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IS THE BAR FOR ENTRY INTO THE PRACTICE OF EMS TOO LOW?

by William J. Leggio, Jr., EdD(abd), MS NDR, BS EMS, NREMT-P

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INITIATING A COLLEGE WIDE INTERDISCIPLINARY SCENARIO TRAINING by Sally A. Cantwell, PhD(c), RN, and Jeffrey R. Grunow, MSN, NREMT-P

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Is the Bar for Entry into the Practice of EMS Too Low? A Reflection from the Inside and Outside

By: William J. Leggio, Jr., EdD(abd), MS, NDR, BS EMS, NREMT-P

Introduction

Completing an emergency medical technician (EMT) training program and having a current CPR card is all that is needed to obtain a state license and practice as an Emergency Medical Technician (EMT) in many states. Add a few hundred hours of training and the EMT is eligible to practice as a Paramedic, ready to respond to emergency calls and stand face to face with death, provide invasive interventions, or deliver a new life into the world. The role of being an EMT or Paramedic and all of the associated responsibilities ought not to be taken lightly. The question addressed here is if the American bar for entry into the field of Emergency Medical Services (EMS) is too low.

This article was written in Riyadh, Kingdom of Saudi Arabia, where the author holds a Faculty appointment at Prince Sultan bin Abdul Aziz College for Emergency Medical Services, a college of King Saud University. This academic appointment as a Saudi EMS educator began through the traditional EMS training route of most EMTs and paramedics, with a background as a practicing paramedic in rural communities along with having worked in emergency departments, one of which was an Academic Level 1 Trauma Center.

Reflecting on the published minimum educational requirements for EMS training leaves one asking if these standards truly prepare future EMS responders for the roles that they will have to fill and if the preparation they are receiving adequately protects the public. After reflecting on personal and professional educational and practice experiences from both the United States and international, this author suggests that the educational bar continues to be set too low and it is time to begin an earnest reflection and further dialogue on the level and standards of EMS education.

Comparison

To start, a comparison of current and future EMS salaries is informative. The US Department of Labor's Bureau of Labor and Statistics (2010) published these quick facts summary on EMTs and Paramedics (Figure 1.). Figure 1. shows that the entry-level of education for EMTs and Paramedics requires only a postsecondary non-degree certificate and that the median pay is only \$30,360, with a 10-year job outlook of 33% growth, which is much faster than the projected average for all US job markets.

FIGURE 1. Quick Facts: EMTs and Paramedics (in the US, 2010)

2010 Median Pay	\$30,360 per year / \$14.60 per hour
Entry-Level Education	Postsecondary non-degree award
Work Experience in a Related Occupation	None
On-the-job Training	None
Number of Jobs, 2010	226,500
Job Outlook, 2010-20	33% (Much faster than average)
Employment Change, 2010-20	75,400

FIGURE 2. Quick Facts: Registered Nurses (in the US, 2010)

2010 Median Pay	\$64,690 per year / \$31.10 per hour
Entry-Level Education	Associate's degree
Work Experience in a Related Occupation	None
On-the-job Training	None
Number of Jobs, 2010	2,737,400
Job Outlook, 2010-20	26% (Faster than average)
Employment Change, 2010-20	711,900

FIGURE 3 . Quick Facts: Respiratory Therapists (in the US, 2010)

2010 Median Pay	\$54,280 per year / \$26.10 per hour
Entry-Level Education	Associate's degree
Work Experience in a Related Occupation	None
On-the-job Training	None
Number of Jobs, 2010	112,700
Job Outlook, 2010-20	28% (Faster than average)
Employment Change, 2010-20	31,200

For perspective these results are compared to two similar healthcare occupations: Registered Nurses (Figure 2.) and Respiratory Therapists (Figure 3.).

There are three important differences to point out between these summaries. The 2010 median pay of \$30,360 for EMTs and Paramedics is \$34,330 less than that of a Registered Nurse. This difference is more than the actual EMT and Paramedic median pay. The 2010 median pay for EMTs and Paramedics is \$23, 920 less than that of a Respiratory Therapist.

Second to note is the 2010 to 2020 job outlook. All three professions are predicted at faster than average increases. In increasing order Registered Nurses are projected at 26% growth rate, Respiratory Therapists at 28% growth rate and EMTs and Paramedics growth rate is 33%. This indicates a 7% higher growth rate for EMTs and Paramedics compared to those of Registered Nurses, and positive 5% difference compared to Respiratory Therapists.

The final important difference between the three is the entry-level education. Both Registered Nurses and Respiratory Therapists have an Associate's degree for entry-level education, compared to that of a postsecondary non-degree award entry-level education for EMTs and Paramedics. One cannot simply conclude just from these figures that a college degree in EMS will automatically result in an immediate salary increase. However, from this you can summarize these points into one; EMTs and Paramedics have a higher 2010 to 2020 job outlook for the next ten years, have at-least a negative median pay difference of \$23,920 and require less entry level education when compared to Respiratory Therapists and Registered Nurses.

Undergraduate Education

It is difficult to answer the age-old question in EMS of *why should I get a degree if I'm not going to make more money?* This question is difficult because there is little to no historical data to answer the specific added financial value from having a degree in EMS. However, there is general data on the added value from having a college degree. Carnevale and Rose (2011) released a report through Georgetown University Public and Policy Institute titled *The Undereducated American* in which they argue that the United States has been under producing college-going workers since 1980 and this has failed to keep with growing demand. This failure has resulted in income inequality and they warn if we do not change this then the gap between the earnings of Americans of different educational attainment will continue to grow even wider (Carnevale & Rose, 2011). The gap between the earnings of paramedics compared to nursing and respiratory therapists is an example of the arguments made by Carnevale and Rose (2011).

If the profession does not advocate for a higher entry level of education, then on what new grounds do we really stand on to justify the need for a higher salary? There is no guarantee, but there is evidence that clearly indicates higher degrees of education do result in more money over a lifetime. Figure 4 summarizes Carnevale, Rose and Cheah (2011) results on median lifetime earnings in 2009 dollars for "Some College/No Degree" at \$1,547,000; "Associate's Degree" at \$1,727,000 and "Bachelor's Degree" at \$2,268,000.

Figure 4. The Median Lifetime Earnings in 2009 Dollars			
DEGREE LEVEL	MEDIAN LIFETIME EARNINGS	DIFFERENCE FROM SOME COLLEGE/NO DEGREE	DIFFERENCE FROM ASSOCIATE'S DEGREE
Bachelor's Degree	\$2,268,000	\$721,000	\$541,000
Associate's Degree	\$1,727,000	\$180,000	
Some College/No Degree	\$1,547,000		
Source: Carnevale, Rose & Cheah, 2011			

Figure 4 is general in nature and does show the added financial award over a lifetime that comes from a higher degree of education. Figure 4 indicates the added value from having a degree and Alexander, Weiss, Braude, Ernst, Fullerton-Gleason (2008) state that *one of the important investments made by EMS personnel, particularly, by paramedics is education* (p. 831). At this time this specific statement of education in EMS does not have strong data to support it, but the added value from different levels of degrees in nursing is documented.

Carnevale, Rose and Cheah (2011) released data on the Lifetime Earnings in 2009 dollars for each level of degree. In the following levels the lifetime earnings in 2009 dollars for nursing and home health aids are presented in Figure 5. Figure 6 graphs the lifelong earnings in 2009 dollars for nurses in addition to the difference one degree to the next higher degree. Figure 7 illustrates the percentage of change in salary from one degree to the next highest based on the lifetime earnings in 2009 dollars (Carnevale, Rose and Cheah, 2011).

FIGURE 5. Lifetime Earnings in 2009 Dollars Based on Education For Nurses in the U.S.

<u>High School Diploma</u>	
Nursing and Home Health Aids	\$966,000
<u>Some College / No Degree</u>	
Nursing and Home Health Aids	\$1,030,000
<u>Associate's Degree</u>	
Registered Nurses	\$2,267,000
<u>Bachelor's Degree</u>	
Registered Nurses	\$2,527,000
<u>Master's Degree</u>	
Registered Nurses	\$3,044,000
<u>Professional Degree</u>	
Registered Nurses	\$2,722,000

***Source: Carnevale, Rose & Cheah, 2011 (SEE PAGE 25)**

If the motivation is simply to increase salaries then at minimum an associate's degree ought to be required to practice as a Paramedic. For nursing the difference of salary in a lifetime based on 2009 dollars from some college / no degree to an associates is an increase of \$1,237,000 or 120% (Carnevale, Rose and Cheah, 2011). It is also important to note that the difference between some college / no degree and an associates resulted in the largest increase in salary then any other increase in education. The only increase in education that nurse's actually loose money, along with elementary and secondary teachers, accountants and auditors, was from a Master's Degree to a Professional Degree (Carnevale, Rose and Cheah, 2011). Carnevale, Rose and Cheah (2011) do not report any other decrease in salary, other then this, in their findings. Carnevale, Rose and Cheah, 2011 conclude their report by stating, "*No matter how you cut it, more education pays... there is a sizeable economic return to going to college and earning at least a two- or four-year degree.*" (p. 20)

DOMAIN³

As a profession we need to re-evaluate how we are asking the questions surrounding education and salary in addition to the required entry level of education into the EMS profession. Advocating for an associate's degree is a step in the right direction because it would at least be placing paramedics at the same entry level of education as registered nurses and respiratory therapists. This even ground for entry into our profession would give paramedics, in general, new ground to start negotiating for comparable salaries to associate level nurses, respiratory therapists and one that calculates out to the median lifetime earnings for an associate's degree.

The author holds true that the profession should truly be advocating for a Bachelor's degree to practice as a Paramedic. This would continue to positively answer financially driven questions of why to obtain a degree. In addition, higher levels of education lead to an increase in career opportunities, and this could help address the known retention issues in EMS (Alexander et al., 2008). However, it is time to move away from the financial and career benefits of higher levels of education and focus on the true role of EMS professionals, to save lives.

Aiken, Clarke, Cheung, Sloane, Silber (2003) found nurses with their Bachelors of Science in Nursing (BSN) deliver more competent care than a nurse with an associates degree in nursing. BSN programs improve a nurse's practice and therefore improve patient outcomes as well, thus supporting a relationship between nursing education and patient outcomes (Aiken et al., 2003).

Though focused on nursing these contentions most likely still hold true for EMTs and Paramedics. EMTs and Paramedics, just like nurses, play a major role in patient outcomes.

In addition to improved patient outcomes, BSN educated nurses have better communication skills (Aiken et al., 2003). Blau, Hochner and Portwood (2012) discussed three studies with a similar focus on patient satisfaction with EMS; one study was done in Helsinki, Finland (Kul-sima, Maatta, Hakala, Nousila-Wiik, 2003) and the other two were in the United States (Doering, 1998; Curka, P., Pepe, P., Zachariah, B., Gary, G., & Matsumoto, C., 1995). Blau et al. (2012) noted that in these three studies a common theme of disaffection from EMS patients resulted because of poor paramedic communication skills, including not introducing themselves, being rude or having unprofessional conduct, with either the patient or family. Given the age of these studies, the author assumes the EMS providers that were complained against most likely did not have more than a certificate. Though not a guarantee to prevent such behavior, an associate and bachelor degree curriculum and educational program would be able to include courses on humanities, ethics and communication that most likely better a paramedics ability to communicate with patients and families.

Thus far, this discussion should resonate with all EMS professionals and begin to raise other questions. Questions such as, *how can I be better at saving lives, grow in my profession, create job opportunities and make a higher salary and not why should I get an EMS degree if I'm not going to get paid more?*

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Regardless of if you agree or disagree with the discussion, promoting the EMS profession and protecting our patients by matching the developing standards of undergraduate education should be a selfless priority. Alexander et al. (2008) make a similar call for action, ... *the importance of a more highly educated EMS workforce should be recognized, and efforts should be directed toward retention of highly educated paramedics* (p. 835). Currently similar discussions are occurring outside of the United States. For example, these questions are being answered in the Kingdom of Saudi Arabia where the author is an instructor and Director of Simulated Education for a pioneering Bachelor's of Science Degree in Emergency Medical Services.

An International Perspective

In February of 2012 Prince Sultan bin Abdul Aziz College for Emergency Medical Services hosted the First Saudi Forum on EMS Education. This forum hosted international and national speakers and visitors. At the end an online survey was conducted to help define what competencies and courses should be taught in a Bachelor's of EMS, and if this level of education should be the minimum educational standard to practice as a paramedic in the Kingdom of Saudi Arabia; and the results strongly supported a Bachelors of Science in EMS as a minimum educational standard to practice as a paramedic in the Kingdom of Saudi Arabia (Prince Sultan bin Abdul Aziz College for Emergency Medical Services, 2012).

30.4% of those who completed the survey were faculty members or an EMS educator, 26.5% physicians, 23.5% EMS manager, 11.8% public, 8.8% hospital or clinical coordinators. The remaining respondents were civil service representatives, administrators, accreditation members and students or graduates. Out of these respondents 30.4% had a Bachelors Degree, 23.2% with a Masters, 11.6% with a Doctoral Degree (PhD or EdD) and 14.5% with a Professional Degree (MD, DDS, DO or JD). The remaining had high school or certificate in EMT as highest level of education.

We asked the participants to indicate the competencies that they considered desirable for graduates with a Bachelor of Science in Emergency Medical Services degree, including the specific EMS advanced life support skills traditionally taught in United States EMS NHTSA Educational Guidelines and Core Curriculum (Prince Sultan bin Abdul Aziz College for Emergency Medical Services, 2012). We also asked about other non-clinical care competencies, such as:

1. Display professionalism of medical profession (75% strongly agreed, 11.5% agree slightly)

2. Possess an understanding of the medical and legal aspects of the profession (84.6% strongly agreed, 3.8% agree slightly)

3. Apply fundamentals of public health to prevent disease, prolong life and promote health (72.5% strongly agreed, 11.8% agree slightly)

4. Conduct research and review literature (59.6% strongly agreed, 23.1% agree slightly)

5. Be aware of current issues and trends in EMS (78.8% strongly agreed, 7.7% agree slightly)

6. Apply evidence-based practice to emergency care (76.9% strongly agreed, 13.5% agree slightly)

7. Participate in management and leadership of EMS systems (67.3% strongly agreed, 19.2% agree slightly)

We also asked, as a community of interest from the program, "your needs or expectations from an ideal EMS specialist and Bachelor of Science Program." These are a sample of five representative responses:

1. Provide best evidence-based management and maintain high degree of professionalism and collaboration with other health care worker.

2. I expect that an ideal EMS specialist should provide immediate care to his/her patients professionally, skillfully with consideration and respect of the patient's individuality, culture and beliefs, regardless of race, color and financial status.

3. I need graduates [to] know what they are doing and [to] think critically in the cases that [they] may face in the field. I expect that graduates understand English very well and provide best emergency treatment and write down the recommended treatment in hospital in their records.

4. EMS personnel need to stand out [in their] skills need to be impeccable [in] [and] decision making is precise based on a protocol driven format.

5. EMS specialists should be able to manage any emergent situation independently, skillfully, and in a professional way, and have an organized way of thinking and be emotionally stable and be able to deal with different difficult emergency situations.

We asked the respondents to provide any other competencies apart of usual paramedic skills that they expected. Five samples responses:

1. Disaster planning and management
2. Communicate efficiently with public and scientific community.
3. Disaster management
4. Knowledge of quality management tools, accountability, honesty and ethics in EMS setup
5. Role of primary health care at major events, e.g., Hajj (annual Muslim pilgrimage to the Sacred Mosque in Mecca, Saudi Arabia)

These responses indicate that EMS is viewed to have a major role in public protection and mass casualty response. This is echoed in the author's experiences and discussions with EMS students and professionals from around the world, including conversations with fellow American EMS responders working internationally in many other nations, as well. From these discussions one can conclude that there are strong needs perceived for well-developed EMS systems throughout the world and this includes a need for EMS leadership, research and professional development that goes beyond a certificate level, or even associate's degree, education.

Currently, and many responders and educators in the United States may not be fully aware of the critical role that EMS in the United States can play internationally, but from a perspective of around 10,000 miles "across the pond," the world is looking to American EMS and EMS education for leadership and guiding principles. The author is yet to find an EMS textbook used in Saudi Arabia that is not published in the United States. National Registry of EMTs is an organization known worldwide and a recognizable standard for psychomotor skill evaluation, even though it is not international. The U.S. educational standards serve as an international template, but programs outside of the United States are placing educational requirements and developing curriculums that surpass those of many EMS programs in the United States.

Conclusion

The job growth for EMS professionals is expected to grow up to 2020 at a higher rate than both nurses and respiratory therapists. There is a documented difference in salary for EMS professionals compared to nursing and respiratory therapists. The economic studies discussed in this article indicate that this gap could continue to grow even wider. The author strongly suggests one way to address this gap is to require at-least an associate's degree from the current certificate requirement to practice EMS. For nursing, the difference in lifetime salary between some college / no degree and an associates degree is significant.

There are also studies that indicate increased patient outcomes from BSN nurses compared to non-BSN nurses. Therefore, discussions on levels of education in EMS should not be just limited to an associate's degree, but should include higher levels of education, educator requirements and developing EMS colleges. Decisions and outcomes from these discussions on how to advance the U.S. EMS profession could have an impact on international EMS systems.

Worldwide, EMS is a vital component of civilization and a critical component of overall public safety. Nations of the world are not as fortunate as the United States to have been able to develop well structured and generally well-funded emergency medical response systems. Though some EMS responders in the United States are not aware of it, United States EMS is viewed internationally as having a strong influence in setting practice standards and providing scholarly evidence of best practices. These roles should be highly valued and not be taken for granted because some nations, for example Saudi Arabia, are starting to move beyond U.S. EMS educational requirements.

In order to advance the profession, the evolving EMS environment must be acknowledged and leaders of EMS at all levels must be prepared to meet the coming challenges. This includes those who educate EMS students. Ruple, Frazer, Hsieh, Bake and Freel (2005) surveyed 15,000 EMS educators and found that most EMS educators were working only part-time and that only 35.5% of the respondents had "some college education" and only 24% had completed a bachelor degree (any bachelor's degree), and 21% had completed only an associate's degree. Those results also indicated that fewer than 5% of the EMS courses were being taught in four-year colleges or universities, compared to 45% taught in a fire and or EMS venues not associated with accredited post-secondary institutions. In order to advance the profession academically, higher educational standards are necessary for institutions and instructors.

Our EMS community of educators, providers and leaders and must support those who want to advance their careers through achieving undergraduate and graduate degrees. EMS providers, educators and friends need to push for continued educational reform at all levels and components of the system. These reforms ought to include transforming current EMS programs in to Colleges of Emergency Medical Services that are dedicated to promoting and advancing our community heroes and their abilities to save lives with skilled hands through higher levels of education, professional development and evidence based practices. ■

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ADDITIONAL SOURCE MATERIAL

