

**External Review of the
Emergency Health Services Department
at UMBC**

Respectfully Submitted:

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First, we'd like to begin by thanking the administration at UMBC and the EHS Department for inviting us to review the EHS Department. The faculty and staff were incredibly responsive, candidly forthcoming with relevant information, and most cooperative. The information we gleaned from our short visit was exceptionally valuable and instructive to our task. Our report represents the summary findings of our multiple interviews and is prioritized with the most significant issues first. We also endeavored to make sure we answered each of the questions asked of us in the subsequent sections.

Second, we feel strongly that the UMBC EHS Department is clearly one of the premier emergency health education programs in the country. It enjoys a long-standing, favorable reputation, produces quality and accomplished graduates, and employs talented and highly credentialed faculty. It is a credit to the discipline of emergency medical services (EMS) and the national initiative to educate high-level EMS providers.

In our review, we discovered a variety of germane comments that helped to inform our goals. However, there were several preeminent and recurrent themes that we identified and are of particular importance. They are:

Faculty Replacement

Almost each of the interviewees commented, at some point, as to the need to replace faculty that are about to retire. The department is facing some emerging challenges that may threaten the quality of the instructional goals, as well as continued existence of the Department. Several senior faculty members are about to retire and, reportedly, there are no prospects to replace them. We both fully appreciate the paucity of qualified emergency medical service (EMS) educators that possess both the experience as well as the formal education credentials that are necessary to replace the talent at the EHS Department at UMBC. Given the urgency of this juncture, it is imperative that plans are in place soon to begin the replacement of the exceptional faculty that are about to retire.

This matter was so prevalent and foremost in most people's minds, that even the students expressed concern over the consequences of several of the faculty's imminent retirement. For the student to express this level of concern suggests that the magnitude of this threat to the department is not only real, but potentially damaging if it were not addressed soon.

It is understood that the process encumbered by faculty replacement may take approximately eighteen months. This, coupled with the paucity of qualified candidates for replacement, will place the EHS Program in a rather untenable situation whereby continued effective instruction of its coursework would be impossible. We believe this matter to be of the utmost importance in our review. It is strongly recommended that a national search be begun immediately in preparation for the replacement of at least two full-time faculty members.

In the interest of promoting the EHS Department and the EMS profession, it would be desirable if these replacements were in the tenured-track line of faculty. The need for formal credentials of EMS educators, faculty with a penchant for scholarly works, and those with the talent to grow the profession, underscores the importance of UMBC to maintain its high standard of faculty in the EHS Department. To maintain its premier status within the EMS education disciplines, UMBC should lead the charge for formal education with credentialed educators. Recruitment should include the major EMS journals, JEMS, EMS World, Prehospital Emergency Care with printed ads followed by extended web-based ads as a cost-efficient process. The National Association of EMS Educators and National Association of EMS Physicians have web-only options that are recommended. Based on the institutional focus and faculty credentials, other sites such as The Chronicle of Higher Education and others journals related to public health and policy should be seriously considered.

Resource Allotments

Another frequently cited concern was the inadequacy of facilities, in particular space allocations. Faculty, and students alike, indicated that there was an insufficient amount of classroom space for lectures and practical labs. Students reported being "thrown out of classrooms" when idle time was being used for study and

preparation to allow for other students to occupy the same classroom. Lab areas are particularly sparse in number and space. The reviewers found that an additional lab break-out room would benefit the EHS department considerably given the need for discrete skill development and portfolio scenario-based instruction in the future.

In addition to classroom space, there is also a need for equipment. The need for capital equipment is great since the most essential equipment – the simulation manikin – is outdated and on the verge of failure. This piece of equipment is germane to paramedic education and needs replacement as soon as possible. Other equipment deficiencies were also noted in ancillary devices, state-of-the-art training equipment (e.g., iSimulate, video laryngoscopy equipment, iSTAT, etc.), and new simulation equipment. Additional disposable supplies are also needed to support ongoing psychomotor skill development. With the advent of scenario-based education in the portfolio model, the utilization of disposable supplies is much greater than in the past. To subsidize this new demand, a higher lab fee should be assessed the students. Many EMS education programs across the nation assess lab fees between \$50 and \$200 per student, depending upon need and supplemental financing of expenses.

Budgetary Shortfalls

The budgetary support necessary for the execution of the EHS Department is inadequate. There is a consistent shortfall in the revenues produced by the department to support its function. This deficit in funding has been subvented by the revenues produced by PACE, an arrangement that is not viable long-term and an unreliable source of revenue for sustainability.

Enrollment numbers, the number of faculty FTEs, the faculty-to-student ratio, and the number of student credit hours (SCH) were examined in an attempt to discover the nature of this shortfall. While these data were informative, they were deemed inconclusive due to the uncertain nature of their origin. Furthermore, it was suggested that they were not reflective of the actual metrics of the department. We believe that it is in the best interest of the department and institution to explore the origin of these data and their accuracy in reflecting the department's financial and academic performance.

Additional Findings and Relevant Matters

In addition to the preeminent themes noted above, a number of relevant matters were discerned. A summary of those findings will be detailed here and organized by the provided guidelines for external reviewers.

a. *Please comment on the appropriateness of general goals and specific objectives of the program. How are they being met?*

The program has published goals and student learning objectives and an assessment plan is in place. Their self-study provides detailed evidence of stated educational goals, learning outcomes, and the departments actions of assessments, alignments, and revisions.

b. *What is the students' perception of the quality of the program and their evaluations of the faculty's teaching and mentoring?*

Students were very cognizant and proud of the level of quality in both graduate and undergraduate programs. Paramedic students described intentionally selecting this program based on its curricula and reputation as a program that goes beyond average programs in the area. We were excited to hear from first year students that they were fully aware that their choice of this program would enable them to advance within the profession and start their careers in EMS at levels above the average paramedic graduate. They were also aware that the successes of each of the programs in EHS were contingent upon the singular efforts of generally one faculty member for each of their programs. While this level of dedication and involvement by each faculty member is

admirable, this level of dependency of program success yields potential disastrous consequence upon that faculty member's departure.

c. *Are the proposed directions of growth of the program consistent with the nature, mission and overall plans and priorities of the College and the University? Please comment on the overall quality of the program relative to its aspirational peers.*

While the College does not have significant pressures to grow enrollments, the Department recognizes the need to increase enrollments in all programs. We recommend that the Department and College develop enrollment goals that balance the needs of the program with available resources and university standards pertaining to workload and faculty needs. We also recommend that the Chair and Dean work together to identify the metrics of student head count, student credit hour enrollment, faculty FTE, faculty head count, and credit hour to faculty FTE enrollments. We specifically shared with the Department Chair the importance of presenting the qualitative nuances of enrollment data. For example, there can be apparent discrepancies in university data involving faculty numbers that alter faculty-student ratios. Communication between the program and college is important to ensure data-driven decisions are made with as much precision as possible.

d. *What is the quality of the curriculum? Do teaching materials and pedagogical methods reflect state of the art within particular areas?*

Curricula are significantly different between the paramedic and graduate programs and their respective tracks. As EMS education is evolving, current pedagogy involves teaching methods that leverages active learning strategies, team-based and scenario-based learning, interdisciplinary/interprofessional education (IPE), flipped classrooms, and/or on-line course delivery. While UMBC employs many of these methods, there are opportunities for enhancement.

All faculty have articulated a clear commitment to contemporary adult teaching and learning principles. It was noteworthy that interviewed students welcomed some level of distance learning modalities within their respective programs. Nearly all of the undergraduate students interviewed were intrigued with IPE principles and welcomed working with students in other health disciplines. Interprofessional educational is an approach in which two or more disciplines collaborate in the learning process with the goal of fostering interprofessional interactions that enhance the practice of each discipline. All faculty and students recognized that their practice would involve working with others in complex clinical situations and were cognizant of the need to work collaboratively with a wide variety of health providers as practitioners.

We feel that interprofessional education opportunities would bring significant value to undergraduate and graduate students and could also serve as a potential area of research for graduate students and faculty. This later point is more salient for those graduate tracks that investigate the larger movements in health care that scrutinize costs and maximize efficiency of health care delivery.

We also recommend the program find creative ways to build relationships with UMB and the medical school. We recognize the difficulty of forming partnerships, especially when not embraced by all parties, but there would be fertile areas of partnership in training and research if these partnerships could be developed over time.

We also recommend increasing distance learning delivery methods across all programs. While distance education is not always the cost-saving panacea it is often perceived to be, it should be seriously investigated as a method to increase enrollments and to decrease classroom requirements especially in light of the frequently identified concern of programs needing additional classroom space.

As the program considers adopting or transitioning more courses to distance learning methods, faculty training is imperative. We recommend nationally-recognized quality assurance programs to assess their online programs (e.g., Quality Matters).

e. *Considering the program's assessment of student learning outcomes, discuss ways the faculty might most effectively "close the loop" by enhancing its use of the outcomes of assessment to improve teaching and learning.*

Outcomes for the paramedic program are aligned and approved by its national program accreditation. The program has detailed Student Learning Objectives that are aligned with the university and are reassessed through the Student Assessment Plan. The program documents curricular changes in their self-study which is an important process for closing the loop as well as college accreditation requirements.

f. *Is the level of scholarly work by faculty members in the program suitable for this program? Does the program as operating or planned provide sufficient opportunities for continued growth in quality of scholarship, creativity of faculty, and research opportunities for students?*

The EHS Department at UMBC has demonstrated considerable scholarly work that is suitable to the program and affords the faculty members ample opportunity for creative and original contributions toward the research and professional literature of the discipline of EMS. Given the limited nature of peer-reviewed research products within EMS venues, the EHS Department at UMBC contributes significantly toward this goal.

Undergraduate and graduate students have writing and research responsibilities within the curricula. It is particularly noteworthy that the graduate students have substantive opportunity to contribute to the EMS literature under the guidance of the faculty at EHS.

g. *Given your review, do you think the program resources are being used effectively? Are there other ways you can suggest for them to be used? Are there additional ways the program might generate revenue?*

The program makes full use of the available classrooms and equipment. The Paramedic program will require additional disposable and expendable supplies with the new training requirements of the National Registry and the Paramedic Psychomotor Competency Portfolio. The program's inventory of high-fidelity simulation (SimMan, Ambulance simulator) seems very minimal based on the programs enrollment and current national requirements for programs to increase the use of realistic training situations and use of simulation equipment. The SimMan model was noted to be outdated and the program should have an equipment maintenance and replacement plan as part of their budget planning process.

Having one FTE clinical coordinator is a minimal expectation for any typical paramedic program. The program will need to review the increased demands on programs for lab/skills instructors due to new PPCP requirements and the significantly increased demands for a program to track skills performance and competencies. This need is further heightened with students requiring more lab/skills practice with the new NREMT Psychomotor Exam criteria. Students did request more time for simulation practice within the paramedic program.

PACE is an integral component to the reputation and financial viability to the Department. Based on both our recommendations and from those of the faculty, PACE could be expanded with the investment of an online payment system and increased distance learning deliveries of existing and new courses. The historical and institutional challenges of both were discussed but we feel that finding solutions are possible and would increase enrollments, increase new course offerings, and as these both increase, serve a marketing component for the department as PACE expands.

Faculty are an institution's most valuable resource and UMBC should be proud of the dedication, reputation, and productivity of the EHS faculty. We were keenly aware of the issues facing the department with regard to

current workloads and impending faculty retirements. The problems EHS faces with recruiting and hiring qualified faculty is a significant concern with all similar programs in the country. We feel that this concern is even more poignant for this program with its focus on graduate education and research productivity. We clearly identified from all faculty, staff, undergraduate students, and graduate students that there is a fear for the future success of the program with the current and future need for faculty.

Undergraduate Management Track Program- While this track has a relatively low enrollment status, the content remains as an important component to the formal education of EMS providers. Several factors may explain this reduced enrollment status: (1) of all of the limited number of four-year degree programs in EMS across the United States most focus on management curricula, (2) many EMS providers do not regard management education as “exciting” or as meaningful to their careers, and (3) those EMS providers that will find management content important are likely those that are currently practicing as paramedics – not students of primary education. As such, we recommend that a strategy be developed to enable practicing paramedics to enroll in the undergraduate management track with advanced standing through the awarding of experiential credits from their paramedic certification. This modification, along with the delivery of the management curricula entirely online, will enhance the enrollment to this track considerably by recruitment from across the nation.

One model as to how this can be executed would be to determine what courses in the undergraduate degree are coincident with the core curriculum of the paramedic education (National EMS Education Standards). Those courses would be awarded to students entering into the major with existing paramedic certification as experiential credits. This would place that student in “advanced standing” in the major. With those credits contributing toward the major, the student would then proceed to enroll in the management courses entirely online. To recruit candidates to this “advanced standing” option, advertisements could be made in a number of journals, EMS association websites, and a variety of other venues. These can include *JEMS* and *EMS World* journals, the National EMS Educator’s Association (NAEMSE) website, the EMS educators Google Group, and similar media. By advertising the option of entering into a management track for EMS whereby the practicing paramedic can earn a Bachelor Degree with credit from their certification, it will open up an entirely separate segment of the EMS provider population and bolster the enrollment in the management major.

h. *To what extent does or should the program collaborate with other units of the University?*

Developing synergies with other educational units and departments should be an ongoing priority for the department. As previously identified, interprofessional educational (IPE) opportunities and partnerships with UMB would provide value to students, increase research opportunities, and encourage resource sharing. The IPE paradigm is a nationally growing trend for many health professions and has proven valuable for graduates in their performance in the workplace in the integrated delivery of care model for healthcare. The EHS Department at UMBC is in a unique position to leverage this opportunity.

i. *With regard to any resources identified as needed in the self-study or the external evaluation, which one is most urgent and/or most likely to benefit the program and how?*

Please reference our primary recommendations/findings at the opening of this report. We recommend the department provide a Resource Assessment Survey to students in all programs to better identify the program’s resources. Standard surveys would ask about the effectiveness of program faculty and teaching, physical resources, learning resources, student support services.

j. *Do the specialty concentration areas within the Department reflect the market need for EMS and Emergency Mgmt/Public Health education?*

We feel that these concentrations reflect both the needs in the EMS profession and UMBC’s program differentiation and academic home within the university. The graduate concentrations have a strong foundation of knowledge in emergency public health, disaster management, education, and emergency management.

Many other programs in the country are housed within academic health centers, schools of allied health, or programs of healthcare administration. The EHS programs' academic orientation towards the humanities and social sciences should be highlighted and serve as its foundation for marketing and outreach.

k. *Comment on the breadth of courses and material within the specialty areas.*

The specialty areas of the EHS curricula are somewhat unique to UMBC in that they all reside within a single institution and department. Furthermore, while there are some linkages and crossover benefits for EMS practitioners to gain formal education in many of these specialty areas, they do not represent a large segment of the provider population. While this may be perceived as having less relevance to the profession, the contrary is likely true. The growth and development of the EMS profession to gain parity with other allied health professions necessitates opportunities such as what students get at UMBC. Having the venue for EMS professionals to become formally educated in management, preventative medicine and epidemiology, as well as principles of education ensures this trajectory of professional development and growth of the discipline of EMS. In particular, we were excited to see the development of a doctoral opportunity for EMS within the arena of public policy. This new venture will hold exceptional value to the profession in the years to come.

The EHS Department's investment in the developing CP/MIH initiatives, clinical simulation, and emergency public health instruction are essential to the future of EMS professions. It is imperative that academic institutions, such as UMBC, continue to set the stage for the educational goals of these specialty areas.