical stations, doing so too soon needlessly exposed medical personnel and their equipment to destruction, without a corresponding benefit to the wounded. Second, medical facilities were needed ashore early but not too early. This sort of timing was something that needed to be learned and internalized with experience.

Captain Mann submitted a detailed report, and many of his points coincided with Lieutenant Commander O'Neill's. The tone of Captain Mann's comments was more on the level of concepts than the

³⁶ Boone, "Memoirs," XXV-216.

³⁷ Gen Holland M. Smith, USMC (Ret), *The Development of Amphibious Tactics in the U.S. Navy* (Washington, DC: Headquarters Marine Corps, History and Museums Division, 1992), 28.

³⁸ LCdr John B. O'Neill, USN, "Report of the Medical Activities of the First Marine Brigade, Fleet Marine Force, during the U.S. Fleet Landing Exercise Four," 28 February 1938, RG 127, National Archives, Washington, DC.

³⁹ The T/O for a type C field hospital at this time was six commissioned officers (five doctors, one dentist), one warrant officer (pharmacist), 40 USN enlisted, and 14 USMC enlisted.

⁴⁰ O'Neill, "Report of the Medical Activities of the First Marine Brigade, Fleet Marine Force, during the U.S. Fleet Landing Exercise Four."

⁴¹ "Minutes, Marine Corps Equipment Board, 1938, 1939, 1940," Marine Corps Equipment Board Meetings and Reports, Box 1, GRC, MCU, Quantico, VA.

specific of the brigade surgeon's. Coordination and command and control had worked well, and he stressed this function as an absolute necessity, including quotes from the Australian Gallipoli experience.⁴² He created numerous enclosures, including detailed recommendations for equipment, manning levels for various units, proper preparation for gas casualties, and improved dental care.⁴³

In May 1939, shortly after Captain Mann had taken over as FMF surgeon, the Navy board began studying the proposed equipment the Marines promulgated in its report. This highly detailed report went through the Navy equipment tables for medications and equipment and made numerous recommendations for change. The set for the battalion aid station (BAS) was defined in the report and specified to be highly portable. The Navy's own history of the medical department acknowledged the lack of proper equipment for Marine Corps support as war approached. This equipment was more than 15 years old, was bulky and improperly packaged, and had proven to be inadequate during the FLEXs. As a result of this board, new equipment sets were designed by the BUMED and a budget allocated for them; however, these new sets were not issued to units until 1941.⁴⁴ The board also made a recommendation to increase the number of corpsmen in an infantry battalion—between 16 and 20—not the first time this increase in the T/O had been recommended.⁴⁵

Captain Mann continued his dialogue with BUMED about FMF reorganization. In September 1938, he forwarded further suggestions for changes in the T/O and T/E. The proposed medical staff for a regiment of 2,258 men was to be 8 medical officers and 57 enlisted corpsmen.⁴⁶ It appears that Captain Mann felt his voice and the voice of the Marine Corps medical needs was finally being heard at

BUMED, and changes were afoot as he said in the same letter:

Your letter was most receptive after four years of useless discussion and little progress. Believe we will get somewhere now. Field medical service is one of the most important subdivisions of naval medicine since it must be maintained in a state of IMMEDIATE READINESS at all times.⁴⁷

This is a key point: the medical service, supporting the Marines, must be ready in all respects at all times. The deployment of the Marines cannot depend on taking time to make up significant medical deficiencies, and absent adequate medical support, deploying the Marines absent adequate medical support is not acceptable.

In August 1938, the Navy promulgated Fleet Training Publication 167 (FTP-167), *Landing Operations Doctrine*. The Navy and Marines derived FTP-167 from the *Tentative Manual for Landing Operations*, and the tentative manual was ordered withdrawn by the Marines from circulation in November 1938.⁴⁸ This foundational publication, with relatively minor changes, was the controlling document for amphibious planning at the beginning of World War II and the basic source for planning for the invasion of Guadalcanal (Operation Watchtower) in August 1942. FTP-167 was modified slightly by the Army to fit its terminology and units and was issued as the Army's operational guide for amphibious operations in 1940. Consequently, this document was what Army planners used for their components of the invasion of North Africa in the fall of 1942 (Operation Torch).

In replacing the tentative landing manual, FTP-167 was, at least in theory, the product of combined

⁴² The text on the history of the Australian Army Medical Corps in WWI has the most detailed discussion of any war history regarding the medical aspects of Gallipoli from planning to evacuation of wounded to distant hospitals. The loan of this book shows the close cooperation between Cdr Boone and Capt Mann. Capt Mann used it for several of his publications and reports. In 2009, no copy of this book was available in any U.S. library, and it had to be obtained from Australia. Cdr Boone's copy may have been the only one in the United States in 1937–38.

⁴³ Capt W. L. Mann, (MC) USN, and Cdr M. J. Aston, (MC) USN, "Final Report on Medical Activities during Landing Exercises Number Four (Restricted)," March 1938, RG 127, National Archives, Washington, DC.

⁴⁴ U.S. Navy Medical Department Administrative History, 1941–1945: Volume II, *Organizational History Chapters I–IX*, (Washington, DC: Bureau of Medicine and Surgery Navy Department, 1946), 205–6.

⁴⁵ Capt W. L. Mann, (MC) USN, "Preliminary Report of Board (for Study of Medical Expeditionary Equipment and Revision of the Field Supply Table, Medical Department, U.S. Navy)," 27 May 1938, RG 52, National Archives, Washington, DC.

⁴⁶ Currently the medical T/O for a Marine regiment (infantry) of approximately 2,700 men is 7 medical officers and 180 enlisted personnel.

⁴⁷ Capt W. L. Mann, (MC) USN, to BUMED, 13 September 1938, RG 52, National Archives, Washington, DC.

⁴⁸ MGen Thomas Holcomb, "Destruction of the Tentative Landing Operations Manual 1935," 28 November 1938, Historical Amphibious File, GRC, MCU, Quantico, VA.

Navy and Marine Corps thinking and represented a doctrine accepted and understood by both Services. Some sections of the document were highly detailed, and others, such as medical, less so but even less detailed areas were not glossed over.

In spite of what might be considered rather skimpy coverage, several important doctrinal points were established in FTP-167.⁴⁹ The very beginning of the section, paragraph 955 (Medical Plans), lays out the issues that must be determined in advance of the operation—at least on the Navy side. The responsibilities of the attack force surgeon (in paragraph 956) are clearly laid out in the document: moving the wounded from the beach evacuation station (BES) seaward including the actual evacuation, assigning the wounded to appropriate ships for treatment, recommending placement of casualty receiving ships, and more.⁵⁰ Unfortunately, the duties of the senior medical officer of the landing force (landing force surgeon) are not defined. The verbiage implies that everything forward of the BES is his responsibility, but not defining this properly represents a potentially significant oversight. The writers of FTP-167 possibly felt that it is incumbent upon the Marines to define the scope of authority of the landing force surgeon who would be serving on a Marine general staff; however, this is a joint document, and the landing force surgeon's duties should have been as well defined as the attack force surgeon. In fact, the landing force surgeon is never specifically mentioned in the medical section of FTP-167.

Although the duties of the landing force surgeon are not defined, the responsibilities of the BAS, regimental aid station, and collecting station, all of which are part of the landing force, are defined. Additionally, the distribution and function of corpsmen within the battalion are defined.⁵¹ The organization schema, duties, and casualty flow, proposed for a landing, closely follow the work and recommendations of Mann, Boone, O'Neill, and others. One potential issue was that FTP-167 assigns company corpsmen just prior to the assault, whereas as noted previously, most of the medical officers who had discussed this

issue emphasized the need for corpsmen to be well-integrated into their assigned line unit. Fortunately, this particular issue was solved by the medical officers in the unit, well before any assault, by making these assignments early on, thus assuring unit integrity.

FTP-167 contains extensive discussion about supply issues, but none regarding control and movement of medical supplies. Supplies for the corpsmen and initial issue for units such as the BAS is mentioned, but the entire issue of medical replenishment or replacement for lost or damaged supplies and equipment is absent from FTP-167. This was a significant oversight for it points to the issues of how to determine how much resupply might be needed, who is responsible for procuring such supplies and equally important allocating space on transports for those supplies, and who controls them both afloat and ashore. If something is not assigned as somebody's responsibility, then it is likely to end up as nobody's responsibility with negative consequences.

Another area of potential friction concerns base hospitals. These facilities are larger medical units of more robust capability that are scheduled to be landed and set up as the campaign progresses. Paragraph 967(b) defines these units, and is clear that "the medical personnel of the Fleet Marine Force is not adequate to establish or operate a base hospital."⁵² Left unanswered are several questions: who decides how many of these units are needed, who decides where they are to be located (especially if they are in the combat zone), and who has operational control of these units? Even as recently as Operations Desert Storm and Iraqi Freedom, there was significant contention over the answers to these questions.

In spite of the shortcomings of FTP-167 in some areas of medical doctrine and tactics, overall, it represented a tremendous leap forward. It codified and made official the experiences and work of more than 15 years by naval medical officers who made amphibious warfare an area of interest and study. Although in war nothing is certain, by following the doctrine set forth in FTP-167, the amphibious force

⁴⁹ Medical support in FTP-167 is in chapter 9 (Logistics), the last chapter of the publication, and medical is the last section of that chapter and consists of 8 pages (of the 238 total pages) of which 3 were illustrations.

⁵⁰ *Landing Operations Doctrine*, FTP-167 (Washington, DC: U.S. Navy, 1938).

⁵¹ *Ibid.*

⁵² *Ibid.*

could avoid the sort of medical catastrophe typified by the Gallipoli landing. The weaknesses identified in FTP-167, if recognized during the planning stage, could be overcome by some extra staff work. The fact that the current doctrine and planning for amphibious (and expeditionary) assault follows along the same basic lines as FTP-167 testifies to its intellectual and doctrinal solidity, and the changes wrought by experience and technology have not made the basic concepts of FTP-167 obsolete.

In the winter of 1939, FLEX 5 was the last when the world was at peace. The Navy decided to conduct these exercises in the Caribbean, in spite of the fact that the FMF and most of its units were in California, because of a concern that the Pacific Coast would be more exposed to Japanese espionage activities. In several minor exercises, the Army became involved but still depended on the Marines to provide training. Lieutenant Commander W. T. Brown was now 1st Brigade surgeon, and his report indicated that many of the problems reported from past exercises had not yet been solved. He recommended an increase in the number of corpsmen in an infantry battalion (once again) to a minimum of 24 from the current 16 (Army infantry battalions had 20 medics), doubling the number of collecting companies and associated personnel and adding a medical officer to the collecting company, and increasing the size of the medical company. Equipment portability remained an issue.⁵³

By the time the war began in September 1939, the foundation and most of the structure that would constitute medical doctrine for amphibious warfare was well established. More practice was needed in the two years that America had before the conflict finally engulfed the entire world. Like the Higgins Boat and the Alligator, medical equipment suitable for the needs of the Marines was slowly being developed and procured by BUMED. Medical manpower still presented a severe bottleneck, and civilians, even physicians, could only be turned into trained field medical personnel so quickly. In 1940, the Navy published *Medical Service in Joint Oversea Operations*, which was basically a refinement of the 1937 publication by Captain Mann and Lieutenant Colo-

nel Hume. As noted, the first tests of amphibious assault came in 1942 at Guadalcanal by the Marines and in North Africa by the Army. Learning, refining, and improving continued throughout the war, but the work of a small group of naval physicians had created the doctrine that sustained these and future assaults. That these physicians “labored in the wilderness” and that their efforts seemed to have been officially forgotten is best illustrated by this statement from the official Navy history of the medical department during World War II:

It should be mentioned here that planning for amphibious warfare became a real necessity, and it was at an early point in 1942 that the Medical Department of the Navy, in conjunction with the Marines and certain Navy components, began thorough training in this peculiar form of warfare.⁵⁴

Only when BUMED, following the shock of Pearl Harbor, realized that medical readiness for amphibious warfare was an urgent necessity, did the official history of medical doctrine for amphibious warfare begin. All of the work done by the small group of physicians prior to 1942 to develop doctrine, techniques, and equipment for medical support of amphibious operations seems to have been completely omitted in the official history.

Conclusion

Military doctrine has to be appropriate to the circumstances that surround a potential conflict. Many factors define the total picture of the circumstances. These factors include the resources available for the military, the geographic position of your country and of any potential enemies, the internal politics of your country, and the presence or absence of religious or ethnic factors that could cause internal disunity. Doctrine also has to adapt to the terrain of combat: mountains, deserts, sea, or sky. Similarly, every subset of the overarching doctrine has to be appropriate for the circumstances. Medical doctrine is no exception; it must be appropriate to the circumstances where it will be employed. Amphibious warfare, and in particular amphibious assault, represents a very

⁵³ LCdr W. T. Brown, (MC) USN, “Medical Activities, Report No. 17 (Restricted),” 5 March 1939, RG 127, National Archives, Washington, DC.

⁵⁴ U.S. Navy Medical Department Administrative History, 1941–1945, 4.

special military environment that requires an equally specialized medical doctrine.

As we have seen over the three parts to this article, there is no better example of the consequences to inadequate medical doctrine for amphibious warfare than Gallipoli. Certainly, doctrinal failure was complete in almost every respect, but concentrating on the failures of medical doctrine is highly illustrative for our purposes. Failure to understand the need for proper doctrine, and then the planning and training such doctrine would have mandated, led to immense preventable suffering and increased morbidity and mortality amongst the wounded, especially in the assault phases of the operation. The Navy physicians who worked in the interwar period to create medical doctrine for amphibious warfare were determined not to repeat these errors.

While the Marines, and at least certain elements of the Navy, realized the need for a systematic approach to developing doctrine and to dealing with issues related to amphibious warfare, this systematic approach did not quite extend to medical concerns. Naval line officers attached to the Marines for the development of doctrine and equipment for amphibious assault were no more attuned to the need for development of medical doctrine than were their Marine counterparts. The general tendency of the line officers to ignore medical issues until they became a problem was not unique to the interwar Navy and Marine Corps. Both Union and Confederate forces put medical issues to the side at the beginning of the Civil War and only began to address them when they became overloaded and dysfunctional. Even U.S. involvements in the last 20 years have seen medical issues much more of a last-minute fix than it should have been.

The role of medicine in the military and in wartime has always been somewhat ambiguous. How does one find a military role for a profession dedicated to saving life and alleviating suffering in the midst of an organization that is, at its core, dedicated to generating death and destruction? However, to say that this role is to only alleviate suffering and prevent death is incomplete; it ignores the military role of the medical officer. The military physician, on the other hand, must be two people with a dual “personality.” He (or she) must be skilled in both the healing and the military arts, and know when to call on which

personality. These naval medical officers who developed this amphibious medical doctrine understood this truth and knew when to call on which side of their inner selves.

All of the key physicians in the development of medical doctrine had distinguished records and experience with the Marines, serving in the field and in combat. Joel Boone and John O’Neill received high decorations for valor in the field at the risk of their own lives while providing care to the Marines. All of these physicians made the decision to accept further duty with the Corps. Continuing assignments with the Marines or assignment to senior leadership posts, such as brigade surgeon, post surgeon at Quantico, or FMF surgeon, happened because the officers that requested these assignments had demonstrated abilities for such roles. Compared with most peacetime jobs in Navy medicine, these posts represented extra work and hardship, and the fact that these individuals sought them out testifies to their dedication. The reports from exercises and the end product of amphibious medical doctrine speak to their intellectual qualities.

As much as these officers worked separately, they also worked together. The naval medical community of the interwar period was not large, and the subset of those who spent a significant proportion of their careers with the Marines was smaller still. Doctors like Mann, Boone, Vogelsang, O’Neill, and others were not strangers. At a minimum, they knew each other by reputation, and more often than not called each other friend. The surviving correspondence illustrates how they consulted each other, bounced ideas back and forth, and shared resources all in aid of the same goal—to develop a doctrine for medical support of amphibious warfare that would be effective. Washington, DC, Quantico, and later San Diego encompassed the geography where these men would work. The headquarters, medical facilities, quarters, and officers’ clubs enclosed these doctors in a relatively small world where interaction was inevitable. Thus, the environment these naval officers worked in was conducive to the formation of networks and their shared desire to produce the solutions for medical care in an amphibious Marine Corps resulted in a system that worked for more than 20 years.

Unlike the Marines who worked within a formal structure and command directive to produce the

overall military doctrines for amphibious warfare, these doctors worked without the benefit of a tasking order. When such an order is given, it also carries with it the unspoken promise that there will be some sort of guidance, which will hopefully be of benefit, and also funds and other assistance to ease the task. For the development of medical doctrine, no such tasking order was given by the Marines or BUMED, no funding or administrative support flowed to those who created this doctrine, and for better or worse, there was little if any guidance from above.

It was not that the Navy, or BUMED in particular, was totally unsympathetic to the needs of the Marines. Some, perhaps many, of the medical officers at BUMED had served with the Marines or personally knew the medical officers who were submitting the reports and suggestions. Unfortunately, until the very end of the interwar period, resources of both men and materiel were severely constrained. Medical supplies and equipment in a warehouse ready to be deployed in support of potential operations represent a cost without a clearly obvious benefit, unlike a ship steaming away to show the flag or a Marine carrying a rifle. Similarly, medical personnel, always a limited quantity and expensive in a classroom or in the field learning the craft of field medicine, represented an opportunity cost. To provide the care that they could have been providing were they not in the classroom or field training requires the expense of either having more personnel to cover these absences or contracting this care to an outside source and incurring more expense.

In tension against the personnel and financial costs of medical readiness was the reality quoted by Captain Mann as FMF surgeon: medical support needs to be ready at all times. During the Spanish-American War, the shortcomings of military medicine in sanitary and preventive aspects as well as care during combat were so scandalous that Congress set up a special committee to investigate the problem. In World War I, there was time, before U.S. involvement to consider plans and a period after the declaration of

war in April 1917 when U.S. forces were being created and few forces were engaged in actual combat, that allowed the creation of an expanded military medical establishment. In World War II, American forces were significantly engaged immediately after the Japanese attack on Pearl Harbor and other American military entities. Yet, even though the United States had two years to anticipate and prepare for war, the official history shows that medical doctrine and preparedness for amphibious warfare was not a hot button item at BUMED until early 1942.

The network of doctors did not have to work against the Marine command structure either. Although, in most cases, the doctors were not included in major planning meetings, the Marines were comfortable with them and trusted their collective judgment. When medical issues came up, the Marines generally deferred to and supported the recommendations made by these officers. The Marines recognized that the “docs” had expertise in a field about which they knew next to nothing, the particular doctors proposing these ideas had a proven track record with the Marines, and the solutions made sense and did not make unreasonable demands on the system.⁵⁵ Since the medical doctrine developed during the interwar period was only partially tested in exercises, it is not surprising that the doctrine needed to adapt and evolve during World War II. Fortunately, the first two amphibious assaults at Guadalcanal and North Africa were not strongly resisted on the beaches and did not produce large numbers of casualties immediately to stress the system. Given the problems at Guadalcanal with inappropriately loaded transports, the failure to unload all supplies before the transports had to leave due to threats from the Imperial Japanese Navy, and the medical struggles during the “land” campaign, there was significant potential for complete or at least partial failure from a medical standpoint had the Japanese resistance been similar to what was seen later in the Pacific campaign.

Had medical doctrine not been developed in parallel with the overall amphibious doctrine, it seems

⁵⁵ One of the more difficult concepts for a physician, newly assigned to a field command, is the system of priorities and command. Within a clinic or hospital, solutions that optimize medical efficiency and outcomes are the goal, and the appropriate members of the medical staff make the decisions about what is required to achieve these goals, allocate personnel and resources, etc. When attached to the Marines, a doctor must understand (and completely internalize) the reality that the optimal solution from a medical standpoint will take second place to mission accomplishment, and the unit commander will make that call, not the doctor. The experienced medical staff officer will jump ahead and present the commander with options that he (or she) knows will fit within the margins of mission accomplishment first.

clear that there would have been a high price to pay. The record is clear that the bulk of Army doctrine for amphibious warfare was taken almost word for word from FTP-167, and similarly, the medical doctrine for naval amphibious warfare also was taken from the above Navy/Marine document. In fact, as the joint operations publications made clear, a significant portion of the medical doctrine and care for an amphibious assault was a Navy responsibility—the BESs, shore to ship evacuation, and care afloat. There is no evidence to suggest that Army medical personnel spent any significant amount of time working on amphibious medicine until 1939–40 at the earliest.

We can conclude that, at least for the first two years of World War II, there would have been a very steep learning curve for amphibious medical doctrine had these Navy doctors not developed the basics of such doctrine during the interwar period of 1920–39. The result of such a steep learning curve would have certainly increased suffering, morbidity, and mortality among the sick and wounded of any amphibious operation. The effect of raising the human cost of the early operations is hard to determine. At a minimum, it would have made planners more cautious in the use of amphibious operations, and in cases where there was no alternative, the expectation of a high casualty cost would necessitate the gathering of more troops (and the ships to carry them) for any operation, thus slowing the overall pace of the Allied advance during the war. Exactly how much slower and what effect that might have had on the outcome of the war is impossible to know. In this example, if D-Day had been delayed three months, even if we assume the post invasion scenario proceeded at the same pace, that could have produced significant changes in the postwar picture, though the eventual defeat of Germany probably would not have been affected.

A truism of military medicine is that surgeons have to relearn the principles of combat surgery, which differs significantly from even civilian trauma surgery, with every war. For our purposes, the same holds true for medical support in general. In 1959, a course module prepared by the Marine Corps Schools was entitled “Medical Service in Modern Amphibious Operations” and stated: “Unfortunately, however, precepts of landing force medical ser-

vice have not been clearly established as such and, therefore, are not generally well recognized and understood; consequently, planning for medical support in the FMF often lacks the positive direction of military tactical planning.”⁵⁶ Coming after all the experiences of World War II and the Inchon landing in Korea, one wonders how this statement found its way into an instruction syllabus. Other doctrinal and Navy medical publications of the same period show that the efforts of the interwar period and the lessons of World War II had not been lost.

Doctrine does not stand still. Use of the helicopter for both assault and medical evacuation and the possibility of the use of nuclear weapons against an amphibious force were factors in 1959, but not present in 1939. The basic concepts of medical support for amphibious warfare were established by the physicians during the interwar period, and these principles, if not in every specific detail, were validated in every theater of operations during the World War II.

Military history is no longer just about the great generals, the tactical details of a given battle or campaign, or the technology of warfare. Not that these facts and understanding them is unimportant, but rather that what might be considered nontraditional factors are recognized as being important within the field of military history. Logistics, from the tactical details of getting beans to the troops to the understanding of how economic capacity of a nation can determine the outcome of a conflict, is one area. Social and political issues, questions of gender, and underlying cultural norms are other examples of nontraditional factors now being examined for their effect on military history. While some interest has always been present over the years in the history of military medicine, it has been primarily an interest of doctors (usually with military experience) and usually focused on strictly medical issues. Medical doctrine, the blending of the military and medical halves of the military physicians mind, has been much less examined.

Military medical services and medical doctrine will not win a battle or a war, although it can contribute to victory. However, failure to have adequate and appropriate medical doctrine can cause defeat at any level from the tactical to the strategic. Medical doc-

⁵⁶ “Medical Service in Modern Amphibious Operations,” 1959, Historical Amphibious File, GRC, MCU, Quantico, VA.

trine is not just about managing the wounded from the battlefield but also recognizing the risks presented by the environment of the campaign and mitigating those effects to preserve the force. As Joel Boone noted, the commanders must recognize the value of the soldiers, and then the doctors must use this support to preserve those soldiers. Military historians should understand and analyze medical doctrine and its effects on battle as they would any other factor.

Almost immediately following World War II, Walter Vogelsang and William Mann retired from the Navy, Vogelsang as a captain and Mann as a rear admiral. Joel Boone retired as a vice admiral for medical reasons in 1950, and subsequently served for several years as director of medical services for the Veterans Administration. John O'Neill was the youngest of the group developing medical doctrine and the only one to serve with the Marines during World War II; Captain O'Neill spent all of that war with the Marines in one capacity or another. As a captain, he became the corps surgeon for the V Amphibious Corps and the senior medical officer for the invasions of Saipan and Tinian. There, he displayed the intellectual flexibility demonstrated during the 1930s when he established the largest air evacuation system to date when rough seas prevented the evacuation of the wounded from Tinian to Saipan.⁵⁷ Following these actions, he continued with the V Amphibious Corps and was the senior medical officer for the invasion of Iwo Jima for which he received the Legion of Merit with combat "V."⁵⁸ He retired as a rear admiral in 1947.

The Navy medical officers who worked between

1920 and 1939 to create a viable medical doctrine for amphibious warfare had a very large stone to push uphill. The only guide they had—Gallipoli—was a treasure trove of information on what not to do but did nothing to suggest what to do. They had moral support from the Marines and to some extent from BUMED but little if any financial or administrative support, lacking even a tasking order creating a board or study group. What they did have was a realization that there was a need for medical doctrine to suit the new amphibious warfare doctrine and the intellectual curiosity to research the subject. They established a network that operated not so much against or outside the existing system but in parallel with it. This network functioned in wardrooms on board transports, in letters that passed from one base or command to another, and probably in informal conversations at one "O" club or another.

The basic concepts of medical amphibious doctrine—definition of command relationships for medicine, control of medical evacuation, general capabilities of various Marine medical units, and more—remain in place today. Even with the modifications in the past 70 years due to advances in medicine and changes in technology, these naval doctors would recognize their handiwork in current operational manuals. By minimizing the human cost of amphibious warfare, these officers contributed to victory, and many of those who participated in amphibious operations during World War II and their descendants since then owe a great deal to these men.

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⁵⁷ Maj Carl W. Hoffman, *The Seizure of Tinian* (Washington, DC: Headquarters Marine Corps, 1951).

⁵⁸ RAdm John B. O'Neill, USN, "Biographical Information Sheet," 24 March 1955, Biographical Files, Navy Operational Archives, Washington Navy Yard, Washington, DC.