Introduction

According to the Accreditation Standards for Physician Assistant Education Programs, promulgated by the Accreditation Review Commission for Physician Assistant Education (ARC-PA) standard C1.01: “The program must implement an ongoing program self-assessment process that is designed to document program effectiveness and foster program improvement.”

In 2004, in response to similar efforts being conducted within other health professional education programs and growing demand for accountability and assessment in clinical practice, representatives from the National Commission on Certification of Physician Assistants (NCCPA), the Accreditation review Commission on Education for the Physician Assistant (ARC-PA), the Physician Assistant Education Association (PAEA), and the American Academy of Physician Assistants (AAPA) developed the Competencies for the Physician Assistant Profession. This document, last updated in 2012, serves as a foundation from which the CMU PA program has developed its student learning outcomes and objectives.

Program Mission/Purpose Statement

The mission of the Central Michigan University (CMU) Physician Assistant program is to produce well-educated and highly trained Physician Assistants who provide evidence-based medical services within the interdisciplinary primary care environment, with an emphasis on diversity and service to medically underserved populations in rural or urban communities.

In order to meet the above mission, the following goals (and associated student learning outcomes) outline the desired expectations for our Physician Assistant (PA) graduates.

Program Goals (G)

**G1: Medical Skills & Competence**
Provide graduates with the requisite fund of medical knowledge to provide evidence-based medical care in all settings.

**G2: Clinical Skills**
Provide the graduate with the clinical skills necessary to provide competent medical care.

**G3: Communication Skills**
Provide graduate with the skills necessary to demonstrate competence in oral and written communication skills.

**G4: Critical Evaluation**
Educate graduates on the basics of critical appraisal of the literature and life-long learning.

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3 PA Program Mission, [https://www.cmich.edu/colleges/CHP/hp_academics/physician_assistant/Pages/Mission.aspx](https://www.cmich.edu/colleges/CHP/hp_academics/physician_assistant/Pages/Mission.aspx)
G5: Professionalism
Inculcate in each graduate professionalism as demonstrated by respectful, compassionate, and responsive interactions with patients, peers, and supervisors.

G6: Collaborative Learning
Reinforce collaborative learning and working styles necessary to work within the interdisciplinary health care environment.

G7: Critical Thinking and Reasoning
Assist the graduate in developing critical thinking and clinical reasoning skills.

Student Learning Outcomes (SLO) Statements

In order to achieve the stated program goals, PA students will be able to demonstrate competence in the following areas.

SLO 1: Medical Knowledge (Program Goals: 1, 5, 7) (Measures: 1, 2, 3, 4, 5, 6)
Medical knowledge includes an understanding of the pathophysiology, etiology, risk factors, epidemiology, signs and symptoms, differential diagnosis, diagnostic work-up, patient management, surgical principles, health promotion, and disease prevention for a variety of acute and chronic medical conditions across the ages.

SLO 2: Interpersonal and Communication Skills (G: 1, 2, 3, 5, 6) (M: 1, 2, 3, 4, 5, 6)
Interpersonal and communication skills encompass verbal, nonverbal, and written exchange of information. PAs must demonstrate interpersonal and communication skills that result in effective information exchange with patients, their patients' families, physicians, professional associates, and the health care system.

SLO 3: Patient Care (G: 1, 2, 5, 6) (M: 1, 2, 3, 4, 5, 6)
Patient care includes age appropriate assessment, evaluation, and management. PAs must demonstrate caring and respectful behaviors when interacting with patients and their families and provide care that is effective, patient-centered, timely, efficient, and equitable for the treatment of health problems and the promotion of wellness. PAs must also be able to counsel and educate patients and their families and competently perform medical and surgical procedures considered essential in the area of medical practice.

SLO 4: Professionalism (G: 1, 5) (M: 1, 2, 3, 5, 6)
Professionalism is the expression of positive values and ideals as care is delivered. Foremost, it involves prioritizing the interests of those being served above one's own. PAs must know their professional and personal limitations. Professionalism also requires that PAs practice without

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4 See the previous page and above for referenced Program Goals 1-7.
5 Refer to pages 4-6 for referenced Measures and Targets.

Approved by the PA Program Core Faculty on April 9, 2015 and CMU Assessment Council on April 13, 2015.

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impairment from substance abuse, cognitive deficiency, or mental illness. Furthermore, PAs must demonstrate a high level of responsibility, ethical practice, sensitivity to a diverse patient population, and adherence to legal and regulatory requirements.

**SLO 5: Practice-based learning and improvement (Program Goals: 1, 3, 4, 6, 7) (Measures: 1, 2, 3, 5, 6)**

Practice-based learning and improvement includes the processes through which clinicians engage in critical analysis of their own practice experience, medical literature, and other information resources for the purpose of self-improvement. Physician assistants must be able to assess, evaluate, and improve their patient care practices. Examples of this include locating, appraising, and integrating evidence from scientific studies related to their patients' health problems; recognizing and appropriately addressing gender, cultural, cognitive, emotional, and other biases; and recognizing gaps in medical knowledge.

**SLO 6: Systems-based practice (G: 1, 2, 3, 4) (M: 1, 2, 5, 6)**

Systems-based practice encompasses the societal, organizational, and economic environments in which health care is delivered. PAs must demonstrate an awareness of and responsiveness to the larger system of health care to provide patient care that is of optimal value. Examples include effectively interacting with different types of medical practices and delivery systems, understanding the funding sources and payment systems that provide coverage for patient care, and practicing cost-effective health care and allocating resources that do not compromise quality of care.

**SLO 7: Technical Standards**: (G: 1, 2, 3, 4, 5, 6, 7) (M: 1, 2, 3, 4, 5, 6)

All candidates for graduation from CMU's PA Program must possess essential skills and abilities necessary to complete the curriculum successfully. Such skills and abilities include the ability to acquire, synthesize, and apply information in a variety of settings and using a variety of modalities; the ability to manipulate the equipment, instruments, apparatus, or tools required to collect and interpret data appropriate to PA practice; use intellectual ability, exercise proper judgment, and complete all responsibilities within a timeframe that is appropriate to a given setting; demonstrate emotional stability to function effectively under stress and adapt to changing environments inherent in clinical practice and health care.

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6 The Essential Technical Standards are reviewed with students prior to matriculating, again at orientation in mid-May, and again prior to their pursuing their SCPEs. To review the document, please visit https://www.cmich.edu/colleges/CHP/hp_academics/physician_assistant/SiteAssets/Pages/Student-Handbooks/Essential%20Standards%20for%20Matriculation-rev.Dec.%202%2713_jjgr.pdf

Approved by the PA Program Core Faculty on April 9, 2015 and CMU Assessment Council on April 13, 2015.
Measures (M) and Targets

**M 1: Objective-based examinations (Student Learning Objectives/SLOs: 1 - 7)**
Examinations are administered in nearly all courses in the didactic year and at the end of all core supervised clinical practical experiences (SCPEs). Examinations are based on the learning objectives for each course and primarily consist of multiple choice and short-answer types of questions. Examinations are delivered in both paper and computer based formats. Course examinations are written by the faculty. The end-rotation examinations administered by the Physician Assistant Education Association (PAEA, [http://endofrotation.org](http://endofrotation.org)) are issued to the second year PA students to assess their knowledge of family medicine (FM), psychiatry, obstetrics and gynecology (OB-Gyn), pediatrics, general surgery, emergency medicine (EM), and internal medicine (IM). These PAEA examinations evaluate student learning in the domains of medical knowledge, patient care, practice-based learning, and systems-based practice. Specifically, each 100-question PAEA examination incorporates current clinical content following rotation-specific topic lists and blueprints relating to clinical interventions, clinical therapeutics, diagnosis, diagnostic studies, health maintenance, history taking and physical assessment and key scientific concepts.

**Target**
Students must pass all examinations in the didactic and clerkship years with a minimum of 70%. However, students must maintain an overall 3.0 (on a 4.0 scale) grade point average in order to maintain their graduate standing.

**M 2: Faculty Evaluation of Students in the Clinical Problem Solving Course (SLOs: 1 - 7)**
The Clinical Problem Solving course is a series of three courses that introduce the student to critical thinking and clinical reasoning skills as applied to patient care. Utilizing small group learning, the course utilizes a case-based methodology in a progressive, longitudinal format that builds on prior learning. Students are evaluated on written and verbal communication skills, as well as achievement in clinical reasoning related to practice-based learning, patient care, medical knowledge, and systems-based practice.

**Target**
Students must score at least a satisfactory on each exercise to receive a passing score on the didactic portion of the CPS course.

**M 3: Objective Structured Clinical Examination (OSCE) (SLOs: 1, 2, 3, 4, 5, and 7)**
The OSCE is a performance-based evaluation method that measures student's clinical competence. OSCEs utilize standardized patient evaluation and faculty observed performance of patient care skills and application of medical knowledge. OSCEs are completed as a component of the program summative assessment.

**Target**
Students will meet the minimum level of competency determined by the faculty member. Most cases vary, therefore, faculty will report the competency level within the annual assessment report. Student performance on OSCEs is evaluated by standardized patients and faculty members using checklists specific for the task being performed. Critical tasks are identified and performance of these tasks are required to receive a passing score on the exercise. OSCEs form one component of the end-of-program summative assessment and passage of the OSCE exercise is required for satisfactory completion of the program.

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M 4: Clinical Performance Examinations (CPX) (SLOs: 1, 2, 3, and 7)

Clinical performance examinations are used as part of the summative course evaluations for several courses in the didactic year and during the end-of-rotation evaluations in the second year of study. Through the application of standardized patients and high-fidelity case simulations, students are required to demonstrate mastery of clinical skills in history taking, physical examination, and clinical procedures.

**Target**

Depending on which semester the student is in, they are assessed on interpersonal communication, medical history taking, physical examination performance, and performance of certain clinical procedures. Students are evaluated by standardized patients using faculty generated checklists. Faculty set minimal performance levels for each of the domains evaluated. Students in the history and physical examination courses receive a letter grade. Students in the clinical procedures courses are marked on a credit/no credit basis.

M 5: Clinical Site Visits and e*Value® Patient Encounter Reporting (SLOs: 1 - 7)

All clinical mentors garnered for the first year mentorship experience and clinical instructor preceptors (CIs) acquired for the second year supervised clinical practical experiences (SCPEs) are screened through telephonic and supplemental questionnaires prior to students initiating their assignments. The screening helps to ensure that all interested parties pursued by the program are receptive to providing the experience and resources needed for supporting optimal student learning in accordance with established course and SCPE objectives. In addition, the clinical mentors' and instructors' credentials (licensing and board certification) are verified prior to activating student assignments. This screening is complemented by a review of student assessments of their clinical experiences (the clinical instructors and the sites) and may be supplemented by clinical site visits coordinated through the clinical placement coordinator (CPC)-faculty team. During clinical site visits, the CPC-faculty team meet with students and interview their CIs and the institution/practice staff to inquire about student performance in meeting the course/SCPE objectives.

During the first year mentorship experience associated with the Clinical Problem Solving course series (PHA 640, 641, and 642) and the second year SCPEs associated with the Clinical Education courses (PHA 690, 691, and 692), students are required to log their clinical experiences and patient encounters into a database. Since several years the program has used the e*Value software package and with our recent system enhancements, the program has the capability to monitor student experiences in their clinical mentorships and SCPE rotations. Key features of e*Value include the following reports -

- **PxDx**, where students log their clinical experiences online allowing for faculty to review and validate student logs and subsequent guidance. Student reports include (but are not limited to): patient demographics, procedures observed or performed, clinical presentations seen, and formulated diagnoses.

- **Evaluations**, where students and CIs complete various assessment forms regarding the course/SCPE. Reports include (but are not limited to): student impressions of clinical instructors and the clinical sites, as well as CIs’ assessment of student clinical competence attributes.

**Target**

Students are assessed on interpersonal communication, medical history taking, physical examination performance, and performance of certain clinical skills. They are further evaluated
by participating in clinical simulation exercises where standardized patients use faculty developed checklists. Faculty set minimal performance levels for each of the domains evaluated. Students in the history and physical examination courses receive a letter grade. Students in the clinical procedures and clinical education courses are marked on a credit/no credit basis.

M 6: Preceptor Evaluations (SLOs: 1 - 7)
As part of the second and third Clinical Problem Solving courses (spring and second summer semesters) students are placed with a “mentor”, a physician, PA, or nurse practitioner for a once-weekly clinical experience. Students are evaluated at the end of the semester by the clinical mentor across the spectrum of student learning outcomes. These evaluations are components of the final grade for these courses. During the second clinical education year, the mid-clerkship formative evaluation is used to identify areas for improvement and the final end-rotation summative evaluation is issued to assess the student's progress in improving the performance of any outcomes identified as deficient or weak in the mid-clerkship evaluation as well as overall performance during the five week rotation.

Target
Clinical mentor and preceptor/instructor evaluations are one component of the student's grade for the clinical problem solving course and their clinical experiences. Students are scored on a Likert-type scale of 1 to 10 (10 is the maximum score equivalent to an excellent rating). Students must achieve at least a satisfactory rating (a score of 6 to 7) on the scale in order to be awarded a passing grade for that portion of the course/rotation evaluation.

Assessment Metrics

Success of the Assessment Plan and interventions will demonstrated by at least the following metrics:

<table>
<thead>
<tr>
<th>Metric</th>
<th>Fair</th>
<th>Satisfactory</th>
<th>Excellent</th>
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</thead>
<tbody>
<tr>
<td>Minimum 3.0 GPA at the end of the didactic year</td>
<td>90%</td>
<td>95%</td>
<td>100%</td>
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<tr>
<td>Successful completion of all SCPE rotations</td>
<td>90%</td>
<td>95%</td>
<td>100%</td>
</tr>
<tr>
<td>Successful completion of all program administrative requirements</td>
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<td>100%</td>
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<tr>
<td>Passing the Physician Assistant National Certifying Examination (PANCE) on the first attempt</td>
<td>95%</td>
<td>98%</td>
<td>100%</td>
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## Mapping of Student Learning Outcomes and Evaluation Methods for Each Core Course

The CMU PA program uses an organ system-based approach to its didactic medical education and specialty-based approach to clinical education. As a result, it is difficult to vertically integrate the curriculum and demonstrate a progression toward higher level cognitive function. Students are expected to demonstrate higher level cognitive skills from the beginning of the program.

<table>
<thead>
<tr>
<th>Courses</th>
<th>SLO$^7$</th>
<th>Evaluation Method$^8$</th>
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<tbody>
<tr>
<td>PHA 608 Clinical Medicine I</td>
<td>1, 3, 5, 7</td>
<td>1</td>
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<tr>
<td>PHA 609 Clinical Medicine II</td>
<td>1, 3, 5, 7</td>
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<tr>
<td>PHA 610 Clinical Medicine III</td>
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<tr>
<td>PHA 612 Obstetrics and Gynecology</td>
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<td>PHA 614 Pediatrics</td>
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<td>PHA 616 Surgery</td>
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<td>PHA 618 Emergency Medicine</td>
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<td>PHA 620 Infectious Diseases</td>
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<td>PHA 624 Issues in Practice</td>
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<td>PHA 625 Clinical Pharmacology I</td>
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<tr>
<td>PHA 626 Clinical Pharmacology II</td>
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<tr>
<td>PHA 630 Clinical Procedures I</td>
<td>1, 7</td>
<td>1, 3, 4</td>
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<tr>
<td>PHA 631 Clinical Procedures II</td>
<td>1, 3, 7</td>
<td>1, 4</td>
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<tr>
<td>PHA 633 Scientific Basis of Medicine I</td>
<td>1, 5, 7</td>
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<td>PHA 634 Scientific Basis of Medicine II</td>
<td>1, 5, 7</td>
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<tr>
<td>PHA 635 Scientific Basis of Medicine III</td>
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</table>

$^7$ **Student Learning Outcomes:**

1. Medical Knowledge  
2. Interpersonal and Communication Skills  
3. Patient Care  
4. Professionalism  
5. Practice-based Learning and Improvement  
6. Systems-based Practice  
7. Technical Standards

$^8$ **Student Learning Outcome Assessments**

1. Objective-based Examinations  
2. Faculty Eval. of Students, Clinical Problem Solving Course  
3. Objective Structured Clinical Examination (OSCE)  
4. Clinical Performance Examinations (CPX)  
5. Clinical Site Visits & Pat. Encounter Reporting  
6. Preceptor Evaluations

Approved by the PA Program Core Faculty on April 9, 2015 and CMU Assessment Council on April 13, 2015.
### Courses, continued

<table>
<thead>
<tr>
<th>Course Title</th>
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<tr>
<td>PHA 640 Clinical Problem Solving I</td>
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<td>PHA 641 Clinical Problem Solving II</td>
<td>1, 2, 3, 4, 5, 6, 7</td>
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<tr>
<td>PHA 642 Clinical Problem Solving III</td>
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<tr>
<td>PHA 645 Critical Appraisal of the Medical Literature</td>
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<td>PHA 650 Diagnostic Tests I</td>
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<tr>
<td>PHA 651 Diagnostic Tests II</td>
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<tr>
<td>PHA 652 Diagnostic Tests III</td>
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<td>PHA 661 History and Physical Examination II</td>
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<tr>
<td>PHA 662 History and Physical Examination III</td>
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<td>PHA 671 Preventive Medicine</td>
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<td>PHA 672 Applied Ethics</td>
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<td>PHA 673 Psychiatry</td>
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<td>PHA 690 Clinical Education I</td>
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<tr>
<td>PHA 692 Clinical Education III</td>
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</table>

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\(^9\) **Student Learning Outcomes:**

1. Medical Knowledge  
2. Interpersonal and Communication Skills.  
3. Patient Care  
4. Professionalism  
5. Practice-based Learning and Improvement  
6. Systems-based Practice  
7. Technical Standards

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\(^{10}\) **Student Learning Outcome Assessments**

1. Objective-based Examinations  
2. Faculty Eval.of Students, Clinical Problem Solving Course  
3. Objective Structured Clinical Examination (OSCE)  
4. Clinical Performance Examinations (CPX)  
5. Clinical Site Visits & Pat. Encounter Reporting  
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