



DEPARTMENT OF THE NAVY  
BUREAU OF MEDICINE AND SURGERY  
7700 ARLINGTON BOULEVARD  
FALLS CHURCH VA 22042

IN REPLY REFER TO  
BUMEDINST 1543.1B  
BUMED-M7  
1 Jun 2021

BUMED INSTRUCTION 1543.1B

From: Chief, Bureau of Medicine and Surgery

Subj: NAVY MEDICINE MODELING AND SIMULATION MANAGEMENT

Ref: (a) SECNAVINST 5200.46  
(b) DoD Instruction 1322.24 of 16 March 2018  
(c) DoD Instruction 3216.01 of 20 March 2019  
(d) OPNAVINST 1500.84  
(e) DoD Instruction 1322.26 of 5 October 2017  
(f) DoD Instruction 6000.18 of 22 August 2018  
(g) DoD Directive 5000.59 of 8 August 2007

1. Purpose. To establish policy and guidance for Navy Medicine (NAVMED) governing use of medical modeling and simulation (M&S) devices and technologies consistent with established Department of Defense (DoD) and Department of the Navy (DON) standards of operation, per references (a) through (g). This instruction provides guidance on the governance process and standardization of M&S to medical readiness through support of platform training, integrated medical exercises, initial skills acquisition, and sustainment of naval knowledge, skills, and abilities. This instruction is a complete revision and should be reviewed in its entirety.

2. Cancellation. BUMEDINST 1543.1A.

3. Scope and Applicability

a. This instruction applies to all budget submitting office (BSO) 18 organizations with current or planned M&S for education and training purposes. While limited in scope to BSO-18, this guidance is intended to support the one NAVMED initiative of the Surgeon General of the Navy.

b. This instruction applies to NAVMED models, simulations, and simulators purchased, used, or developed by NAVMED BSO-18 activities for educational purposes. Models will include any physical, mathematical, or otherwise logical representation of an entity, object, person, service, or activity. Simulations include any technique for testing, analysis, or training in which real-world systems are used, or where real-world and conceptual systems are reproduced by a model, as defined in reference (a). Clinical simulation technologies include standardized patients, human patient simulators, task trainers, chemical, biological, radiological, nuclear (CBRN) scenarios, and computer-based and virtual reality platforms. M&S modalities which are primarily intended for non-educational purposes (e.g., mathematical modeling applications for pharmacy operations) are excluded.

#### 4. Policy

a. The role of M&S management in NAVMED, pursuant to references (a) through (g), is that the Navy Medical Modeling & Simulation Training (NMMAST) office will centralize, coordinate, and consolidate medical M&S training requirements, as appropriate, for Navy Medicine Readiness Commands including:

(1) Navy Medicine Readiness and Training Commands and their subordinate Navy Medicine Readiness and Training Units.

(2) Naval Medical Forces Support Command and subordinate commands including:

(a) Navy Medicine Training Support Center.

(b) Navy Medicine Operational Training Center.

b. NMMAST will collaborate and coordinate with the Defense Health Agency (DHA), pursuant to reference (f).

#### 5. Background

a. The integration of M&S devices and technologies into clinical and medical readiness training is imperative in pursuit of high reliability at the organizational level and aligns with Surgeon General of the Navy priorities. Simulation is used in other high-risk industries, such as aerospace, and has achieved and sustained remarkable levels of safety. In health care, the effective use of M&S enables the acquisition of skills through deliberate practice and decreases risk to real patients. This is particularly necessary in high risk, low frequency clinical presentations. M&S offers the opportunity for safe, repetitive practice of critical thinking and procedural skills. Additionally, simulation is valuable in building familiarity with infrequently-used equipment and supplies as are seen in expeditionary environments, CBRN events, and combat scenarios. The use of M&S enhances the development of cohesive teams on optimized platforms, supporting all phases of operations across the range of military operations at the speed of the warfighter. M&S is a key enabler of modern training to meet knowledge, skill, and ability standards, thus preparing a ready medical force.

b. References (b) and (c) mandate that commercial training simulations, manikins, moulage actors, and cadaveric models be considered and used whenever possible to attain the objectives of research, development, test and evaluation, or training if such alternative methods produce scientifically or educationally valid or equivalent results. Reference (c) establishes policy, assigns responsibilities, and prescribes procedures for the management of M&S. Reference (a) complies with DoD directives and provides guidance for DON management of verification, validation and accreditation of simulation assets and outlines elements of the DON management of M&S.

Integration of simulation between warfighter disciplines, to the maximum extent practicable, including medical M&S, is mandated in reference (d). Reference (e) coordinates the Service component's distributed learning efforts, including those encompassed as M&S.

c. The role of the medical M&S management NMMAST Program is to support the development of a ready medical force throughout the continuum of medical education, training, and qualifications which enable health services and force health protection. M&S modalities are key enablers to achievement and maintenance of the naval knowledge, skills, and abilities which support clinical currency, expeditionary skills, CBRN readiness, and platform training. Navy M&S training interfaces with BSO-18 entities. Navy M&S supports one NAVMED indirectly through collaboration with the Defense M&S office in support of clinical benefit, shared-Service readiness, and officer and enlisted skills acquisition (i.e., residency, fellowship, Hospital Corpsman basic, and Hospital Corpsman class-C schools). Further, NMMAST training supports one NAVMED through research and development advocacy on behalf of Navy M&S stakeholders and constituencies. Additionally, NMMAST, as an execution agent of ready, relevant learning for the Bureau of Medicine and Surgery (BUMED) enterprise, modernizes and delivers training through a variety of asynchronous point of demand modalities (e.g., computer based, mobile device, application-based).

d. M&S standardization, the assurance that comparable training content is delivered regardless of training venue or modality, is a key precept. Coordination with other DoD entities (e.g., Services, DHA, logistics and acquisition systems) is critical to efficient and effective stewardship of training resources across the military health system. Liaison and advocacy with Federal, academic, and industry partners lays the groundwork for a training enterprise that meets both current and future training needs.

e. Navy M&S training uses innovative, cost effective learning solutions fully leveraging technology, partnerships, and joint initiatives. It adapts and responds quickly to validated and resourced training requirements, cultivates superior performance through a culture of excellence, communicates clearly, accurately, and openly, and employs program management principles and discipline to ensure value.

## 6. Responsibilities

### a. Assistant Deputy Chief, BUMED Training and Education (BUMED-M7B) will:

(1) Serve as the policy sponsor for the NAVMED M&S Program.

(2) Receive, review, and distribute NAVMED Central Simulation Committee (CSC) meeting minutes to BUMED stakeholders (e.g., deputy chiefs, assistant deputy chiefs, Corps Chiefs) for information or action as appropriate.

b. Naval Medical Forces Support Command will:

(1) Have primary oversight and execution responsibility for all NAVMED M&S efforts through the NMMAST program management office (PMO).

(2) Exercise program management of M&S in education and training.

(3) Appoint in writing, the Director, NMMAST as the NAVMED Chair of the CSC and NMMAST PMO lead.

(4) Prepare NAVMED CSC meeting minutes and submit minutes via e-mail to BUMED-M7B (Attention: Head, Technology & Innovation).

(5) Maintain a NAVMED M&S PMO. The Director, PMO will:

(a) Advise Chief, BUMED on simulation capabilities to mimic combat and CBRN realism including simulation technologies, scenarios or curriculum, and training experiences that support training requirements.

(b) Serve as the BUMED appointed representative in forums that evaluate, assess, or coordinate simulation technology and its implementation.

(c) Report all PMO activities executed under this appointment via the Naval Medical Forces Support Command chain of command.

(d) Provide programmatic management and oversight of NAVMED M&S to include:

1. Program planning. Submission of program objective memorandum.

2. Standardization of technologies, instructional delivery, and staffing. Serve as the verification, validation and accreditation authority for M&S for Service-unique readiness-related equipment and technologies, per reference (f).

3. Development and submission of formal Service-unique readiness requirements which support training delivery.

4. Improvement of acquisition processes.

5. Assessment of resources with subsequent recommendations on distribution of assets.

6. Development and monitoring of measures of effectiveness and indications of return on investment.

7. Research and development and testing and evaluation efforts on identified capability gaps.

8. Development and implementation of technologies which support the ready, relevant learning initiatives as they pertain to medically oriented training.

(e) Serve as a representative or consultant to the Navy M&S office's governance board.

(f) Serve as Chair, NAVMED CSC.

(g) Collaborate with simulation subject matter experts to optimize delivery of readiness training.

(6) Maintain a NAVMED CSC: Identify, in writing, its voting members which will consist of:

(a) Regional Training Officer, Naval Medical Forces Pacific.

(b) Senior Simulationist, Navy Medicine Readiness and Training Command San Diego, California.

(c) Regional Training Officer, Naval Medical Forces Atlantic.

(d) Senior Simulationist, Navy Medicine Readiness and Training Command Portsmouth, Virginia.

(e) Director of Training, Navy Medicine Operational Training Command.

(f) Senior Enlisted Representative, Naval Medical Forces Support Command.

(g) Additional permanent or ad hoc members, as needed, at discretion of the Chair. To achieve a quorum on voting issues, only appointed members need vote, while the votes of stakeholder representatives will be included, if provided.

(7) Request, in writing, and facilitate inclusion of a cadre of non-voting stakeholder representatives, which will consist of:

(a) U.S. Fleet Forces Command.

(b) U.S. Pacific Fleet.

(c) U.S. Marine Corps Training and Education Command.

- (d) Navy Reserve, Naval Medical Forces Support Command.
  - (e) DHA M&S Office.
  - (f) Director, CBRN Medical Defense (BUMED-M53).
  - (g) Director of Simulation, Uniformed Services University of the Health Sciences.
  - (h) Chief Innovation Officer (BUMED-M3).
- c. Naval Medical Forces Atlantic and Naval Medical Forces Pacific will:
- (1) Appoint, in writing, a voting member for the NAVMED CSC.
  - (2) Recommend one voting member be the regional training officer billeted at the echelon III headquarters with expertise in region-wide education and training needs.
  - (3) Recommend the other member be a senior simulation specialist, who is likely billeted at the echelon IV Navy Medicine Readiness and Training Command. This individual would be a senior (captain or commander) simulationist that assists the region in setting and executing a regional training delivery plan and interfaces with fleet and operational forces to improve alignment with Navy and Marine Corps warfighting commanders, ultimately supporting the one NAVMED 2030 initiative. In support of this clear readiness mission, a full-time equivalent offset may be considered (suggest up to 0.5 full-time equivalent) as part of the appointees readiness offset.

## 7. Records Management

a. Records created as a result of this instruction, regardless of format or media, must be maintained and dispositioned per the records disposition schedules located on the DON Directorate for Administration, Logistics, and Operations, Directives and Records Management Division portal page at <https://portal.secnav.navy.mil/orgs/DUSNM/DONAA/DRM/Records-and-Information-Management/Approved%20Record%20Schedules/Forms/AllItems.aspx>.

b. For questions concerning the management of records related to this instruction or the records disposition schedules, please contact the local records manager or the DON Directorate for Administration, Logistics, and Operations, Directives and Records Management Division program office.

8. Review and Effective Date. Per OPNAVINST 5215.17A, BUMED-M7B will review this instruction annually around the anniversary of its issuance date to ensure applicability, currency, and consistency with Federal, DoD, Secretary of the Navy, and Navy policy and statutory authority using OPNAV 5215/40 Review of Instruction. This instruction will be in effect for 10 years, unless revised or cancelled in the interim, and will be reissued by the 10-year anniversary

BUMEDINST 1543.1B  
1 Jun 2021

authority using OPNAV 5215/40 Review of Instruction. This instruction will be in effect for 10 years, unless revised or cancelled in the interim, and will be reissued by the 10-year anniversary date if it is still required, unless it meets one of the exceptions in OPNAVINST 5215.17A, paragraph 9. Otherwise, if the instruction is no longer required, it will be processed for cancellation as soon as the need for cancellation is known following the guidance in OPNAV Manual 5215.1 of May 2016.

9. Information Management Control. The reports contained in subparagraph 6b(5)(c) of this instruction are exempt from reports control per SECNAV M-5214.1 of December 2005, part IV, subparagraph 7k.



G. D. SHAFFER  
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Releasability and distribution:

This instruction is cleared for public release and is available electronically only via the Navy Medicine Web site, <http://www.med.navy.mil/directives/Pages/BUMEDInstructions.aspx>