Emergency Medical Science

Cycles included in report:
Cycle #3 8/1/14 to 7/31/15
1 Program Summary

Emergency medical responders (EMR, FR) emergency medical technicians (EMTs) and paramedics (MICT, NRP) care for the sick or injured in emergency medical services (EMS). People's lives often depend on their quick reaction and competent care. EMTs and paramedics respond to emergency calls, performing medical services and transporting patients to medical facilities.

JCCC's EMS program offers the courses required to become an EMR, EMT, or MICT. Many students simply seek to gain the EMT certificate and not a degree. EMTs can find employment working in local EMS agencies. In addition to working in EMS, the EMT may be a required certification for those working in a related field. EMT is required in addition to firefighter certification in most fire departments as fire services typically provide 70-80% response to medical and trauma emergencies and only 20-30% response to fire suppression due to modern fire prevention efforts and revised building codes. Most Casinos now require EMT certification for to be eligible for employment as a security officer. Some law enforcement agencies require EMR or EMT. Our program graduates approximately 144 EMT students per year.

Some students seek to continue their training to become a paramedic. Paramedic is the highest level of emergency medical services certification. This level requires a minimum of an AAS in accordance with Kansas Administrative Regulations. JCCC students can attend the MICT professional coursework to complete a certificate if they already have a prior degree or they can complete the AAS general education requirements prior applying to the Paramedic program and receive an AAS upon graduation.

The department also offers several other optional courses to support the local EMS systems and paramedic applicants. EMS 133 EMT Practicum is an opportunity for certified EMTs to advance their proficiency working as part of an EMT and Paramedic team. EMS 140 Cardiology offers paramedic applicants and other health care providers to become proficient in cardiac electrophysiology and the interpretations of ECGs.

The department goal is to prepare students to become competent entry-level EMT's and Paramedic's. This involves the use of cognitive, affective, and psychomotor competencies. These are evaluated internally by the program and externally by a cognitive certification exam, a psychomotor certification exam, and affect is evaluated by employer feedback and survey.

1.1 Degree Offerings

AAS - EMS (Paramedic)

1.2 Certificate Offerings

EMT - Certificate
MICT (Paramedic) - Certificate

2 Program Resources

The program has five full-time faculty. Two of the faculty serve as the BLS programs and three are assigned to the paramedic program. Approximately 8 adjunct faculty support the full-time faculty delivering pre-requisite and optional coursework. Most adjunct work in local EMS systems as paramedics or EMTs. In this role they are work 24-hour shifts that do not fall on the same day each week. So most sections taught by adjuncts require two adjuncts that do not work on the same shift.

Most courses are taught via integrated lecture-lab and required by state regulation that all lab session are staffed to maintain a ratio not to exceed 6 students to 1 faculty. To meet this requirement we employ approximately 40 part time temporary Kansas certified EMT providers. Section size ranges
from 24-36 students.

Data is attached in IR report.

3 Reflection on Institutional Data  [Met]

The number of adjuncts has increased since the 2011-2012 AY. This increase in the adjunct total numbers is due to the death of one adjunct faculty member. He was retired military and taught multiple sections of EMS 128. Since he was retired, he was not faced with the need to have full-time employment in EMS. Our current adjunct faculty work 24-hour shifts for local EMS services and this schedule does not match the college course schedule. Current adjunct sections are required shared teaching by two instructors that do not work the same Berkley shift in order to ensure coverage for all class sessions. The department continues to offer the same number of sections.

The department has continued to offer certificates (EMT and Paramedic) and AAS (paramedic) however the numbers for EMT certificates are misleading. The process by which the certificates were processed up through 2010-2011 AY was based on a list sent of graduates and student ID numbers. In the 2011-2012AY, the process changed and required individual graduation applications to be completed for each student. This change apparently was not communicated to the department, so they continued to send the list that was no longer acceptable for certificate awards. This change in process was recognized and corrected with EMT graduation applications being individually submitted by the students. The graduates during the 2011-2012AY and 2012-2013AY still completed the program and were awarded Kansas and National certification even though they did not receive a certificate from JCCC.

Our attrition rate over the past three academic years has shown a one percent decrease in attrition and a slight increase in the completer success. Our current rates significantly exceed the standards for EMS programs established by the accreditation standards established by the Commission on Accreditation of Allied Health Education Programs and the Committee on Accreditation of Educational Programs (CAAHEP) for the Emergency Medical Services Professions (CoAEMSP) threshold of 30% attrition. These standards have been established due to the rigorous nature of EMS programs and the requirement to attain competency that is externally verified in the cognitive, psychomotor, and affective educational domains.

The demand for classes in EMS remains high with typically all sections full on the first day of class. We do see some attrition from students who do not attend the first day and drop for a full refund. Due to current late enrollment policy we are unable to be able to add students who may be waiting for these seats based on the time of the student drop. The EMT program typically fills all seats all sections each semester with 35 hours of open enrollment. Sections of EMS 121, 128, & 140 are typically filled within one week of open enrollment. The paramedic program is selective admissions, and we have seen a steady increase in applicants to the program. Currently, we have an around three applicants per seat in the program. In 2010, we had 61 applicants, in 2011 65 applicants, in 2012 59 applicants, 2013 59 applicants and 2014 brought 76 applicants. The section size of 26 students has not increased.

Recently we have had more sections requested, and the EMS Program advisory board has indicated the need for more sections and graduates to support the local EMS system. We are working on a project at the request of Lawrence School district to have EMS 128 (FR, EMR) available onsite for high school seniors and the Lawrence fire department to have EMS 131 (EMT) available in their community in order to ensure they have enough firefighter applicants to meet their hiring needs. The Advisory Board and the Johnson County Fire Chiefs Association has requested an additional section of the Paramedic classes.

All faculty possesses expertise in both the content and educational methods for EMS education. We offer most courses to support the needs of the community for EMS providers. We are fulfilling the mission of a comprehensive community college.

4 Student Success

Our department provides career and technical education for a profession. A successful student really defined by 2 simple outcomes. 1) Was the student able to pass the certification examination and 2)
Was the student adequately prepared to work in the profession.

4.1 Define Student Success

Our department prepares students for certification in a profession. The first essential challenge for all graduates is to pass the respective certification exam. The students have six total attempts to pass this examination and become certified. While the students have six total attempts we focus on maximizing first-attempt pass on the certification exam. This certification was the student goal in taking the program, with that it is our goal to maximize first-attempt pass.

In addition to passing the certification exam we seek to measure success beyond initial pass rate. Then we seek to better understand if our students were prepared for the profession by our courses. We have different levels of feedback based on the program.

Paramedic Program: Consistent with the standards established by the Committee on Accreditation of Educational Programs for the Emergency Medical Service Professions (CoAEMSP) our program defines student success by achievement of the following program goals and objectives:

Goal: To prepare students to become competent entry-level Paramedics that meet state and national expectations within the profession.

Objective: Upon graduation, the graduate will demonstrate personal behaviors consistent with professional and employer expectations of an entry-level Paramedic (affective domain).

Objective: Upon graduation, the graduate will demonstrate the ability to comprehend, apply and evaluate information relative to the role of an entry-level Paramedic (cognitive domain).

Objective: Upon graduation, the graduate will demonstrate technical proficiency in all of the skills necessary to fulfill the role of an entry-level Paramedic (psychomotor domain).

Affective domain summative competency is validated by evaluating employer surveys of graduates, alumni surveys and evaluations of students affective domain performance in the field internship setting. Cognitive and psychomotor domain competency is evaluated via employer and alumni surveys and national board examination results. The JCCC paramedic program has consistently exceeded define cut scores for minimum competency.

EMT&FR Programs:

CoAEMSP does not currently accredit EMT programs; however the EMT and First Responder (FR) programs both utilize the same goals and objectives as defined by CoAEMSP. However, given that most of the graduates of these two programs are not usually employed by EMS agencies employer feedback is much less available. Students are provided with evaluations at the end of the class, employers are evaluated by institutional research, and national board scores (written and psychomotor) are evaluated yearly. Additional feedback mechanisms need to be developed for the EMT and FR levels, specifically alumni surveys and better employer surveys specifically geared to evaluation of program goals and competencies.

4.2 Achieve/Promote Student Success

The EMS programs require competency in multiple educational domains and patient safety demands extensive accountability of the achievement of these competencies. Therefore the EMS program, like any health career program is resource intensive.

Required existing resources include:
- State certified faculty to teach each EMS course.
- Sufficient lab instructional staff to achieve a six student to one instructor ratio as mandated by Kansas Board of EMS (KBEMS) requirements.
- Sufficient state of the art, serviceable equipment necessary to teach the requisite skills of the program.
- Sufficient functioning simulators and manikins to allow students to practice skills safely prior to
exposure to live patients.
- Sufficient instructional space and media.
- Sufficient clinical and field internship sites to provide our students with experience. Sufficient faculty time to prepare these sites for their role in instruction.
- Sufficient administrative presence to maintain accreditation records, record of student competency, faculty, adjunct faculty and lab instructor evaluations, orientation and instruction.

We measure student performance and adjust course parameters to increase student achievement. In addition to assessing certification exam scores we survey students and employers annually. This is done through two processes the JCCC IR office surveys all completers. All paramedic graduates and their employers are surveyed with a survey controlled by the CoAEMSP accreditation process. We also have an advisory board of local EMS and Fire department that guide the process from their experience with the graduates.

4.3 Successful Transfer
Students must complete a EMS Student application and submit to KSBEMS within 10 days of the start of a EMS course. The State office then assigns them a student number. The instructor has 10 days after the date of the last class to submit the students status to the state as pass or fail. Passing is defined by Kansas Regulation as receiving a C or better in the course and having attended 90% of all course scheduled hours. As a result of the regulatory process students do not typically transfer from one course to another during the process. The KSBEMS office does have a process in the event of a mid program transfer was needed, however it requires application to the KSBEMS along with the circumstances and transfer to another program at or before the same point in the course they left.

Students are eligible to transfer the credits received at JCCC to other Colleges.

5 Assessment of Student Learning Outcomes
The program has three goals as specified by CoAEMSP:

Goal: To prepare students to become competent entry-level Paramedics that meet state and national expectations within the profession.

Objective: Upon graduation, the graduate will demonstrate personal behaviors consistent with professional and employer expectations of an entry-level Paramedic (affective domain).

Objective: Upon graduation, the graduate will demonstrate the ability to comprehend, apply and evaluate information relative to the role of an entry-level Paramedic (cognitive domain).

Objective: Upon graduation, the graduate will demonstrate technical proficiency in all of the skills necessary to fulfill the role of an entry-level Paramedic (psychomotor domain).

In addition to the college learning outcomes EMS students must pass an external certification exam. The identified SLO’s are essential to the achievement of passing that external certification exam. In addition to the table we will look at first attempt pass rates on certification exams.

5.1 Reflection on table provided on assessment.
Currently the paramedic program has a cumulative 99.21% first attempt pass rate on the external certification exam and 98.52% for the last three classes. This is the result of 1 second attempt on the exam in the 2011 class. Prior to 2011 the last second attempt was in 2007. This far exceeds the results of other programs, state averages and national averages. We will continue current methods.

The focus for a paramedic student once certified is finding employment. We typically have 95% positive placement within 10 months of graduation. This rate will likely hold as we graduate very competitive applicants however some have restrictions on where they want to work. If the graduate is willing to relocate they are typically employed with 1 month of graduation. Many have contingent offers
of employment. We will continue to survey graduates and their employers to ensure our graduates meet their needs. We will also continue to meet with the Advisory Board and ensure we are meeting local community needs.

The EMT class does not experience the same first attempt pass rates as the paramedics. This may be caused by many factors. The Paramedic Program is selective admission while EMT is general enrollment and a significantly lower level of education as a result those in the EMT class may have a lower level of interest as they are still trying to figure out if EMS is for them or they are taking it as something that may get them to what they really want to do such as fire fighting. All those reasons aside. The EMT first attempt pass rate can and should be better.

5.2 Significant Assessment Findings
The most significant assessment findings for our department center around the EMT pass rates. We are starting an active project to improve those rates. We will carefully tracking outcomes and based on those outcomes implementing interventions each semester.

5.3 Ongoing Assessment Plans
We will continue to assess all courses each semester from student surveys. We will continue to do annual surveys of all graduates, CoAEMSP graduate, employer, resource, and advisory board surveys and will make adjustments based on that data.

As previously mentioned the program has three goals as specified by CoAEMSP:

Goal: To prepare students to become competent entry-level Paramedics that meet state and national expectations within the profession.

Objective: Upon graduation, the graduate will demonstrate personal behaviors consistent with professional and employer expectations of an entry-level Paramedic (affective domain).

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Objective: Upon graduation, the graduate will demonstrate technical proficiency in all of the skills necessary to fulfill the role of an entry-level Paramedic (psychomotor domain).

Also as specified previously the program uses multiple methods to determine the completion of the program goals and competencies.

Affective: Alumni and employer evaluations
Cognitive: Alumni, employer evaluations, national certification exam results.
Psychomotor: Alumni, employer evaluations, national certification exam results.

6 Curriculum Reflection
The curriculum comes from national standards and state standards. The curriculum for EMS is relatively static in one aspect and dynamic in another. For example the big elements of the curriculum stay constant such as how to provide emergency care for a patient experiencing a myocardial infarction, however the how we care for that emergency changes frequently. We are required to teach to the Kansas Educational Standards. The Kansas Board of EMS oversees this process each course is submitted to KSBEMS 30 days prior to the first date of class. They review and approve or request modifications to the curriculum and/or schedule. The current Kansas EMS educational standards (Curriculum) version in law is the 2010 version.

The program assesses our community of interest needs via participation in the advisory board. Our board consists of 20 members of area fire and EMS services as well as members of the medical community. The board meets twice yearly. In addition our post course surveys of alumni reflect the needs of the EMS community in relation to the education they received at JCCC. Our curriculum is set by the State of Kansas which follows a curriculum outlined by national standards from the Department
of Transportation (DOT). In addition alumni and employers are surveyed annually as to the effectiveness of the educational process and curriculum.

6.1 Honors Contract(s)
We do not have honors contract courses.

6.2 New Course Offerings
We have no new courses in development.

7 Faculty Success

7.1 Departmental Accomplishments
1. Successfully completed CoAEMSP site visit and re-accreditation process in 2012.

2. Collaborated with nursing simulation lab in utilization of sim lab for EMS education. EMS Simulation week is now offered each year.

3. Working with Lawrence school districts on collaborative project to have high school section of EMS 128 and 131 available at Lawrence Technical education center.

4. Revised orientation and evaluations for part time temporary instructors.

5. Instituted department final for all sections of EMS 121 (CPR) classes.

6. Instituted department final for all sections of EMS 128 (EMR/FR) classes.

7. Instituted department final for all sections of EMS 131 (EMT) classes.

8. Improved EMS 131 first attempt pass rate on certification exam from 79% to 83%

9. Revised cleaning and maintenance procedures for all equipment.

10. Completed Perkins Program Review in 2013

11. Replaced program two faculty members and director maintaining program function and quality.

7.2 Faculty Accomplishments
Shawn Biggs:
Shawn is new faculty to replace a faculty position after the previous director retired and one of the Charles left the faculty to become the program director. Shawn has completed his year one new faculty mentoring. This year he is working on his formative peer review process.

Scott Craig:
Scott is new faculty to due to a faculty retirement. Scott has assumed the role as science Building Emergency Leader (BEL) this fall after serving as assistant BEL for the past two years. Scott has completed his year one mentoring process and just finishing his second year of peer review. Scott attended the National EMS Today conference in the Spring of 2014 and reflects that his attendance at that conference had the following benefits:

1. Immersive courses in current educational and occupational practice.
2. Ability to preview new field technologies in a constantly-changing environment.
3. Classroom best-practices and innovative approaches to education from nationally-recognized EMS educators.
4. Ability to participate in product improvement of learning management systems and provide direct feedback to publishers in regards to content of textbooks and provided supplements.
5. Networking with both EMS professionals and discipline-specific educators from all over the world.

Charles Foat:
Charles has shifted from program faculty to the director role. He took the role as Science Building Emergency Leader (BEL) for the past two years and this fall is serving as assistant BEL. He has attended several conferences, given several presentations, and has been appointed on the State of Kansas Educator Development Task Force (EDTF) by the Regional EMS Council. Charles has attended the EMS Research summit in 2012 and 2014. He has attended the Emergency Cardiovascular Care Update, the EMS Education Symposium, EMS World expo and Kansas EMS Association conference this year. The following is a list of publications and presentations since 2012.


Kim Grubbs:
Kim has served as a part-time nurse in the Olathe Medical Center Emergency Room during the last 3 years. This gives him a valuable connection to current practice in emergency medicine. He has also taught ACLS for OMC. Kim has also chaired 1-2 peer review committees each year.

Bob Parker:
Bob also serves as adjunct faculty at Childrens Mercy and teaches Pediatric Advanced Life Support (PALS) and Pediatric Emergency Assessment Resuscitation and Stabilization (PEARS) several times a year. Bob has also served on 1-2 peer review committees each year and served as chair on the most recent year.

Laerdal Simulation User Network- April 2014- Good opportunity to network with other simulation users, workshops on upkeep and maintenance of Laerdal simulators. Impact on department was to improve ability to deliver realistic valid and reliable simulation.

International Society for Simulation in Healthcare- Jan 2011- Three days of workshops and lecture on improving simulation in the healthcare setting. My primary focus in this workshop was to improve debriefing skills. Impact on department hopefully was to improve the way we use debriefing for our
medic students.

EMS Today Feb 2012- Three days of seminars on various EMS topics. Seminars present review of current best practices in prehospital care, workshops on education in EMS and previews of new therapies. Impact on department is to bring back new ideas and concepts in prehospital care and teaching and allow me to review and stay current on EMS treatments and teaching. This seminar also allows me to network with publishers and vendors and see what new products are coming on the market.

Steve Wnek
Steve also serves as adjunct faculty at Childrens Mercy and teaches Pediatric Advanced Life Support (PALS) and Pediatric Emergency Assessment Resuscitation and Stabilization (PEARS) several times a year. Steve has also served on 1-2 peer review committees each year.

7.3 Innovative Research, Teaching or Community Service

It appears that the College provides very limited support or encouragement for faculty research so I was a bit surprised to see this in the program review. Research Projects are listed below.

The college does do a considerable amount to support innovative teaching. The department has developed a novel approach to helping student select, organize, and integrate new knowledge during class. The department was assisted by Ed Tech in developing live annotations to PowerPoint over the past several years. This project will be evolving next year with the support of the IS, IT, Ed Tech and Perkins grant funding to allow for wireless annotation and presentation using iPads in a vast improvement over the prior system.

The department continues to evolve simulation and debriefing in almost all sections. This is only possible with the support of Perkins Funding. This simulation and debriefing allows the student to experience emergencies and learn from them in a realistic context.

Research Projects and presentations


8 Goal Setting and Action Plan

8.1 Long-term Goals
1. One of the biggest challenges for the department over the next five years will be faculty
replacement. The three senior faculty have projected retirement within the next five years. These faculty are the core of the program and all three are assigned to the paramedic program. We do not have the dates of the retirements yet so concrete planning for retirements is not in progress.

In recent years the positions that have been replaced did not show an abundance of highly qualified candidates. In fact the processes so far have resulted in the greatest number of applicants being minimally qualified with maybe one candidate that stood ahead of minimally qualified.

Toward that end we are attempting to select adjuncts that have expressed interest in teaching full-time. This along with some departmental professional development classes will help get some local candidates that will meet the requirements, have the credentials, and have time teaching.

The goal is to replace full-time faculty as retirements occur over the next five years while maintaining program quality.

2. Very few paramedic programs are within four year colleges most are conducted at community colleges. Recently Dr. Elliot Carhart (2014) published a paper discussing the lack of any real research being published at the field of EMS education. This may be a result of the majority of programs existing in the community college setting where research is not really encouraged or even supported. Most of these studies require the use of instruments which at this point are solely funded by the researcher. So research at the CC level is not counted as workload and must be conducted on the researchers own time after they meet workload, with their own funds.

The second goal would be to establish en EMS educational research program that contributes to the field. Ideally we would be able to find funding and deal with the workload issue, however I am a bit skeptical of the workload issue being solved.

8.1.1 Actions/Resources Required

The replacement of faculty we not required any new resources.

The establishment of an EMS Education research program will require seeking research grants and alternative funding for such a program.

8.1.2 Updates on Long-Term Goals

Not applicable on first submission.

8.2 Short-Term Goals

1. Improvement of EMT first-attempt pass rates.

2. We have been working with Lawrence School District, JCCC College Close to Home in order to offer EMS classes in Lawrence. This project has been in progress for a year. The target is to begin classes fall of 2015 in a brand new building. This will require significant resources in equipping an EMS BLS Lab and additional faculty to teach. This Project is currently awaiting final approval from the college.

3. The EMS Advisory Board has requested an additional section of the paramedic program that allows full-time fire fighters to attend the paramedic program. This fire friendly course is currently being offered by another local Kansas Community College, however the Advisory Board would like to see educational outcome equivalent to our paramedic graduates. This has not been achieved by the other program despite their attempts to encourage the other community college to meet the local standards. As a result many local groups are encouraging JCCC to develop and deliver such a program. This is a significant educational program and will be costly to develop and deliver. While a final model has not been agreed upon, it is estimated that a minimum of one FT faculty and one 1/2 time faculty would be the minimum required staffing to deliver such a program. We will continue to evaluate and explore this program.

8.2.1 Actions/Resources Required
1. The EMT pass rate project is not anticipated to require additional resources.

2. The Lawrence EMS programs would require significant equipment and teaching resources. Separate spreadsheets attached in budget section.

3. The additional Paramedic section would require significant resources however we are to early to project the full resources required.

8.2.2 Updates on Short-Term Goals
Not applicable on first submission.

9 Accreditation Standards
Currently no AQIP projects in progress.

9.1 Specialized Accreditation
The EMS department has been continuously accredited since 1986. This is uncommon in EMS programs as this was not a requirement until 2013. Every five years the program submits a self-study to the CoAEMSP for review. The self-study is followed by a site visit. We submitted our last self-study in 2011 (attached) and had our last site visit in 2012. The site visit team met with faculty, students, clinical affiliates, field affiliates and employers. The results of the site visit were all standards met. Since then we have submitted an annual report (most current attached) each year. All CoAEMSP thresholds have been met each year (most current attached).

2013 Annual Report Review (Report Accepted) [PDF 91 KB 11/25/14]
CAAHEP Site Visit Findings [PDF 78 KB 11/26/14]
CoAEMS Report 2013 [PDF 20 KB 11/25/14]
EMS CAAHEP CoAEMSP Certificate [PDF 1,095 KB 11/26/14]
Self-Study 2011 CoAEMSP [DOC 1,429 KB 11/25/14]
Standards_Interpretations_CoAEMSP-2-7-2014a [PDF 282 KB 11/25/14]

10 Resource Request/Adjustment
The requested chart is attached. Separate sheets for the Lawrence Campus are attached options have not been finalized. Additional section of paramedic unable to project as model not selected.

Budget Program Review [XLS 2,005 KB 11/30/14]
Budget Program Review [XLS 2,005 KB 11/30/14]
BudgetChart [XLS 2,000 KB 9/23/14]
EMSLawrenceCCPprojections [DOCX 19 KB 11/30/14]
Lawrence EMS expansion ver2-1 [XLSX 57 KB 11/30/14]
Lawrence lab equipment start-up [XLSX 21 KB 11/30/14]
Lawrence Training Campus JCCC courses Emergency Medical coursework [DOC 36 KB 11/30/14]

10.1 Long-range Adjustment to Resources
This will depend on the outcome for the Lawrence project and additional paramedic section.

10.2 Educational Technology Support
EMS depends on heavy Ed Tech support for lecture capture, ARS, simulator networking, Live annotated lectures. This will likely continue for foreseeable future.
End of report