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14. ABSTRACT
The US Coast Guard (USCG) is the only military branch of service with neither mandatory Professional Military Education (PME) nor Joint Professional Military Education (JPME) completion requirements. As a result, multiple USCG studies over the past 18 years have found gaps between actual and required leadership competencies within the officer corps. In 2014, the USCG Midgrade Officer and Civilian Transition Course (MOCTC) was successfully established for O3/O4s and GS12/GS13s. However, the course is not available to 100% of the target audience because of staff or funding limitations. The USCG Leadership Development Framework manual specifically lists JPME as a method of gaining leadership competence, yet the service sends less than 1% of its midgrade officers to the course because its generally viewed as advanced education rather than leadership development. Given the USCG's gap in leadership development, its vital role in joint operations, and emerging threats in the maritime environment, the USCG needs to increase participation in JPME until the service develops another way to meet the training and educational needs of its 21st century officers.

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MASTER OF MILITARY STUDIES

TITLE:

COAST GUARD LEADERSHIP DEVELOPMENT: LEVERAGING JPME TO APPROACH OPERATIONAL COMPLEXITY

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Executive Summary

Title: Coast Guard Leadership Development: Leveraging Joint Professional Military Education (JPME) to Approach Operational Complexity

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Thesis: The United States Coast Guard (USCG) must increase JPME participation to meet staffing obligations, fill leadership development gaps, and gain proficiency in joint methodologies while the service grows its officer PME programs to succeed in a complex operational environment.

Discussion: The USCG is the only military branch with no mandatory PME requirements for its officers. Additionally, the USCG is the only service that does not mandate JPME as a prerequisite for promotion or assignment to joint positions. As a result, multiple USCG studies over the past 18 years have found gaps between actual and required leadership competencies within the officer corps. The most recent study conducted in 2011 was a meta-analysis of all USCG research on leadership development and concluded that formal leadership courses were required at the O2, O3/O4, and O5 levels. The study cited new missions, technology, and platforms, as well as greater threats within the maritime environment as the reasons for more officer training and education through formal leadership development. In 2014, the USCG Midgrade Officer and Civilian Transition Course (MOCTC) was successfully established for O3/O4s and GS12/GS13s. However, the course is not mandatory and not available to 100% of the target audience because it is not staffed or funded to be so. There is currently no actionable plan to expand the capacity of MOCTC. Therefore, alternative methods of providing formal leadership development are needed. Resident and non-resident intermediate level JPME (Phase-I) presents an opportunity to fill portions of the USCG's leadership development gap for midgrade officers and civilians until the service can provide it on its own. Moreover, JPME Phase-I provides additional benefits to USCG students such as exposure to evolving doctrines and methodologies that will help guide the service in an increasingly complex operational environment. The USCG Leadership Development Framework manual specifically lists JPME Phase-I as a method of gaining leadership competence, yet the service sends less than 1% of its midgrade officers to the course because JPME Phase-I is generally viewed as advanced education rather than leadership development. Given the USCG's gap in formal leadership development, its vital role in joint and interagency operations, and emerging threats in the maritime environment, the USCG needs to increase participation in JPME until the service develops another way to meet the training and educational needs of its 21st century officers. Failure to properly invest in the USCG's greatest asset – its people – increases the service's risk of not meeting the Commandant's Strategic Intent.

Conclusion: Greater participation in JPME will fill leadership development gaps and provide more USCG midgrade officers the skills they need to synchronize missions across all operational domains with joint and interagency forces in a predominately nonlinear, interactively complex environment.

DISCLAIMER

Dedication

This paper is dedicated to my father-in-law, Olin Stancliff, who passed away during its writing. Olin was a US Army veteran who served with the Ordnance Corps during the Cold War. Upon his honorable discharge from the Army, Olin used the GI Bill to earn an MBA and eventually started his own company. He was always supportive of my military service and will be dearly missed.

Preface

Selection of this topic was based on observations gathered from over 20 years of military service with both the Coast Guard and the Marine Corps. From this perspective, I have observed a significant difference between the Coast Guard's and Marine Corps's approach to PME and the leadership competence of their respective officers. While the Coast Guard has historically fulfilled its mission without a mandatory officer PME program, the service runs the risk of not meeting the Commandant's Strategic Intent if it continues to underinvest in leadership development programs in the 21st century. The purpose of this paper is to reinvigorate the conversation about Coast Guard leadership development in support of past recommendations that have gone largely unfulfilled.

I offer my sincerest gratitude to Dr. Anne Louise Antonoff, Assistant Professor of Military History, for helping me craft this paper through her patient guidance and dedicated mentorship. A special thank you goes to LtCol Kevin Glathar, Military Faculty Advisor, and Dr. Nathan Packard, Assistant Professor of War Studies, for their counsel and recommendations throughout the process. I am also extremely thankful to all of the Coast Guard officers and civilians who generously shared their time, expertise, and experience to help me validate my thesis.

Lastly, a very special thanks to my amazing wife Kathy and our three wonderful children – Jack, Jim, and Anna – for their love, support, and understanding throughout this academic year.

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Introduction

"For more than two centuries, individual heroism and tremendous operational leadership were enough to keep the United States Coast Guard on top of its world. However, the capacity to react, indispensable as it is, is insufficient in a world of ever-more-frequent and complex change."

-USCG Evergreen Process, 2008

Nearly two decades into the 21st century, the United States Coast Guard (USCG) prepares its officers to face an increasingly complex mission set with a 20th century Professional Military Education (PME) program. To meet the demands of joint and interagency operations within which it plays an instrumental role, the USCG needs to catch up to new ways of thinking among its sister services, where concepts of systemic complexity and operational design, no longer new, underpin evolving joint doctrine.[1] While all five branches of military service acknowledge that expanding global interaction has increased operational complexity, only the USCG lacks mandatory PME to prepare its officer corps to contend with it.[2] The USCG has chartered multiple leadership studies over the past 22 years that concluded a formal education system is required to prepare its officer corps for emerging maritime threats, yet the organization has not implemented a mandatory program.[3] Although, an alternative option already exists through Joint Professional Military Education – Phase I (JPME-I). The mission statement of JPME-I says, "The goal is to develop agile and adaptive leaders with the requisite values, strategic vision, and thinking skills to keep pace with the changing strategic environment."[4] Juxtaposed with contemporary USCG leadership requirements, JPME-I provides the service a golden opportunity to formally educate it officers in military leadership, joint matters, and doctrinal approaches to operational complexity while the service's own PME program matures and grows in capacity.

The USCG is a branch of the armed forces under Title 10 of US Code, though the Goldwater-Nichols Act (GNA) does not specifically list the USCG under management policies for joint service officers.[5] Therefore, the USCG is the only military service that does not mandate its officers to earn JPME-I credit as a prerequisite for promotion or assignment to joint command and staff positions.[6] While the USCG does send approximately nine (0.75%) of its Lieutenant Commanders (O4s) to JPME-I resident courses each academic year, the overall number of JPME-I certified officers is significantly lower than among its sister services.[7] As a result, the USCG does not have enough JPME certified officers to fill joint or defense-related positions, especially in reserve billets.[8] Given the USCG's extensive leadership in joint and interagency operations and limited PME opportunities for its midgrade (O3/O4) officers, increased participation in resident and non-resident JPME-I would better equip the service to meet staffing obligations, fill leadership development gaps, and gain proficiency in joint methodologies while the service grows its officer PME programs to succeed in a complex operational environment.

While the USCG currently meets all 11 of its statutory missions, the service is not prepared for a 21st century environment because it is not educating the whole officer corps the way self-imposed leadership studies recommend it should. Clearly, the service depends on a select number of officers with the training, education, and experience to address every problem set. This practice puts the service at risk because the maritime threats are emerging faster and in greater numbers than the availability of USCG officers equipped to deal with them. The USCG needs officers throughout the entire rank structure to possess requisite leadership competencies to engage problem sets across multiple levels, geographic areas, and operational domains. There is no guarantee that young leaders will acquire the skills they need through experience-based

learning because of the varying commands and operational environments they are exposed to during initial tours.[9]

The USCG took a positive step four years ago by implementing one of the three leadership development courses recommended in the 2011 Growing Officers and Adaptive Leaders (GOAL) Report to mitigate a number of leadership competence gaps identified in previous studies. USCG leadership identified the midgrade (O3/O4) cornerstone course as the priority over the milestone (O2) and keystone (O5) courses and allotted funding to get it started.[10] The cornerstone course received positive feedback during the pilot phase and officially opened its doors as the Midgrade Officer and Civilian Transition Course (MOCTC) in 2014. MOCTC is not mandatory and does not have the capacity to reach most of the target audience (O3/O4 and GS11-GS14) because of limited funding and staffing.[11] Additionally, MOCTC focuses on the competency gaps identified in the studies, which include advanced leadership skills and USCG mission areas. A leadership and service centric curriculum is not necessarily a bad thing, but as the demands of joint and interagency tasks associated with human migration, climate change, cyber security, population growth, and transnational crime continue to grow in scale and complexity, midgrade officers will need knowledge and skills beyond the scope of MOCTC to lead within these operational domains.

More specifically, USCG officers will require a deeper understanding of interactively complex problem sets and contemporary methodologies to approach them. Operational complexity is cited numerous times throughout the USCG doctrinal Publication 3-0 (*Operations*) and the USCG *Contingency Preparedness Planning Manual* (COMDTINST M3010.24); however, these documents neither define complexity nor prescribe methods for approaching it. In contrast, Joint Publication (JP) 3-0 (*Joint Operations*) and JP 5-0 (*Joint Planning*) address

complexity by way of operational art, operational design, and system theory.[12] The USCG references JP 3-0 and JP 5-0 in its own operations and planning manuals, but the terminology used in joint doctrine to approach complexity is not in the service's own lexicon. As a result, the USCG operates at an intellectual disadvantage and is unfamiliar with the standard methodologies used by the Joint Force, of which it is a vital member. JPME-I thus provides USCG midgrade officers that next level of leadership development until MOCTC expands its curriculum or implements the follow-on keystone course to focus on the complexity of USCG planning, prevention, and response functions in the maritime environment with joint, interagency, and international partners.

To appreciate the benefits of an increased investment in JPME, however, the USCG needs to look at JPME differently from its other advanced education programs. The USCG's *Performance, Training and Education Manual* (COMDTINST 1500.10D) states the purpose of advanced education is: "to (1) raise the levels of individual military professionalism and technical competence so that the Coast Guard's enlisted and officer corps can more effectively perform their required duties and responsibilities, and (2) provide developmental incentives for personnel with high ability, dedication and the capacity for professional growth to remain in the Coast Guard."[13] JPME-I does meet the USCG's purpose for advanced education because it provides a level of technical competence required for follow-on assignments in joint and defense-related positions.

More importantly, though, JPME-I curriculum is, according to the *Officer Professional Military Education Policy* (CJCSI 1800.01E) designed to develop "critical thinking and decision-making skills needed to anticipate and recognize change, lead transitions, and anticipate/adapt to surprise and uncertainty."[14] The difference between technical competence and critical thinking

is an important distinction because the USCG advanced education program and leadership develop framework do not provide this type of PME to every midgrade officer despite the demand signal for it. Critical thinking and decision-making skills are essential to USCG officers engaged with complex challenges in cyberspace, the Arctic, and the Western Hemisphere. Yet, only a small fraction of the officer corps is equipped with the skills to tackle these operations because the USCG has no mandatory PME and, unlike its sister services, does not require JPME-I completion.

To build an understanding of the need for the USCG to increase JPME-I participation, three steps are necessary. Step one is to review the historical background of both JPME and USCG PME to show how external influences forced the armed services to combine educational efforts for the better, while the USCG declined JPME participation, and still struggles to deliver PME to its officer corps. Step two identifies three benefits from increased JPME participation that would not burden USCG manpower requirements or budgetary constraints. Step three conceptualizes how joint methodologies not used in the USCG could benefit the planning and execution of missions in a complex operational environment.

Historical Background of JPME

"I wish the Army appreciated the excellent work done for it by the Navy, but our sister branch of the service is a spoiled child and takes every exertion on our part as a matter of course."

-USN Captain Casper Goodrich, 1898

No Department of Defense (DoD) officer with less than 32 years of service has experienced a military without JPME, yet the educational system is still relatively new and continues to evolve as recent conflicts reinforce the necessity of joint, whole-of-government approaches to the nonlinear, interactively complex nature of modern problem sets in military and

security affairs. Moreover, the operational complexity of contemporary warfighting increases even more as each military branch fights for service relevancy despite a greater need for joint integration more than ever. Early versions of JPME evolved from logistical and operational deficiencies during the First and Second World Wars, but US military officials designed the courses only to instruct officers in essential tasks for select occupational specialties, not to develop synergy between the officers of a Joint Force.[15] The unwillingness of senior officers to put service relevance aside and invest in an integrated military proved fatal during joint operations in the 1980s.[16] In turn, Congress mandated integration of the services through legislation titled: "Goldwater-Nichols Department of Defense Reorganization Act of 1986."[17] Although the USCG played no role in the 62 year evolution that led to the Goldwater-Nichols Act (GNA), the historical background serves as a cautionary tale for the service that still avoids full participation in JPME much as its sister services limited the scope of JPME before them.

Pre-Goldwater-Nichols Act PME (1924 – 1986)

Before the landmark legislation of the GNA, the DoD and its predecessor, the War Department, established three inter-service schools that resemble JPME institutions of today. The difference between pre- and post-GNA schools was that before GNA, individual services collaborated to design the course content and sent students and instructors on their own terms, whereas after GNA, Congress established the course design and participation terms with counsel from the Joint Chiefs. Then as now, the impetus for this change stemmed from the changing character of conflict.

World War I served as the pre-GNA event that brought military branches together to develop the first inter-service school. The War Department's inability to properly supply American Expeditionary Forces (AEF) through commercial procurement exposed a major

deficiency during an era of industrialized warfare.[18] To address this problem, the War Department worked through the Army to establish the Army Industrial College (AIC) to provide advanced training in economics, business administration, and industrial technology to officers responsible for military procurement.[19] In 1924, the AIC opened its doors to an inaugural class of nine reserve Army officers.[20] Despite the cold start, the Navy and Marine Corps sent officers the following year, and in 1929 the Navy permanently assigned instructors to the college.[21] Dwight Eisenhower reported to the AIC in 1932 and served as an instructor during the interwar period.[22] By 1939, the AIC had established a solid reputation for excellent instruction in joint procurement, with class sizes of over 60 students from each military branch and several government agencies.[23] While the AIC was technically an Army school, it functioned as a joint institution and served as a model for joint service schools to follow.

The investment in AIC training paid off during World War II, empowering the War Department to mobilize and provide logistical support for forces on an unprecedented scale.[24] Conversely, the lack of inter-service operational training prior to World War II left the US military unprepared for the complexity of joint combat operations. To remedy this deficiency, the Joint Chiefs of Staff established a four month Army and Navy Staff College (ANSCOL) in 1943 to provide just in time training for officers assigned to command and staff duties in unified commands.[25] As a sign of unity and support for the new institution, the Army and Navy service chiefs both spoke at the opening ceremony.[26] Students from the United Kingdom, Canada, Australia, and the US State Department complemented the instruction with Allied and diplomatic perspectives.[27] At the end of the Second World War, the United States had two joint service schools: the AIC for resource management and the ANSCOL for joint operations.

The Joint Chiefs formed a special committee after World War II to discuss post-war reorganization plans for national defense, to include JPME. The committee recommended that officer JPME include joint training and duty exchange at the junior level, joint education in operational planning at the intermediate level, and joint education in formulating strategic concepts at the senior level. The Joint Chiefs created three new joint service schools based on this guidance: the Industrial College of the Armed Forces (ICAF), the National War College (NWC), and the Armed Forces Staff College (AFSC).[28] These new colleges were created out of existing service schools. AIC was renamed IFAC to reflect its joint mandate and changed to a senior level school. ANSCOL was split into the NWC and AFSC; NWC for senior level officers and AFSC for intermediate level officers. By 1946, the US military had three joint service schools and two service specific schools (Army and Naval War Colleges).

Despite the importance of joint operations during World War II, the armed forces continued to reward service-specific career tracks during the Cold War era and viewed joint assignments as detrimental to an officer's potential for promotion. Inter-service rivalries fueled by the struggle for relevance caused the military branches to focus inward rather than jointly. By the 1980s, less than 15% of midgrade officers serving in Joint Chiefs of Staff billets attended AFSC and only 25% of senior officers graduated from the NWC or ICAF.[29] The failed Iranian hostage rescue mission in 1980 and fratricide during the invasion of Grenada in 1983 highlighted the atrophy of joint operational planning and execution since World War II and the military's inability to effectively coordinate during missions involving multiple services.

Lawmakers took action, and in 1986 the GNA was signed into law, ushering in sweeping change to the military chain of command, officer management policies, and JPME. Section 663 of the GNA addressed education and outlined four requirements: "1) All new General / Flag

officers must attend a joint capstone course, 2) the Secretary of Defense shall periodically review and revise the curriculum of all National Defense University (NDU) schools, 3) the Secretary of Defense shall require that each Department of Defense school teaching JPME review and revise its curriculum for senior and intermediate level courses, and 4) each officer with a joint specialty who graduates from a JPME school shall be assigned to a joint duty assignment for that officer's next duty assignment, and greater than 50% of officers graduating from a JPME school who do not have a joint specialty must be assigned to a joint duty assignment for their next duty assignment."[30] These fundamental changes, directed by Congress – not by Generals and Flag officers – set the groundwork for what would become the greatest joint fighting force the world has ever known. The USCG has not experienced a setback like DoD's Operation EAGLE CLAW yet, but an unexpectedly complex incident could occur in USCG operations at any time. Such matters of chance and probability need to be part of the service's calculus when considering its JPME participation levels.

Post-Goldwater-Nichols Act PME (1986 – Present)

Despite the GNA's principled foundation, meeting the intent of the Act required several Congressional reviews, independent studies, and minor changes over the ensuing three decades to ensure the final product met the spirit of the law. The most notable changes occurred during the Skelton Panel (1987-1990), National Defense Authorization Act (2007), and CJCSI 1330.05 (2015). In 1987 the Chairman of the House Armed Services Committee appointed Representative Ike Skelton to chair a panel to review the Department of Defense (DoD) plan for implementing the JPME requirements of the GNA. The main change that resulted from what became known as the Skelton Panel included the establishment of a two phase JSO education process. Service colleges would teach Phase I and AFSC would teach Phase II instructed on a

temporary basis. The National Defense Authorization Act (NDAA) of 2007 expanded the JSO education process based on DoD recommendations to include four levels of joint qualification criteria that award qualification points from pre-commissioning training through the capstone course. The NDAA of 2007 also allowed officers to earn qualification points through a traditional education track or a joint experience track to award officers due credit for joint assignments prior to completion of JPME Phase I or II. The 2015 version of CJCSI 1330.05, *Joint Officer Management Program Procedures*, included more operations under the definition of Joint Matters to provide credit for officers in Military Occupational Specialties (MOSs) or assignments that do not provide traditional joint experience and make them uncompetitive for promotion. Operations under joint matters now include command and control of operations under unified command, national security planning with other departments and agencies of the United States, combined operations with military forces of allied nations, and defense acquisition matters. These most recent changes acknowledge that joint operations have expanded to include a broader set of mission types and require the support of all skill sets throughout the spectrum of MOSs. This expanded understanding of potential missions also correlates with the kind of challenges that the USCG in particular will increasingly face in the 21st century.

The evolution of JPME in the US military is a credit to civil-military relations in America, which allowed Congressional oversight to legislate changes that the armed forces would not make alone. JPME still receives a great deal of constructive criticism, but for all of its minor shortcomings, its military colleges and universities have become vital institutions of higher learning, where accomplished professors, civil servants, and military officers of different backgrounds come together and share their expertise in an effort to gain a better understanding of each instrument of national power and of the best ways to integrate all components within a

whole-of-government approach. In addition to the rich discussions, JPME affords professional growth through guided reading and writing about fundamental subjects such as joint and interagency doctrine, national security policy, military history, operational art, ethics, and leadership. The post-GNA success of joint operations through the development of joint doctrine and JPME provides the Department of Homeland Security (DHS) and the USCG an organizational and leadership development model that they can use in their own internal professional development programs. The historical background of GNA also serves as a lesson for DHS and USCG of what action Congress may take if a governmental department or service does not demonstrate unity of effort or lacks a formal training mechanism to facilitate successful joint and interagency operations.

Historical Background of USCG PME

"While an experience-based model may have worked well in the past, it is the opinion of the group that new missions, new technology, new platforms, and greater threats to our maritime environment necessitate the need to bolster our leaders with a more formal system of leadership development through training and education."

-USCG Growing Officers and Adaptive Leaders (GOAL) Report, 2011

The USCG is the nation's oldest continuous seagoing service, which has served under three governmental departments (Treasury, Transportation, and Homeland Security) since its founding in 1790.[31] While the USCG's rich maritime history has enabled the service to establish mature operating procedures that insulate it from changing governmental oversight, it has also bred an organizational culture of doers and not strategic thinkers.[32] Hence, the USCG is the only military branch with no post-accession officer PME requirements (see Figure 1).[33] With that said, the USCG Force Readiness Command (FORCECOM) and Office of Leadership (CG-12C) do provide a broad selection of educational and leadership development opportunities for a limited number of officers who apply and meet selection requirements. These opportunities are

generally grouped into two categories: advanced education and leadership courses. Advanced education consists of approximately 60 undergraduate, graduate, and senior service programs designed to qualify officers for specific billets or to provide capstone courses of study for senior members.[34] The USCG categorizes JPME-I (intermediate level) as advanced education.[35] For assignment year 2019, FORCECOM allocated a total of 164 advanced education billets, with seven of the billets assigned to JPME-I.[36] The leadership courses include 17 different training opportunities at the entry, mid, and senior levels, which range from one to 11 weeks in duration. The opportunities for advanced education and leadership courses, though successful in elevating the individual professionalism and technical competence of those who attend, are thus limited to a small group of officers and are mostly technical in nature.[37] Consequently, gaps in officer competence still exist even after two decades of leadership analysis conducted under the Departments of Transportation (DoT) and Homeland Security (DHS).

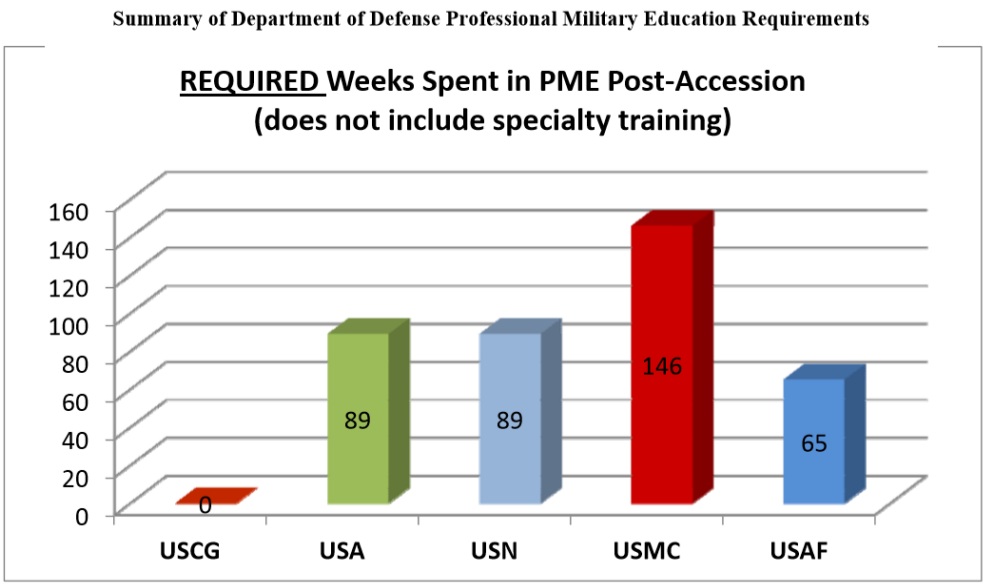

Figure 1: Required Weeks Spent in Post-Accession PME

Source: US Coast Guard Office of Leadership and Professional Development and Leadership Development Center, *Growing Officers and Adaptive Leaders (GOAL) Report*, work group, 2011, 11.

Department of Transportation PME (1996 – 2003)

Twenty-two years ago, the USCG officially acknowledged the need to develop formal leadership training and PME for its officers and began to take incremental steps toward implementing changes under the DoT. The 1996 Workforce Cultural Audit (WCA) was the first indication that the USCG had to improve leadership development across the entire workforce.[38] The Commandant responded by creating a Leadership Development Program and ordered studies to address leadership gaps throughout the service.[39] One of those studies included the Junior Officer Needs Assessment (JONA), which was chartered in 1997 to make "a thorough study of first tour junior officers, in order to establish a baseline for continual improvement of this critical workforce segment."[40]

A diverse group of USCG officers conducted the JONA and used the Human Performance Technology (HPT) methodology to organize the assessment. The JONA group engaged in extensive research to develop 150 knowledge, skills, abilities, and attitudes (KSAAs) required of USCG junior officers to meet leadership expectations. Those KSAAs were compared to actual performance in the field based on surveys filled out by commanding officers and flag officers. The survey results identified one knowledge and 28 attitudinal gaps from all the commissioning sources within the first 24 months of service.[41] Focus groups were interviewed to determine the root causes of knowledge and attitudinal gaps for junior officers. The root causes were mostly attributed to environmental causes such as organizational culture, personnel policies, and workload. Based on this feedback, the JONA group provided recommendations to the Coast Guard Academy (CGA) and Leadership Development Center (LDC) who were responsible for implementing any changes. The key recommendations

included providing supervisor training (role modeling, leadership, counseling, and feedback skills) for O3s and O4s, replacing the first JO Officer Evaluation Report (OER) with a 360 degree JONA survey to provide direct feedback in a nonpunitive manner, and having cadets from the Coast Guard Academy (CGA) and candidates from Officer Candidate School (OCS) compete head-to-head for first term assignments, rather than giving CGA cadets the first opportunity at the most attractive billets because they graduate before OCS candidates.[42]

Over the next seven years, 12 of the 38 JONA recommendations were implemented under DoT, minus a number of the key recommendations such as supervisor level training.[43] Nonetheless, the service was on the right track because it identified leadership deficiencies, established a Leadership Development Program, and made incremental improvements when priorities and resources allowed. The USCG's PME program still trailed far behind those of its sister services and JPME, but the basic framework of the Commandant's Leadership Development Program set the conditions for improving USCG PME.

Department of Homeland Security PME (2003 – Present)

The attacks of September 11, 2001 (9/11) gave birth to DHS and realigned operational priorities for the USCG. In 2003, the USCG found a new home under DHS and began to prepare its service members for a greater role in homeland security and homeland defense. The preparation, though, came predominately by way of new operational units and assets, not in expanded professional development opportunities. Under DHS, four major USCG leadership studies chartered in 2005, 2007, 2008, and 2011 generated comprehensive approaches to narrowing the leadership competence gaps identified in the reports, to include mandatory professional development for USCG officers.[44] Fifteen years under DHS has produced only one formal leadership course that is not mandatory and that lacks the capacity to reach its entire

target audience. Nonetheless, any advance in formal PME is a positive development and puts the USCG one step closer to reaching the demand signal.

In 2005, the USCG abruptly returned its focus from Homeland Security to legacy mission areas during the all hands on deck response to Hurricane Katrina. The public and press alike viewed the overall USCG response effort positively; however, internal after action reports identified issues at the senior management levels of DHS. The USCG chartered the Homeland Security Professional Education and Training (HS-PROFET) work group to "provide a survey and general assessment that articulates the current state, immediately executable improvements, and long-term objectives for USCG and appropriate DoD and DHS homeland security professional development and learning specifically targeting DHS/USCG Flag Officers and Senior Executive Service members (referred to as Executive HS LPD)."[45] The work group addressed five research questions that focused on prerequisite KSAAs, development opportunities, and required competencies. The work group's research found that the USCG's instruction on Leadership Development Framework does identify the competencies required for DHS and USCG executives, but that neither the USCG nor DHS has published a delineated pathway for rising leadership to acquire the KSAAs required for Flag or SES level positions. Additionally, the work group found that no one office managed training and education, complicating any attempt to sequence a professional development continuum. The main recommendations from the HS-PROFET work group included the consolidation of all USCG professional training and education under a single office, creation of a program for mandatory professional development of all USCG officers and civilians, and development of homeland security professionals at the mid-career level (O4/5, GS-13/14) to establish a career-long process.[46] To date, no mandatory professional development exists within the USCG.

In 2007, the Office of Leadership and Development (CG-133) requested that the Performance Technology Center (PTC) conduct a Performance Gap Analysis on the leadership skills of midgrade officers to determine if the change in responsibilities between O3 and O4 required additional training/education or not. The study involved two phases. The Midgrade Officer Leadership Gap Analysis (MOLGA) phase I determined whether a performance gap existed between the optimum and actual state of midgrade officer leadership abilities. Analysis data was collected through online surveys sent to every active-duty O3, O4, and O5; interviews with specific members of senior leadership, and reviews of previous studies and research papers. The analysis found gaps in the following leadership competencies for mid-grade officers: strategic thinking, political savvy, human resource management (civilian management), and vision development and implementation.[47]

MOLGA phase II involved a root cause analysis and intervention selection for the four leadership gaps identified in phase I. The analysis identified a total of six root causes: three root causes for deficiencies in strategic thinking, political savvy, and vision development and implementation, and three root causes for deficiencies in civilian management. The root causes for performance gaps in strategic thinking, political savvy, and vision development and implementation included the following: lack of a structured leadership development process to guide officers and supervisors, insufficient time and too rapid an operational tempo, and lack of expectations for midgrade officers to demonstrate the requisite skill. The root causes for performance gaps in civilian management included restriction of training to civilian managers, requirements for the competency only in specific units, and absence of pipeline training. Phase II provided three recommendations to address the root causes: create a leadership development continuum that is unified and distinguishable, ensure that officers who supervise civilians

complete required training, and begin an advertising campaign to increase awareness of the 28 leadership competencies and their relevance to the leadership development framework. Phase II also recommended the use of the ULDP as a stopgap to address the root causes until full development and implementation of formal training. The MOLGA report concluded with a final comment that the work group had ended up with findings and recommendations similar to those in the 1999 JONA report, indicating an ongoing systemic problem that requires change to the organizational culture.[48]

In 2011, CG-133 and the LDC co-chartered a work group to "conduct a meta-analysis of 12 years of Coast Guard Leadership and Professional Development studies and provide recommendations to improve officer professional development."[49] The study was titled, "Growing Officers and Adaptive Leaders (GOAL) Report: Preparing U. S. Coast Guard Officers for an Unpredictable Future." The study began assessing the current state of leadership development for USCG officers, described as an experimental model influenced by assignment history. The authors further characterized the program as an unbalanced leadership delivery system because officers receive a varying degree of leadership experience based on the wide range of USCG officer positions (i.e. afloat, ashore, logistics, intelligence, etc.). The work group then looked to the future and concluded that the experience-based model would not equip officers for the emerging missions, threats, and technological advances the service faces. To reinforce this point, the report cited a 2010 Coast Guard Academy cadet study that highlighted USCG leadership weaknesses during responses to Hurricane Katrina, the Deepwater Horizon incident, and the Haiti earthquake. Based on the review of twelve years of research, the work group recommended that three formal leadership courses be developed: Milestone Course (O2 level), Cornerstone Course (O4 level), and Keystone Course (O5 level). The report went on to

provide recommended curriculum for each level, cost calculations, a four year implementation plan, and the way ahead. It was not lost on the work group that previous leadership development initiatives did not produce meaningful change. The report examined all 91 recommendations from seven previous studies and found that only 20 of 91 (22%) were implemented. Thirteen of the twenty recommendations were implemented at the initial leadership training at accession sources (i.e. CGA and OCS), suggesting additional training in those areas would be redundant. The work group concluded that the keys to success for improved leadership training and education lay in developing an implementation plan and achieving widespread support throughout the service, especially at the senior officer level.[50]

Upon completion of the GOAL Report, the work group presented their findings to the Deputy Commandant for Mission Support (DCMS) who served as the flag sponsor for the program. DCMS identified the Cornerstone Course (O4 level) as the highest priority and tasked the work group with developing curriculum for the course and conducting a one year pilot program. In turn, the work group produced the MOCTC Training Requirement Analysis Report that contained recommended curriculum topics and a pilot course model. The curriculum topics emerged from surveys with all active duty USCG O4s and O5s, interviews with USCG flag officers, O6s, and Ph.Ds, and consultation of senior and intermediate level JPME courses. The pilot course model used a blended format consisting of online training and a resident session to optimize limited resources. After a successful pilot course, full implementation of MOCTC followed as a voluntary leadership course for midgrade officers, and eventually split into MOCTC 1 for O3s and MOCTC 2 for O4s to address the specific leadership requirements for senior Lieutenants and junior Lieutenant Commanders.[51]

The evolution of MOCTC, albeit decades in the making, serves as a developmental model for the future implementation of the Milestone and Keystone courses, and as an encouraging reminder that USCG officers and civilians desire formal leadership development opportunities and persist in seeking them. The course is not likely to grow enough to support 100% of USCG midgrade officers and civilians in light of current funding and staff levels.[52] Therefore, the resident and non-resident JPME-I courses continue to serve as a viable alternative for midgrade officer and civilian leadership development while the USCG continues to build its PME capacity. Moreover, increased JPME-I participation by USCG midgrade officers provides additional benefits to the service as well. To appreciate those advantages, one need only compare the educational opportunities currently available within the USCG with the features of JPME, in terms of both cost and substance.

USCG Benefits of Increased JPME Participation

"More than ever, the Coast Guard needs leaders who yearn to be not only the best ship drivers or pilots or marine inspectors, but the best maritime security professionals. The service needs to prepare its officers to assume strategic responsibilities within the service, the Department of Homeland security, and the nation."

-USCG Captain Francis J. Sturm, 2006

The organizational benefits of JPME-I are many, such as improvement to the USCG capability to lead and support DoD missions, mitigation of a service culture that is slow to meet PME needs, and introduction of new ideas with which to invigorate USCG methods and procedures. The USCG currently has a successful program at the CGA that tasks fourth year cadets with developing new and innovative solutions to existing problems within the service.[53] A JPME-I master's thesis could also engage the USCG's toughest challenges, but from a seasoned, midgrade officer and civilian perspective. These benefits alone do not justify increased participation of JPME-I over other USCG advanced degree programs. However, a number of

other organizational benefits do justify replacing a certain amount of advanced degree programs with JPME-I.

Meeting Staffing Obligations

The first organizational benefit of additional JPME is the improved fulfillment of service requirements under the USCG's Officer Specialty Management System (OSMS). The OSMS assigns specialties and subspecialties to active duty and reserve positions to ensure that officers detailed to those billets have the appropriate competencies, training, education, and experience to accomplish job-related tasks.[54] The Defense Operations and Readiness subspecialty, code CG-OAR12, is not currently supported with enough JPME-I graduates to guarantee that qualified officers are assigned to those positions. There are 243 CG-OAR12 coded positions in the USCG with an average of nine JPME-I graduates per assignment year to fill the officer specialty requirements.[55] While only 58 of the 243 positions are active duty billets, the reserve billets include demanding assignments such as command cadre positions with the eight USCG Port Security Units (PSUs) that deploy overseas for upwards of 12 months in support of DoD-led operations.[56] The active duty billets fill critical staff positions at the White House, War Colleges, Geographic and Functional Combatant Commands, the Joint Chiefs of Staff, and several other high-profile US Navy (USN) and USCG assignments.[57] In addition to the OSMS requirements, the USCG routinely fills several flag level staff positions at Combatant Commands and the Joint Chiefs of Staff. For assignment year 2019, USCG flag officers received assignments as J3 – US Southern Command, J7 – US Cyber Command, Deputy J3 – US Northern Command, Director – JIATF South, Director – JIATF West, and DHS Military Advisor to the Secretary. Department of Defense (DoD) general and flag officers are required to qualify as Joint Service Officers (JSOs) for the same type of positions, which includes the completion of both JPME-I and JPME-

II requirements.[58] Sending less than 1% of USCG midgrade officers to resident JPME-I significantly decreases the probability that senior and flag officers assigned to joint and defense-related positions will have the JPME certifications expected of them. Given the operational significance of these active duty, reserve, and flag positions, the USCG must assign only qualified officers to these billets. Failure to fill these positions with JPME certified officers places a burden on the assigned officer and the receiving unit that has to bring the member up to speed.

The main obstacles to gaining more JPME-I certified officers in the USCG are financial and personnel limitations. Each assignment year, the USCG allocates Training Allowance Billets (TABs) for post graduate programs based on the annual budget. JPME-I is treated as an advanced degree program by the USCG, so each year the program manager must submit a request for JPME-I TABs with a justification for the number of course seats. In assignment year 2019, only seven JPME-I seats were allocated out of 164 approved post graduate TABs.[59] The USCG also needs to balance the number of officers that attend JPME-I and post graduate school with the active duty positions that must be filled. Military force strengths are legislated by Congress, so the USCG cannot unilaterally increase its number of officers to allow more service members to attend advanced education.

Based on these limitations, the USCG should consider shifting more advanced degree TABs to JPME for three reasons: First, JPME is tuition-free, so more funding is available for high tuition programs. Second, JPME is only 10 months long, so students earn JPME credit and a graduate degree within one assignment year and return back to the work force. Third, JPME provides a unique blend of training and education that fulfills both advanced education and leadership development requirements. JPME-I graduates earn JPME credit, a master degree, and

formal leadership development in a tuition-free 10 month course, while advanced degree programs offer a master degree over a two to three year period for which the USCG pays. In a resource- and personnel-constrained service, JPME clearly gives a more cost-effective option for advanced education if the goal is to raise the level of individual military professionalism and provide developmental incentives to deserving officers.

Filling PME Gaps

Another reason the USCG would benefit from more JPME-I is that it provides additional leadership development opportunities to a service that has no mandatory officer PME program. Despite multiple USCG chartered studies that all recommended increased levels of professional development for its officer corps, the service has continued to maintain a broad range of leadership courses that are only available to approximately 10% of midgrade officers.[60] The current state of officer PME in the USCG will likely remain the same in the absence of an external mandate or a major shift in service culture. Therefore, the USCG needs to leverage every cost-effective source of leadership development available to reduce the gap between the officers who receive formal leadership training and those who do not. Resident and non-resident JPME-I courses can fill this gap. While the resident courses are limited to officers who received TABs through the application process, any midgrade civil servant, active duty, or reserve officer can enroll in non-resident courses provided by any of the DoD services. Non-resident JPME-I is available through seminar, web-enabled, or as CD-ROM courses – thus providing a variety of options to complete the training. The USN and US Marine Corps (USMC) provide seminar courses at 31 different locations across 13 states that are near USCG duty stations.[61, 62] Additionally, the USN and US Air Force (USAF) offer web-enabled and CD-ROM courses that provide more flexibility for officers deployed overseas or afloat.[63] In other words, every

midgrade USCG officer or civilian has the opportunity to complete non-resident JPME-I tuition free, through a variety of means, anywhere in the world.

JPME-I is not the same curriculum that the USCG teaches at the Midgrade Officer and Civilian Transition Course (MOCTC) 1 for O3s and MOCTC 2 for O4s; however, the USCG *Leadership Development Framework Manual* (COMDTINST M5351.3) does list the Naval War College Fleet Seminar Program (JPME-I) as one method of gaining competence in three of the four major leadership categories outlined in the policy (see Figure 2).[64] The USCG used the service's 28 leadership competencies as the foundation for its midgrade officer leadership development course. The 28 competencies are categorized into four broad groups: leading self, leading others, leading performance and change, and leading the USCG. The four overarching groups have seven to nine subcategories each, equaling a total of 28 competencies.[65] In comparison, the Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 1800.01E guiding JPME-I curriculum, lists a total of 31 learning areas broken down into six major categories with three to eight subcategories each.[66] The USCG's Leadership Development Framework manual published in 2006 states that JPME-I covers 19 of the 28 USCG leadership competencies, yet developments in the JPME-I curriculum over the past 12 years suggest that at least four additional USCG leadership sub-competencies are taught by JPME-I, increasing the total to 23 of 28 competencies covered.[67] Given the curriculum similarities, JPME-I presents a reasonable alternative to MOCTC in light of the latter's limited availability.

LEADERSHIP EDUCATION AND PROFESSIONAL DEVELOPMENT COMMISSIONED OFFICERS	Leading Self						
	Accountability & Responsibility	Aligning Values	Followership	Health & Well Being	Self Awareness & Learning	Personal Conduct	Technical Proficiency
ACCESSION POINT:							
Coast Guard Academy	-- *TO BE DETERMINED* --						
Officer Candidate School	-- *TO BE DETERMINED* --						
RESPONSIBILITY LEVEL TWO (W-2, O-1/2)							
CWO Professional Development	-- *TO BE DETERMINED* --						
Unit Leadership Development Program (ULDP)	X	X	X	X	X	X	X
USCG E-Mentoring	X	X	X	X	X	X	X
Commandant's Reading List	X	X	X	X	X	X	X
Voluntary Education (Tuition Asst, DANTES, SOCCOAST)	X	X	X	X	X	X	X
RESPONSIBILITY LEVEL THREE (W3/4, 0-3/4):							
Leadership Potential Seminar	-- *TO BE DETERMINED* --						
Supervisory Leadership Seminar	-- *TO BE DETERMINED* --						
Supervisory Leadership and Principles Skills	-- *TO BE DETERMINED* --						
Seminar for New Managers	-- *TO BE DETERMINED* --						
Civilian Personnel Procedures for Supervisors	-- *TO BE DETERMINED* --						
Management Development Seminar	-- *TO BE DETERMINED* --						
Naval War College (Fleet Seminar Program)	X	X	X	X	X	X	X
Advanced Education Program (Leadership & Organizational Behavior)	X	X	X	X	X	X	X
Unit Leadership Development Program (ULDP)	X	X	X	X	X	X	X
USCG E-Mentoring	X	X	X	X	X	X	X
Commandant's Reading List	X	X	X	X	X	X	X
Voluntary Education (Tuition Asst, DANTES, SOCCOAST)	X	X	X	X	X	X	X

Figure 2: Methods for Gaining and Maintaining Competence

Source: US Coast Guard, *Leadership Development Framework*, Commandant Instruction M5351.3, May 9, 2006, 4-15.

Learning Emerging Methodologies

A third benefit of additional JPME-I is formal training and education in emerging DoD methodologies that can help the USCG fulfill its mission in a 21st century environment. For USCG members who do elect to participate in JPME-I, the course design and academic rigor will certainly challenge even the most adroit students, providing them with a new perspective on contemporary problems and how best to approach them. When the joint and interagency doctrines and methodologies learned by JPME-I are cross-pollinated with USCG planning and operational processes, the service is better equipped to succeed equally in USCG-centric, joint, and interagency operations. Understanding of joint doctrine and methodologies has become

increasingly important, not only for USCG officers assigned to joint and defense related positions, but for any officer or civilian who will potentially work with DoD units during man-made and natural disaster response.

One relatively new methodology first published as US Army (USA) doctrine in 2010 is Operational Design, commonly known as just Design. Design is defined in USA Doctrinal Publication (ADP) 5-0 as "a methodology for applying critical and creative thinking to understand, visualize, and describe complex, ill-structured problems and develop approaches to solve them."[68] The USA, and all the DoD services soon after, adopted this methodology largely based on the military's recent experiences with counterinsurgency operations (COIN) and nation-building.[69] These campaigns produced enormous challenges that highlighted the limitations of traditional planning and operational processes. Debate continues as to whether modern conflicts are more complex than past wars, but consensus holds that all military operations are inherently complex, making traditional means of mission analysis inadequate.[70]

Operational Design Methodology

"Design does not replace planning, but planning is incomplete without design. The balance between the two varies from operation to operation as well as within each operation. Design helps the commander provide enough structure to an ill-structured problem so that planning can lead to effective action toward strategic objectives."

-General James Mattis, 2009

The consensus around the inherent complexity of military operations and the need for Design, stems partially from the collective study of Carl von Clausewitz's magnum opus, *On War,* and the organizational acceptance of systems theory as a legitimate form of science. In *On War,* Clausewitz explained that exact analytical solutions cannot be derived for the problems posed by conflict because the nature of war involves the element of chance, which is an

unpredictable variable that cannot be reduced.[71] Clausewitz suggests that, as one cannot forecast the outcome of any conflict, one must grapple with the element of chance by estimating probability and employing intuition, informed by one's personal experiences and the vicarious experience of having studied other commanders.[72] Although the science of systems theory had not yet emerged during Clausewitz's time, he seemed to possess an advanced understanding of the interactively complex, systemic nature of human conflict that modern militaries are just learning, or relearning today.

System Theory

System theory, while not developed for the purposes of warfighting, reinforces some of the ideas that Clausewitz wrote about more than 150 years earlier.[73] Take, for example, the concept of complexity in system theory. Complex systems arise from the interactive behavior of a large number of component parts. A system may be structurally complex in that the parts can be disassembled and reassembled to form the same system.[74] One can predict their behavior to a large degree, because they respond consistently to each other and to a variety of influences; they exhibit causality. Many products of engineering – ships, aircraft, and weapons systems of all kinds – are structurally complex. By contrast, a system that is interactively complex comprises components that interact with and adapt to each other over time.[75] Their properties exhibit not causality, but rather emergence: at no particular point can we identify the cause of the current state. The behavior of such a system is therefore difficult to model or predict. The planet's weather is an example of an interactively complex system. Meteorologists try to model it, but seldom predict it accurately much in advance because of the complex interactions between its components (wind, temperature, humidity, precipitation, etc.).

Many forms of societal interaction can also be thought of as complex systems, including armed conflict and law enforcement actions against Transnational Criminal Organizations (TCOs). Predicting the outcome of a conflict or a law enforcement operation is extremely difficult because the many human components make individual decisions on the basis of each other's behavior over time, each actor striving to behave autonomously even as they all continually adapt to one other. The range of human choice and ingenuity involved is immense, as is the range of "chance" introduced through externalities such as seasonal weather, natural terrain, and many other environmental factors beyond human control.[76] Compounding these externalities are aspects of human behavior such as the "friction" induced by fear, fatigue, and confusion that leadership must strive to counter or mitigate.[77] Add to this mix the sheer uncertainty of information inherent in ongoing events and one has a sense of military or law enforcement operations as a complex system. As Clausewitz himself noted, tactical problems focused on a single weapon system and targeting a single enemy unit within a tight timeframe may lend themselves to mathematical analysis and engineering solutions. However, campaigns unfolding over time and space will become more operationally complex and quickly defy prediction, calculation, or standard operating procedures.[78] This phenomenon is observable through decades of US joint and interagency COIN operations in Afghanistan and CD operations in the Eastern Pacific and Caribbean Oceans.

Nonlinear Systems

The USCG has experienced the unpredictability of interactively complex systems over its 40 years of counter drug operations because components such as TCOs, partner nations, and their respective law enforcement organizations, all complex human systems themselves, interact with and adapt to each other over varying degrees of space and time. USCG interdiction efforts

within this operating environment manifest nonlinearity, as the output (quantity of drugs interdicted) does not track consistently with increased input (quantity of USCG assets applied) when plotted on a graph. In other words, the input of USCG assets is not proportional to the output of drugs seized and does not produce a straight line when graphically represented (see Figure 3).

For example, the International Narcotics Control Strategy Reports (INCSRs) from 2012 to 2016 show a counterintuitive relationship between the amount of USCG patrol activity and the quantity of drugs removed. In 2013, the USCG increased its cutter patrol time by approximately 53% (1,000 days), but drug removal decreased by about 30% (38 metric tons less) than the year before. In 2016, the USCG experienced a record-breaking year for drug removal despite a reduction in cutter and Law Enforcement Detachment (LEDET) deployment times. These statistics represent the behavior of a nonlinear, interactively complex system because inputs are not proportional to outputs, unlike linear systems.

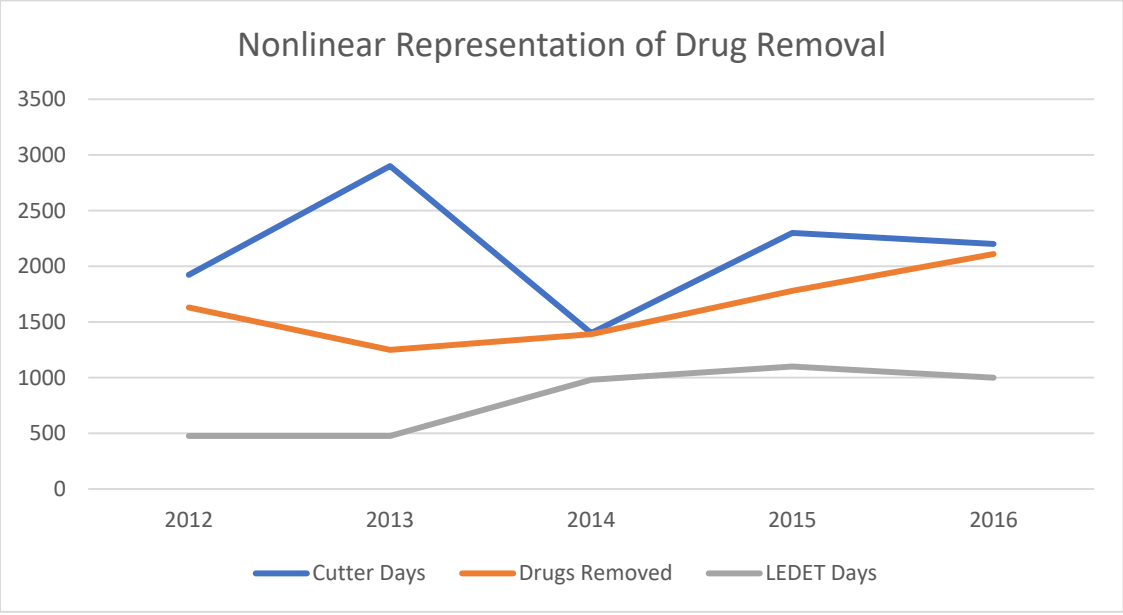

Figure 3: Nonlinear Representation of Drug Removal

Source: Created by author. Data compiled from INCSRs (2012 to 2016)

Complex, ill-structured problem sets such as drug smuggling by TCOs, require nonlinear analytical and planning methodologies such as Design, which begins with an effort to understand the system within which one is operating.[79] It strives to identify the parts and their interactions and to understand where one may – or may not – be able to influence those relationships, as well as to anticipate how one might experience environmental feedback. Design thus depends on a constant effort to gather intelligence, continually expanded and updated as the planning process moves forward. The system in question must interact with its environment, incorporating energy in some form so as to sustain itself. With Design, one identifies how to inject energy into a nonlinear system so as to influence its behavior to change in a general direction, without claiming to be able to achieve a precise level of improvement, let alone a fixed "end state." Design thus became especially valuable to the US military in the course of conducting counterinsurgency (COIN) operations, above all in societies lacking stable central governance, such as Iraq and Afghanistan. The DoD teaches Design through service specific PME and JPME courses. For the USCG to understand this methodology and apply it to missions such as CD operations, the service needs to increase its participation in JPME or incorporate Design methodology into USCG planning and leadership development courses.

USCG Utility

While the USCG is not directly involved with DoD operations like COIN, Design has utility to the service because of the complex nature of its maritime operations. Reactive, short-notice USCG missions (i.e. search and rescue, pollution response, marine casualties, etc.) do not lend themselves to deliberate planning or Design. However, the application of Design to more pro-active and extended missions such as counter drug (CD), maritime law enforcement (MLE),

and migrant interdiction operations (MIO) has merit, particularly as the USCG in such cases is dealing with multiple human actors making multiple autonomous decisions subject to multiple external and internal sources of chance and friction. The nonlinearity of these missions is evident and calls for the application of Design methodology. In fact, Joint Publication 3-25, *Countering Threat Networks* (CTN), lists COIN and CD operations as activities associated with CTN and the need to apply Design before deliberate planning.[80] The association between COIN and CD suggests an application to other USCG missions as well.

In the absence of Design, the USCG lacks any doctrine or methodology that gains a systemic understanding of the operational environment by describing the current state and desired changes, defining the problem set, and developing an operational approach to inject energy into the system so as to change its behavior in the desired direction. As a result, USCG commands are left to plan operations without a systemic view of the operational environment, leading staffs to construct a more linear approach to nonlinear problems, which overlooks the potential for understanding not only the limits of some lines of effort but also the potential for incorporating additional ones (see Figure 4). USCG officers who attend JPME learn Design methodology and could facilitate the adoption of this process or any number of joint concepts that provide value to USCG operations. To show the utility of "system thinking" in USCG operations, the following section of the paper demonstrates the application of Design to the *USCG Western Hemisphere Strategy*.

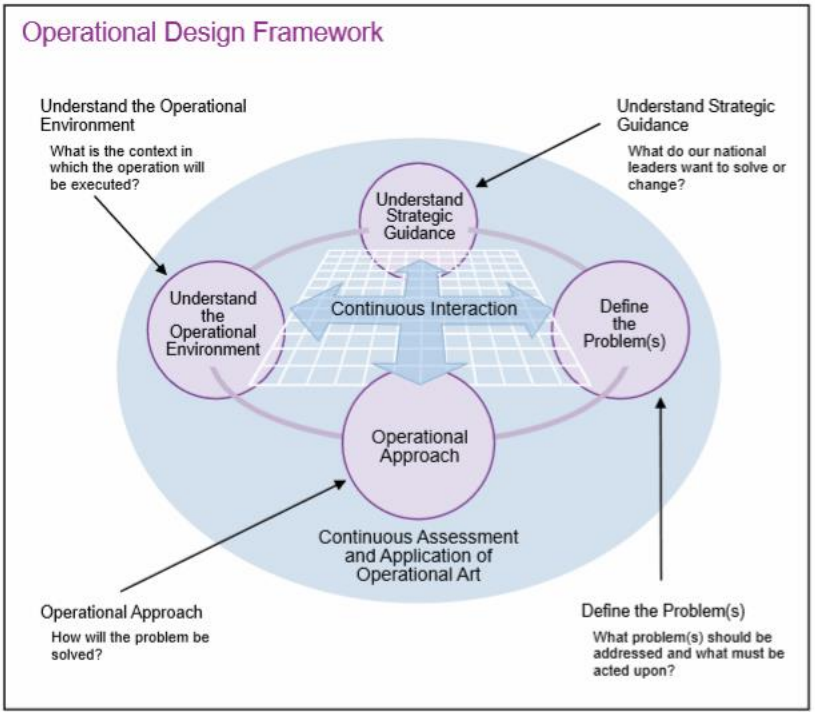

Figure 4: Operational Design Framework

Source: US Department of Defense, *Joint Planning*, Joint Publication 5-0, June 16, 2017, IV-7.

Application of Design to the USCG Western Hemisphere Strategy

"Our efforts in combating networks will focus on three areas: understanding networks and fostering network culture; identifying networks; and targeting and prosecuting networks."

-USCG Western Hemisphere Strategy

"A network is a group of elements consisting of interconnected nodes and links representing relationships or associations. Sometimes the terms network and system are synonymous."

-JP 3-25, Countering Transnational Organizations

The word "network(s)," which is closely related to the word "system(s)," is used over 130 times in the 59-page *USCG Western Hemisphere Strategy*; however, the word is not used in any other USCG doctrinal publication or commandant instruction.[81] The USCG lacks formal policy to guide any USCG strategy-related efforts based on understanding, identifying, or

targeting networks. By comparison, joint military doctrine includes Joint Publication 3-25, *Countering Threat Networks*. As part of its methodology, JP 3-25 provides guidance on Joint Intelligence Preparation of the Operational Environment (JIPOE):

> A comprehensive, multidimensional assessment of the OE will assist commanders and staffs in uncovering threat network characteristics and activities, develop focused operations to attack vulnerabilities, better anticipate both the intended and unintended consequences of threat network activities and friendly countermeasures, and determine appropriate means to assess progress toward stated objectives. JIPOE is the first step in identifying the essential elements that constitute the OE and is used to plan and conduct operations against threat networks. The focus of the JIPOE analysis for threat networks is to help characterize aspects of the networks.

JP 3-25 places particular emphasis on the fact that the threat network "has its own version of the OE that it seeks to shape to maintain support and attain its goals."[82] In effect, then, the threat network and the operating environment it seeks to control and exploit from, together, represent an ill-defined, ill-structured system. Such a system is best understood through the methodology of Design.

Different services have developed their own approaches to Design. The Marine Corps Design Methodology describes one such approach, including the development of solutions to ill-structured problems. Such problems are "complex, nonlinear and dynamic." The steps of the design process in turn allow commanders to understand the current and desired states of the complex, nonlinear and dynamic operating environment, frame the problem set within that context, produce the operational approach, and reframe through planning and execution. Within this process, design becomes a way for the organization to sustain continual learning, enabling improved adaptation of solutions to the problem.

As a planning methodology, Design thus enables commanders to understand the threat network as an ill-structured system, before issuing planning guidance and commander's intent.

Transnational criminal organizations constitute one such category of threat network. Design may serve well to help the USCG understand the larger operational environment within which it must craft its own approach to the counter-drugs problem. Once the USCG has gained operational experience with Design, the service could develop its own methodology that better serves its specific planning and mission requirements. To gain some perspective on what the application of Design would look like for the *Western Hemisphere Strategy*, the following example examines USCG CD operations through the lens of Marine Corps Design Methodology.

For the purposes of this paper, the following scenario is a generalization because of law enforcement sensitivities involved with exposing specific tactics. The hypothetical example will employ the Marine Corps Design Methodology to: 1) Describe the Current and Desired States of the Operational Environment, 2) Define the Problem Set, and 3) Produce the Operational Approach.[83] This scenario does not apply to the Joint Operating Area (JOA) of Joint Interagency Task Force – South (JIATF-S), which encompasses the international waters located South of US territorial waters. The example will use the historical threat vectors that orient toward the Gulf of Mexico and the coast lines of California and Florida (see Figure 5). The threat vectors inside of US territorial waters represent a sub-system, or sub-network, of TCO's overall narcotics smuggling operation. The components of this sub-system – at the most basic level – involve TCOs attempting to smuggle narcotics from Mexico to the continental United States; US law enforcement agencies (LEAs) at the international, federal, state, and local levels attempting to deter, detect, and interdict illicit narcotics; the US intelligence community (IC), and illicit drug users within the United States.

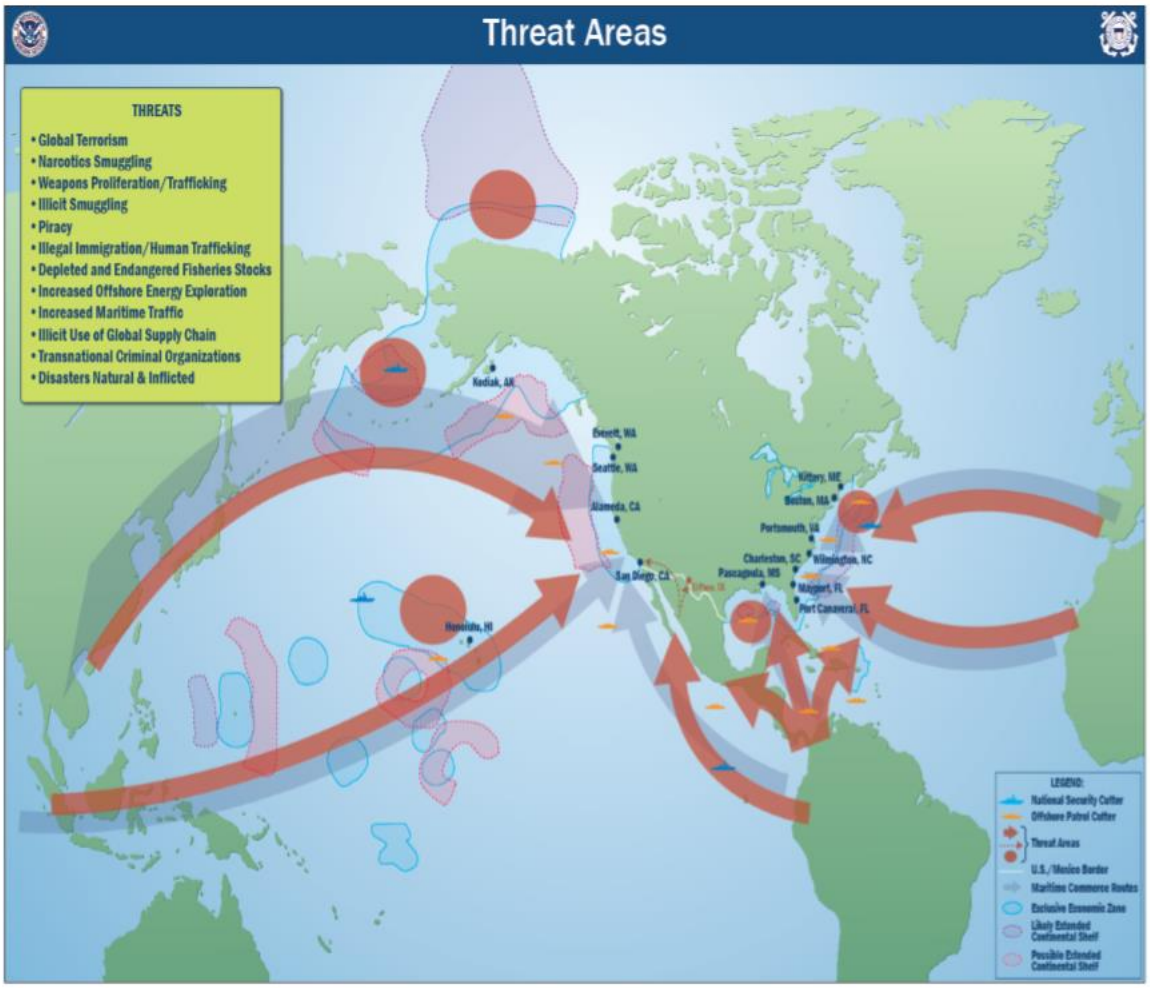

Figure 5: Narcotics Smuggling Threat Vectors

Source: US Department of Homeland Security, *Operations*, Coast Guard Publication 3-0, February 2012, 14.

Describe the Current and Desired States of the Operational Environment

Current State Narrative (notional): Less than 90% of drug flow is interdicted at sea by JIATF-S within the JOA. TCOs maintain the initiative over physical and moral factors involved with illicit drug activity in the vicinity of US territorial waters. LEAs assume a reactive posture because of limited intelligence, deception, political support, and unity of effort across all

instruments of national, state, and local power. The Office of National Drug Control Policy (ONDCP) lacks strategic aims from which campaign and operational plans can be derived for supply reduction. The current opioid crisis is changing public perception about the use of controlled substances and the enforcement tools used to address the problem. TCOs leverage abundant intelligence, a porous border, freedom of movement, and evolving drug and immigration laws to evade interdiction and gain empathy from the American public. Multiple US and international LEAs are engaged in counter drug operations; however, there is no unity of effort because of competition over authorities, jurisdiction, funding, and relevance. A collective LEA effort is not synchronized to optimize effectiveness and efficiency. TCOs exploit the seams and gaps they find in the compartmentalized approach by LEAs to enforce drug laws. TCOs adapted their tactics to take advantage of current political sensitivities toward US immigration policy, recreational drug laws, and the opioid crisis. For example, smuggling networks are commonly trafficking "mixed loads" of controlled substances and foreign nationals to deceive LEAs of their true intentions and gain a tactical advantage.

Desired State Narrative (notional): A comprehensive US counter drug policy that employs a whole-of-government approach and incentivizes partnership between LEAs at the international, federal, state, local, and tribal levels. Intelligence driven operations that gain LEAs the initiative and positions TCOs in a reactive posture. Implementation of an information operations (IO) initiative to legitimize LEA counter drug activities and message the negative impacts of illegal drugs on America's health, economy, and moral fiber. Integration of electronic signature technologies to deceive TCOs of LEA presence in the sea, air, land, and cyber domains, in order to degrade TCO freedom of movement and gain the tactical initiative. TCOs respond by spending a high percentage of profits to circumvent adaptive, integrated, and

layered LEA counter drug operations. Dwindling drug profits and political acceptance of LEA actions makes TCOs consider alternative markets.

Define the Problem Set

Problem Set Narrative (notional): DTOs exercise freedom of movement because of superior operational intelligence and increasing American empathy (physical and moral factors).

Political: President and Congress focused on land border smuggling routes.

Military: Current political sensitivities with use of military to enforce the border.

Economic: DTOs have more financial resources than LEAs.

Social: Opioid crisis has changed the US public's opinion about drug enforcement.

Information: Immigration debate has changed the narrative on border enforcement.

Infrastructure: Land border wall debate distracts from maritime threat vectors.

Physical Environment: Vast maritime threat vector requires substantial LEA assets.

Time: LEAs are limited to budgetary caps for personnel and asset patrol durations.

Produce the Operational Approach

Operational Approach Graphic (notional):

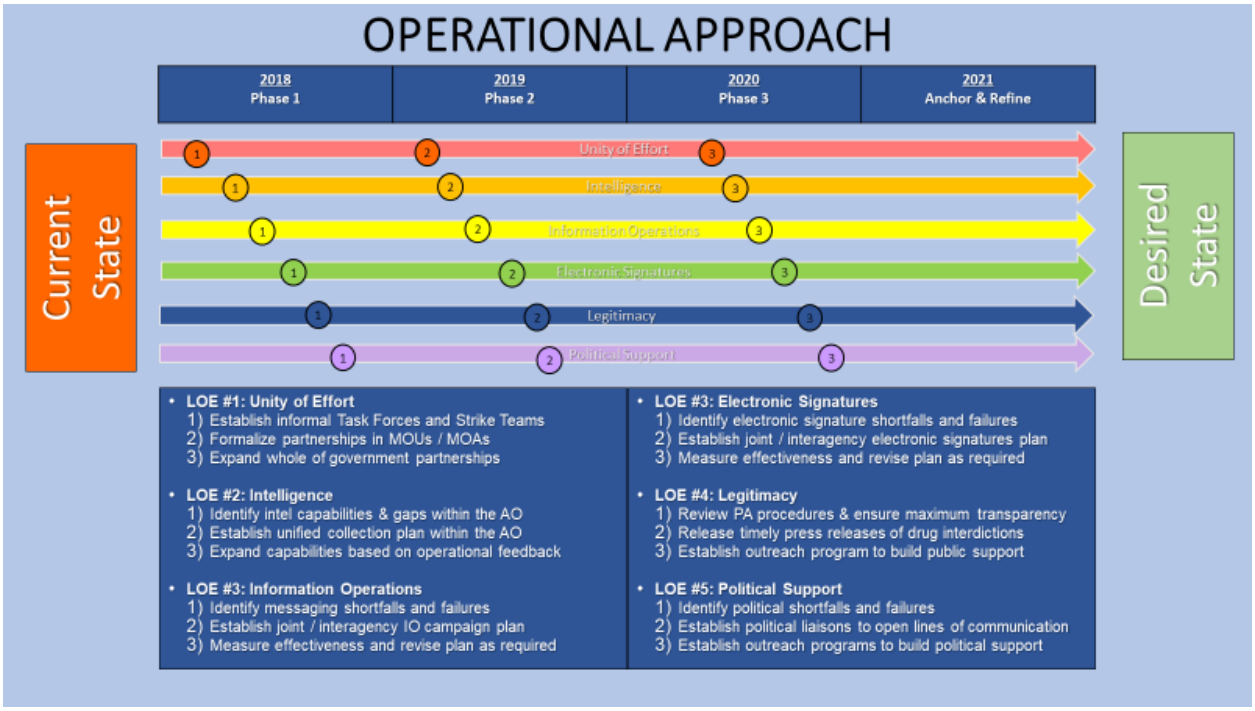

Figure 6: Example Operational Approach Graphic

Source: Created by author.

While this example is a generalization of the operational environment, one can understand how Design can help the commander understand, visualize, and describe the problem set at hand. Without this broad and holistic view, commanders cannot see the entire network and all components that make up the interactively complex system. In turn, commanders could potentially issue incomplete planning guidance or commander's intent, prolonging the operation and allowing the situation to become more complex as the system interacts with the environment. The USCG does not employ a methodology to assist commanders in understanding, identifying, and targeting networks even though the service engages with problem sets that represent interactively complex systems. As a result, the USCG plans and

executes operations at a disadvantage and runs the risk of strategic failure because it lacks the skills to conceptualize all lines of effort and synchronize them in a unified approach.

Within the USCG, the current CD paradigm, which Thomas Kuhn defines as a set of rules and assumptions for conducting normal operations, is likely to remain the same until it reaches complete failure or is changed from within.[84] Design methodology allows the USCG to view the CD mission through a broader aperture, recognize the anomalies within the paradigm, and make a bid for change. JPME-I presents an avenue for adaptation in CD operations – and all mission sets that face today's emerging threats – because its students are able to immerse themselves in an academic environment for 10 months and think critically about complex problems through the subjects of leadership, history, national security, and joint/interagency doctrine, including Design. The more the USCG invests in JPME, the more equipped its officer corps will be to engage with 21st century's challenges.

Recommendations

"PME is to be used as a strategic asset to build trust and interoperability across the Joint Forces and with allied and partner forces."

-2018 National Defense Strategy

A number of recommendations follow from these considerations:

- Remove JPME-I from the annual advanced education application process, and automatically assign the maximum number of TABs (approximately 20) to resident JPME-I each assignment year. JPME-I is tuition-free, so the program manager does not need to justify its value to other postgraduate degrees that that require funding. The Marine Corps Command and Staff Course (CSC) quotas should be increased and filled as a priority given its less than 50-mile distance

from the National Capital Region (NCR) and the fact that the majority of JPME billets are assigned to the NCR. Additionally, the Marine Corps CSC requires the completion of a thesis to earn the master's degree (unlike the Naval War College CSC), which presents more opportunities for detailed research on the USCG's most challenging issues.

- Earmark at least four resident JPME-I TABs for reserve officers until the deficit of JPME certified reserve officers is closed. There are 196 CG-OAR12 coded reserve positions that support DoD missions that would greatly benefit from JPME certification. An effort is needed to close the gap of non-JPME certified reserve officers filling key CG-OAR12 billets.
- Earmark two JPME-I TABs for advanced intermediate level JPME courses (USA School of Advanced Military Studies, USMC School of Advanced Warfighting, USN Maritime Operational Planners Course, and USAF School of Advanced Air and Space Studies) for each AY. If no USCG applicants are accepted into advanced courses that AY, the TABs can be used to fund alternates on the resident JPME-I selection list. Advanced intermediate JPME is considered "academic ranger school," designed to prepare the most promising officers for highly demanding follow-on assignments that require mastery of operational art and planning. The Marine Corps and Navy advanced courses should receive priority because of their maritime focus.
- Incentivize officers to complete JPME-I non-resident seminar, web-enabled, and CD-ROM courses by making JPME-I a prerequisite for the most competitive joint/interagency special assignments and operational/staff positions.

- Budget funding to host Naval War College Fleet Seminar Programs (JPME-I) in locations of high O3/O4 density to provide more accessible non-resident JPME-I opportunities to USCG officers and civilians. Hosting allows the USCG to coordinate the location and schedule to fit its members' needs and could increase participation levels.
- Coordinate with other military branches to develop a USCG- and interagency-centric JPME-I course in the NCR, and possibly NORTHCOM and SOUTHCOM, to focus on USCG/interagency interoperability for joint/interagency missions such as Counter Drug, Homeland Defense, Homeland Security, and Defense Support of Civil Authorities operations.

Conclusion

"The nation that will insist on drawing a broad line of demarcation between the fighting man and the thinking man is liable to find its fighting done by fools and its thinking done by cowards."

-Lieutenant General Sir William Francis Butler, 1889

The USCG has a storied history of protecting those on the sea, protecting the Nation from threats delivered by the sea, and protecting the sea itself. Because the USCG is continuously executing its missions, whether the Nation is at war or not, the service has become the most operationally proficient branch of the US military. The culture that honed USCG's operational prowess, though, may hinder the service's ability to be *semper paratus* in the near future if it does not evolve from an organization of doers to an organization of strategic thinkers. The USCG Evergreen initiative has paid off by identifying future operational, personnel, and asset requirements, but now the USCG must invest in the education of its officers charged with executing those missions in an increasingly complex operational environment, which requires

skills to bring structured thinking to ill-structured problems. As new challenges emerge and resources become limited, the USCG will become more dependent on interagency relationships and the ability to operate effectively in a joint environment. The USCG is not well poised to perform in a joint environment with less than 1% of its midgrade officers attending resident JPME-I. While some midgrade officers take it upon themselves to complete non-resident JPME-I on their own, such initiative is in short supply because there is no organizational incentive to do so. Now, more than ever, the USCG needs increased investment in JPME-I to fill leadership gaps and operate effectively in the joint and interagency environment.

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