Name of unit, including name of school/college/campus

MEDEX Northwest Physician Assistant Section, Department of Family Medicine, School of Medicine

Seattle, WA (MCHS, EMCHS)
Spokane, WA (MCHS)
Tacoma, WA (BCHS)
Anchorage, AK (BCHS)

Official title(s) of degrees/certificates offered by the unit

Bachelor of Clinical Health Services (BCHS)
Master of Clinical Health Services (MCHS)
Extended Master of Clinical Health Services (EMCHS)

Year of last review

Not Applicable - First review

Name of Chair/Director/Lead of Unit

Terry Scott, MPA, PA-C, DFAAPA, Assistant Professor; Program Director, Section Head

Name of Self-study coordinator/author (if different from above)

Terry Scott, MPA, PA-C, DFAAPA, Assistant Professor; Program Director, Section Head
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Donna Lewin, MA, MSW; Administrator
Mariah Kindle, MSOL; Director of Admissions
Keren H Wick, PhD, Associate Professor; Director of Research and Graduate Programs

... on behalf of the MEDEX Review Committee: Eric Larson, PhD; Betty Stewart, PA-C; Amee Naidu, MMS, PA-C; Timothy C Evans, MD, PhD, FACP; Marc Hawkins, MPAS, PA-C; Malinda Siegel, JD, PA-C; Gino Gianola, MA, PA; Doug Brock, PhD; Amy Pangilinan, MSIL; Sergio Monni, MPA

Date submitted 6 January 2017

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Part A
Section I: Overview of Organization

Mission & Organizational Structure

The MEDEX Physician Assistant (PA) program in the School of Medicine was established by Dr. Richard Smith in the late 1960s in response to the primary care needs of rural and underserved communities. The mission of the MEDEX program is aligned with the overall mission of UW Medicine which is to improve the health of the public. The actual mission expands upon this and reads as follows:

MEDEX Northwest is a regional program that educates physician assistants in a proven tradition of excellence. MEDEX Northwest, the University of Washington School of Medicine's Physician Assistant Program, is committed to educating experienced health personnel from diverse backgrounds to practice medicine with physician supervision. The program provides a broad, competency-based curriculum that focuses on primary care with an emphasis on underserved populations. MEDEX encourages life-long learning to meet ever-changing healthcare needs. As a pioneer in PA education, MEDEX continues to be innovative in identifying, creating, and filling new niches for PAs as a strategy for expanding healthcare access.

The program is made up of four didactic campuses: Spokane, Seattle, Tacoma WA and Anchorage AK. There are 132 students in the didactic phase and 113 in the clinical phase of training, for a total enrollment of 244 students. The distribution of students is as follows:

Seattle: 52 didactic, 45 clinical;
Spokane: 29 didactic, 29 clinical;
Anchorage: 22 didactic, 14 clinical;
Tacoma: 29 didactic, 25 clinical.

The post-graduate degree program, the EMCHS currently has 5 students enrolled.

For the purpose of this self-study report, the discussion that follows will focus on the master's degree students only. The program will phase out the bachelor's degree option, and all four campuses will offer a master's degree only for the class entering in 2019. This is in response to the requirement by the accrediting body, the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) that all PA programs be at the master's level by 2021.

The MEDEX program understands that a well-trained and diverse workforce is needed to meet the healthcare needs of the US population. The goal is to educate highly skilled physician assistants who will go on to serve the program's community, the region and the nation. Other program goals include:

- Contribute to the regional primary care workforce needs by training culturally-competent PAs for strategic areas of need in the WWAMI region and Nevada. The UW School of Medicine serves the states of Washington, Wyoming, Alaska, Montana and Idaho, known as WWAMI.

- Maintain a flexible and innovative curriculum capable of responding to the changing health care systems and the evolution of the PA profession.
- Recruit qualified individuals from underrepresented and underserved backgrounds for careers as physician assistants.
- Utilize community-based clinical preceptorships to develop effective physician–physician assistant relationships.
- Develop, implement and maintain MEDEX decentralized didactic education model for the purpose of increasing access to care and physician assistant training.

Seattle is the home campus for the administration of the program. As such the largest number of faculty and support staff are in Seattle. The program has 64 full- and part-time faculty and staff across all sites. All employees are ultimately responsible to the Program Director. MEDEX is a section in the Department of Family Medicine (DFM) within the School of Medicine (SOM), and the Program Director reports directly to the Chair of DFM. Due to the regional nature of the program, MEDEX also reports to the Vice Dean of Academic, Rural and Regional Affairs in the SOM. The attached chart describes the program's organizational structure (see Appendix A).

The decentralized nature of the program requires competent leadership throughout. Each campus has a Site Director who manages the day-to-day operations of the site. Distant campuses have four to six FTE faculty and one to two FTE staff. The faculty meet monthly to review and discuss issues concerning the program. A representative of the larger Department of Family Medicine joins these meetings.

Teams of faculty work together to solve issues that arise. An Administrative Team consisting of program leaders advises the Program Director on matters pertaining to the program. Both didactic and clinical teams are led by senior faculty who meet on a regular basis. During these meetings, the faculty work collaboratively to address important issues facing the program.

Budget and Resources

A synopsis of the budget for last six years (two complete biennia and current biennium) is provided in Appendix B. Salaries and benefits account for approximately two-thirds of expenses, with the remaining third going toward operational costs. Notable among these costs is the 5.9% overhead that self-sustaining programs pay to UW for university-based services (Registrar, Financial Aid Office, Human Resources etc.). As a self-sustaining program, MEDEX is located off campus. In FY16, MEDEX paid rent in the amount of $473,158 for space across all training sites. Additionally, pursuant to the agreement with the University of Alaska, Anchorage, MEDEX pays UAA an amount equal to that institution's tuition for all second-year Anchorage students.

Because MEDEX is a self-sustaining program, it maintains a reserve to cover years when the budget runs at a deficit. This typically occurs due to decreased enrollment numbers. Per policy, the targeted surplus is one year's operating expenses, which would allow MEDEX to meet its commitment to "teach out" enrolled students should the program cease operations.

Budget forecasting for the upcoming fiscal year is conducted each spring with an in-depth review of the previous year's revenue and expenses. Staffing needs for both faculty and staff and a review of operating expenses are included in the evaluation. Based on the findings, a budget for the upcoming fiscal year is developed.

MEDEX Northwest is a self-sustaining program. It receives minimal General Operating Funds from the State. In FY11 and FY12 these funds were reduced by a total of $75,000. The bulk of funding is derived from student tuition. Requests for any increase in student tuition require approval by the Provost. MEDEX has requested tuition increases every other year for the last six years. Tuition is benchmarked against 20 comparable PA programs, all based in academic medical centers, with a goal of setting tuition at the 50th percentile of the average tuition at these institutions.

MEDEX is currently in the fifth year of a five-year grant it received from the Health Resources and Services Administration (HRSA) for opening the Tacoma site. HRSA awards grants to institutions based on their ability to provide training in the health sciences to build the primary care workforce. MEDEX faculty members have also applied for various grants, and have received funding from national PA organizations. Faculty continue to explore grant opportunities and to apply for both training and research grants.

Academic Unit Diversity

MEDEX Northwest has a long history of diversity in its faculty, staff and student ranks. The founder, Richard Smith, MD, was an African American physician whose early work in the Peace Corps provided the vision for the physician assistant model. MEDEX has made a commitment to student and faculty diversity. MEDEX faculty and staff are active in the DFM's diversity committee.

Does the academic unit have a diversity plan?

Although the program does not have a defined diversity plan, the mission, vision and values includes the following statement: "MEDEX Northwest ... is committed to educating experienced health personnel from diverse backgrounds to practice medicine with physician supervision." This is listed prominently on the program's website and in outreach materials. The program reaffirms this mission annually at the program retreat. For faculty recruitment, the program seeks ethnic parity with the populations served, and actively seeks out both MEDEX graduates and PA educators trained at other institutions to apply for open positions within the program.

The program has described its goals for diversity in the student population in the Unit-Defined Questions, Part C and Part F.

Does the unit have a diversity committee and, if so, what is the representation on the committee?

The MEDEX Director of Student Affairs is the chair of the Family Medicine Diversity Committee and represents MEDEX at the unit level. Faculty and staff representatives also attend

this committee, and information from this meeting is brought back to the faculty at both faculty meetings and the annual retreat.

The Program Director, an African American, is on the Diversity Council for the University Washington, which has as one of its goals to attract, retain and graduate a diverse student body. He is a member of the Inclusion and Diversity Council for the Physician Assistant Education Association (PAEA), the national PA educators organization. He also chairs PAEA's Project Access Committee, and has collaborated to develop a toolkit that focuses on recruitment of diverse students at the local level.

What is the diversity of the unit's faculty, administrative support services and technical staff?

The MEDEX program currently employs 40 faculty, 24 staff members, and 3 student assistants. Racial and ethnic minorities represent 25.7% of the faculty and 20.8% of the staff. Those who have self-declared as LGBTQ are 5% of the faculty and 16.7% of the staff. Those who have declared a disability are also 2.5% of the faculty and 12.5% of the staff. Of the faculty, 27.5% are military veterans.

Describe how the unit utilizes institutional resources or partners with organizations such as the Graduate Opportunities and Minority Achievement Program (GO-MAP) in the Graduate School to conduct outreach and to recruit and retain underrepresented minority undergraduate and graduate students.

The Director of Admissions coordinates unit participation at events at GO-MAP, the Office of Minority Affairs and Diversity (OMA&D), the Center for Diversity, Equity and Inclusion (CEDI), and is a member of Queer Faculty, Staff, and Allies Affinity Group (QFS). In addition, the Admissions Team conducts outreach at local colleges that have a published record of diverse student populations.

Describe outreach strategies the unit employs with underrepresented minority students, women, students with disabilities, and LGBTQ students to diversify its student body.

Admissions outreach activities each year include information sessions at WWAMI area colleges and universities. Alaska, Montana, Wyoming, and Eastern Washington outreach events attract potential PA students from rural areas of each state, while in Seattle and Tacoma the outreach events focus on urban underserved, often minority students. Each institutional partner is chosen based on the percentage of minority students enrolled as well its focus on providing access to education for underserved and/or rural communities. MEDEX has long-standing relationships with institutions in the region that focus on educating underrepresented minority (URM) students in basic science and allied health programs. The program routinely advertises outreach events at underserved community clinics and tribal organizations.

The MEDEX program has traditionally accepted second-career students due to the requirement for significant clinical experience prior to application. Outreach has, for most of the program's history, been concentrated in college and clinical settings. Recognizing that many PA school applicants now see this is their first career, the program is developing a high school outreach

program to specifically target high schools in the WWAMI region with a high percentage of URM students exploring future careers in science based fields.

As part of the University of Washington, MEDEX Northwest is committed to the principle of equal opportunity. For example, the program does not discriminate on the basis of race, color, creed, religion, national origin, cultural or ethnic background, socioeconomic status, gender, gender identity, sexual orientation, age, marital status, disability, or status as a veteran. The results of this policy of non-discrimination are reflected in the demographics of the class accepted for entry in 2016: 48.5% men, 51.5% women; average age 31, with a range from 22 to 57; 15% military veterans, 13.4% self-declared URM under federal definitions (which no longer include Asian populations as URM).

Describe initiatives the unit has employed to create an environment that supports the academic success of underrepresented minority students, women, students with disabilities, and LGBTQ students.

The Director of Student Affairs, who chairs the department's diversity committee, has a keen understanding of diverse students' needs. The program seeks to identify students who need additional academic support from the initial quarter of instruction. During this quarter, the program encourages students to be assessed if needed for potential reasonable accommodations through the UW Disability Resources for Students (DRS) office. Students at academic risk are offered tutoring at the program's expense. All students have access to a diverse group of faculty advisors. All of these resources are available to all students without discrimination. Faculty and lead staff have received diversity training, including recognition of unconscious bias.

Describe how the unit utilizes institutional resources such as the Office of the Associate Vice Provost for Faculty Advancement to recruit and retain faculty from underrepresented minority groups. To what extent has the unit been successful in diversifying its faculty ranks?

Recruitment efforts are focused on attracting PA, nurse practitioner (NP) and physician faculty members. All positions are advertised in the Journal of Higher Education and the national PA educational organization. School of Medicine faculty and staff involved in interviewing potential faculty members have participated in diversity training offered through Center for Equity Diversity and Inclusion in the medical school. Faculty have access to the medical school and departmental faculty development workshops and seminars.

The success in diversifying program faculty is described above on page 4 (see percentages of each group).

What specific strategy has the unit employed to support the career success of faculty members from underrepresented groups, and where applicable, women faculty?

MEDEX faculty are encouraged to participate in professional organizations at the UW level and with the national organizations, the Physician Assistant Education Association (PAEA) and the American Academy of Physician Assistants (AAPA). The program actively supports its URM faculty by having them attend PAEA's workshop on "Developing Minority Faculty Leaders".

Participants learn how to recognize common challenges minority faculty face in medical education. Faculty may utilize defined continuing medical education (CME) funds annually to attend professional conferences. Faculty are supported to attend PAEA's faculty development workshops that are all designed to facilitate the transition from clinical practice to the faculty role and to develop professional networks nationally.

The University of Washington's School of Medicine offers a Women's Faculty Development Workshop every year. Several program faculty attend annually and obtain CME hours. All faculty promoted within the last two years have been women or minorities.

Section II: Teaching & Learning

Student Learning Goals and Outcomes

Following instructions provided in the Graduate School and Review Committee charge meeting, this discussion will focus on the master's degree programs only.

What are the student learning goals (i.e., what students are expected to learn)?

The MEDEX mission is to train competent primary care PAs, who have the ability to pass the PA National Certifying Exam (PANCE), and who can obtain licensure for practice. The program is based on PA core competencies that have been established by the AAPA, ARC-PA, PAEA, and the National Commission on Certification of PAs (NCCPA). The program is in the process of mapping the didactic and clinical curriculum to both the NCCPA blueprint and ARC-PA standards. The PA program curriculum is cumulative with each quarter building on the previous quarter. All courses have syllabi and objectives that are PA-competency based. Students are informed that they are responsible for all objectives and for all reading material for the assessments. Master's students are required to complete a capstone project. Students are given an orientation to each course by the respective chair(s) or co-chair(s) at their campus. Expectations for passing each course are described in the unit-defined questions below (Part A).

In the first, didactic, year the goal is to acquire a basis in medical knowledge, and skills in physical examination, diagnosis and clinical reasoning. The didactic year prepares students to enter the clinical phase of training, where students interact with patients with the supervision of preceptors. Broadly speaking, student learning goals and outcomes during the clinical year are to develop clinical and cultural competencies. These goals include professionalism and leadership skills, understanding systems-based practice, interpersonal and communication skills, community focus in rural and urban settings and with underserved populations, academic education and PANCE preparation, and skills for lifelong learning.

The post-graduate EMCHS degree program is designed to provide additional administrative and leadership skills to practicing PAs who hold a bachelor's degree. Each course syllabus defines learning objectives and expected outcomes. Over the course of the degree program, students are expected to acquire advanced skills in management techniques, professional advocacy, how to

influence health policy and legislation, quality assessment and improvement, and professional and clinical leadership.

In what ways does the unit evaluate student learning (e.g., classroom- and/or performance-based assessment, capstone experiences, portfolios, etc.)?

Students are evaluated utilizing various methods for performance. In the didactic year, courses with core medical content evaluate student performance with multiple-choice question (MCQ) exams. These exams mirror the NCCPA blueprint organ system and task areas to provide students an opportunity to understand and gain practice for the PANCE. MCQs are written in a format similar to the PANCE. Other forms of evaluation include Clinical Reasoning Assessments (CRA), which are clinical scenarios where students practice exam skills on a "patient actor". CRA exams begin in the autumn-quarter Basic Clinical Skills course with how to perform a history and physical on a standardized patient given a chief complaint. This is built upon in the winter and spring quarters with Adult Medicine CRAs that require more clinical decision-making (developing a thorough differential diagnosis) and providing a treatment plan, which includes patient education. Students write clinical notes for each CRA and also provide an oral presentation to the faculty proctor, which is evaluated. Students who do not perform above 80% are provided tutoring and re-test. Writing assignments are required for the master's degree program, including a Capstone project. Some courses utilize in-class quizzes, group workshops and other activities.

In the clinical year, students are evaluated with MCQ exams on four occasions throughout the year. These are designed to be practice exams for the PANCE. During each clinical rotation, preceptors provide verbal feedback in addition to a written performance evaluation that is reviewed by program faculty. Students in the four-month family medicine rotation receive at least one site visit from program faculty to evaluate progress in clinical and decision-making skills. The faculty reviews overall student progress toward programs goal and PA competencies. A site visit report documents this evaluation. The summative examination, required by the ARC-PA, evaluates students within four months of graduation. MEDEX developed a three part assessment of knowledge (an MCQ exam), skills (the CRAs) and professionalism (a pair of reflective essays).

Evaluation in the EMCHS courses is accomplished via written assignments and required online discussion of assigned readings. MCQ examination is not utilized in the EMCHS program. A capstone project is required for EMCHS students, including both a written and an online poster presentation.

What methods are used to assess student satisfaction? What efforts are made to gauge the satisfaction of students from under-represented groups?

Students complete weekly evaluations of individual classroom activities (including lectures) as well as quarterly evaluations of each course. Students use free-text fields to express their level of satisfaction and suggestions for improvements. These confidential comments are reviewed by each course team at annual course retreats. All students, including those from underrepresented groups, are encouraged to bring concerns to their faculty advisors or program leadership.

Student satisfaction is gauged during the clinical year in two ways. At the end of each clinical rotation, students submit an evaluation of the rotation. These evaluations are reviewed by the program faculty. The second method of measuring student satisfaction is through their evaluation of the faculty member who does the site evaluation. An Exit Survey administered to graduating students each year following completion of the program examines all aspects of the didactic and clinical curriculum. The confidential responses to this survey are reviewed by program leadership in the aggregate.

All students are surveyed annually via a modified American Association of Medical Colleges Second-Year Survey to assess overall satisfaction with the program, student safety, fair treatment, and other concerns. This survey is administered and reviewed by a faculty member in Medical Education to minimize perceived bias or influence from MEDEX faculty.

EMCHS students complete course evaluations on a quarterly basis.

What are the findings of the assessment of student learning in each program of study?

The majority of students pass the coursework, some with extra support in the form of tutoring and other remediation. Each year, approximately 3% to 5% of students withdraw for academic, medical, family or other personal reasons. In both the didactic and clinical phases, students are evaluated on their professionalism, role transition, clinical reasoning and decision-making skills, interpersonal communication, teamwork and other areas addressed by the PA competencies.

The program reviews graduate performance on the PANCE, comparing the first-time pass rate to the national benchmark. The program had seen a drop in this pass rate, but in recent years it has been rising. The figure for 2015, the most recent year for which full data are available was a program rate of 92%, compared to a national rate of 96%. Additional discussion of the program's PANCE performance is provided in the Unit-Defined Questions Part B.

EMCHS graduates have gone on to become faculty at PA educational programs, and to take on more administrative and leadership roles in their current jobs. As this was the goal of the degree program, MEDEX sees this as a sign of instructional success.

How has the unit used these findings to bring about improvements in the programs, effect curricular changes, and/or make decisions about resource allocation?

Analysis of student test scores during the didactic and clinical years has allowed MEDEX to identify students who are having difficulties mastering the medical knowledge or lack test-taking skills. Over the last three years, MEDEX has dedicated more resources to providing remedial assistance in these areas for all students in need of additional academic support. Faculty evaluate exam results to recognize whether students are underperforming in specific topic areas. A process is being developed for faculty at each campus to deliver a brief review of key concepts that were broadly missed on major exams. Faculty have also been implementing a higher number of class sessions that utilize the "flipped classroom", and are applying other methods of interactive learning to enhance the traditionally lecture-based instruction.

Based on faculty evaluation and feedback from clinical preceptors, gaps were identified in student skills to integrate medical facts into an overall clinical picture, and in the ability to verbally present cases. Faculty responded to this by developing the CRAs (described above under evaluation) to build student skills in these areas. MEDEX has increased and enhanced the academic requirements during the clinical year, such as adding PANCE preparation modules. Lectures have been added to the clinical-phase on-campus weeks that cover topic areas where the class has demonstrated weaknesses.

During the 2015-2016 academic year, MEDEX requested a one-year suspension from enrolling EMCHS students in order to restructure this post-graduate degree program. This was based on student feedback about the length of the program, the requirement to travel to campus a second time, and the overall tuition. The Graduate School approved the suspension, and the subsequent proposal for the new format. MEDEX enrolled five students in the 2016-2017 EMCHS cohort, and they have expressed satisfaction with the one-year degree program and the cost.

If applicable, note the courses typically taken by undergraduates who will not be majors in any of the unit's programs. Are there specific learning goals in those courses designed to accommodate such "non-major" students? If so, how is student achievement in reaching these goals assessed?

The MEDEX program is "closed" meaning that only those who are accepted to the course of PA study are allowed to register for individual courses. This question has not applied up until this point. MEDEX is implementing a new elective interprofessional course (described on page 14) that will include non-majors. Faculty will evaluate this new offering as it evolves.

Instructional Effectiveness

Including the use of standardized teaching evaluation forms, describe and discuss the method(s) used within the unit to evaluate quality of instruction.

The program determined several years ago that the UW standardized course evaluations were not appropriate for the instructional format of PA coursework. The program developed internal evaluation forms to better evaluate teaching effectiveness within the program. As noted above, students evaluate individual lectures or workshops as well as the overall course each quarter. Course faculty (in teams across campuses) review the evaluation results. Course chairs provide leadership in developing and implementing improvements. The program also uses examination and course outcomes to evaluate where the program is being successful in providing guidance and instruction in the core PA curriculum. As described above, examinations that reveal deficiencies in student understanding of the material result in faculty re-coverage of topics that were answered incorrectly upon examination.

Another process that is under development is peer evaluation where senior faculty provide individual feedback to junior faculty. This process is new enough that there are not adequate results to allow meaningful assessment of the impact on instructional quality.

Please note all opportunities for training in teaching that are made available to any individuals teaching within the unit (including graduate students). These may be opportunities that support teaching improvement, innovation, and/or best practices, for example.

MEDEX organizes monthly faculty development meetings, covering topics of teaching methods and skills, scholarly activity, course content, and student issues. MEDEX has a position of Teaching Assistant, designed to allow new graduates to learn faculty skills at the same time as becoming established in clinical practice. The UW SOM offers several faculty development workshops available to all MEDEX faculty. The UW SOM also offers a formal Teaching Scholars program designed to enhance instructional skills. The national educational organization, PAEA, offers formal faculty development workshops, called PANDO. MEDEX supports junior faculty to attend these meetings.

Describe specific instructional changes you have seen made by instructors in response to evaluation of teaching within the unit.

The most important instructional changes in recent years include modules with simulation, class sessions with a flipped classroom, and incorporating more didactic material in the clinical year. The didactic year requires student attendance in class all day, every day. Converting many of the lectures into interactive class sessions improves learner engagement and retention. The CRAs, described above, have allowed for a more integrated, active and holistic method of assessing student academic progress during the didactic year. The simulation modules have been well received by the students as a way to see and work through a real clinical case. Other classroom innovations include pre-exam review sessions in a quiz-show format and additional game-type review sessions.

Teaching and Mentoring Outside the Classroom

Describe and discuss how faculty members are involved in undergraduate and graduate student learning and development other than through classroom teaching (i.e., informal learning, independent studies, research involvement, specialized seminars or workshops, etc.).

During the didactic year, there are several clinical skills workshops that take place outside the classroom on topics such as conducting a well-child visit, identifying heart sounds, and practicing the female gynecological and male genitourinary exams. In the autumn quarter, students visit assisted living facilities to practice their developing physical exam and history-taking skills. Service learning projects at each campus allow students to interact with those in need in the local community with faculty oversight.

The master's students complete a capstone project as part of the academic program of study. These all qualify as scholarly products, and some represent original research. Faculty guide each student one-on-one through the process of conducting an in-depth literature search, developing the overall project and producing a final paper and presentation.

During the four-month family practice preceptorship, a member of the MEDEX clinical team makes a minimum of one site visit to observe the student interacting with patients, staff and the

preceptor. A written evaluation of the student's progress is documented and entered into the student's record. If necessary, recommendations can be made in real time for course correction.

The majority of the EMCHS program is online. Faculty interact with the students via Canvas, the UW's online course management software. Since these students are also working full-time, faculty do not expect extracurricular activities.

Describe how the unit works with undergraduate and graduate students to ensure steady academic progress and overall success in the program, and any additional efforts to support students from under-represented groups.

As described above, the program identifies students who may be at academic risk and provides tutoring and other remediation designed to offer additional opportunities for academic success. Program-funded tutoring is offered weekly to students with academic risk. Additional tutoring is provided prior to any retesting that may be needed. Each student has a faculty advisor who provides mentorship and guidance throughout the program. The student-faculty team meets at least once per quarter during the didactic year, and the faculty member follows that student through the clinical phase of training. In the clinical year, students receive at least one site visit from faculty, including review of professional and academic progress to date. This is provided to all students including those from underrepresented groups.

Faculty track student performance on the specific MCQ exams that are designed to determine academic potential and probable success on the PANCE. Students identified as being at risk are referred to the Director of Student Affairs who specializes in study and test-taking skills, and who has developed a specific program for students to follow to improve success on the PANCE.

Describe how the unit works with undergraduate and graduate students to prepare them for the next phases of their academic or professional lives.

In the didactic year, a one-credit Professional Role Development course runs throughout the three main academic quarters. This course covers topics of professional development, service to the profession, medical and professional ethics, local and national networking, and other skills the new graduate will need to obtain and grow in a new job as a PA.

Clinical rotations provide students with real-world experience in the kinds of practice settings that they will see upon graduation. Rotations therefore offer a form of internship, and many graduating students find future employment opportunities during the clinical year. During the on-campus portions of the clinical phase, students are provided with instruction in negotiating an employment contract, and administrative skills that will be needed in clinical practice. The faculty provide mentorship as requested to alumni.

Section III: Scholarly Impact

Describe the broad impact of faculty members' research and/or creative work. Feel free to note specific individuals and how their work embodies the unit's mission, or distinguishes the unit from those at peer institutions.

The MEDEX program is unique in having dedicated, funded research faculty. There are few PA programs that have both a cadre of program faculty with deep research experience (Drs. Evans, Brock, Wick, Larson) and broad range of research resources available and accessible to program faculty with less research experience. Strong ties exist in the Department of Family Medicine between its Research Section and MEDEX Northwest. This is particularly evident in the links between MEDEX and two research centers housed in the Research Section, the WWAMI Rural Health Research Center (RHRC) and the Center for Health Workforce Studies (CHWS).

The WWAMI RHRC has conducted policy based rural health research since 1988, focusing on rural hospitals, rural health outcomes, and the rural health workforce. The work of the RHRC is nationally recognized, cited, and respected in the health services research community. Researchers at the RHRC have conducted work on the contribution of PAs to the rural health workforce since the early 1990s and it continues to be a strong theme to the present. The RHRC's work is widely disseminated in journal articles, conference presentations, and the Rural Health Research Gateway and on the Center's website. A MEDEX faculty member (Larson) has been the Principle Investigator and Director of the WWAMI RHRC since 2012. The Center was recently re-funded for an additional four years ($2.8 million) and its research work will continue to address issues the development of the rural primary care workforce and access to care for rural and other underserved populations.

The focus of the CHWS is on workforce issues related to the allied health professions. The CHWS is funded on a three year grant ($1.8 million) with competitive renewal under way at this writing. As with the WWAMI RHRC, the work of the CHWS is widely disseminated in journal articles, at academic and policy conferences, and on the CHWS website.

Topics covered in faculty publications and presentations align with the program's mission as well as with key questions in healthcare and the health workforce both regionally and nationally. These include (but are certainly not limited to) the primary care workforce; shortages of primary care providers in rural settings; characteristics of programs that graduate PAs into primary care, rural and medically underserved settings; career intentions of matriculating PAs; PA professional and clinical roles; pathways for veterans to enter the PA profession and other allied health careers; educational methods and curricular innovations; interprofessional educational activities; international medical graduates training as PAs; the opioid addiction epidemic, particularly in rural areas, and potential workforce solutions in addiction treatment; disclosure of medical errors; the productivity of clinical preceptors as they teach PA students within the practice setting; the use of simulation and high-fidelity manikins in the PA curriculum; and many other areas of scholarly inquiry.

Table 1: Publication and Presentation Numbers for Faculty Since MEDEX Joined the Graduate School in 2009

Articles, Book Chapters and White Papers	Oral Presentations	Poster Sessions and Abstracts
96	236	72

For undergraduate and graduate students, describe significant awards, noteworthy presentations, or activities that have had an impact on the field while in the program.

The master's degree option was launched with the 2009 entering class. As this group graduated in 2011, the first capstone project presentations were delivered. Within the context of a fast-paced PA professional program, most students concentrate on developing their clinical skills, and their focus is not necessarily on research. The faculty have been encouraging students to present their work, and in recent years, four graduating students either offered presentations at national conferences or published an article in a peer-reviewed journal.

For units in which postdoctoral fellows are appointed, describe their participation in the research and teaching activities of the unit.

For the PA profession, the master's is the terminal degree. Therefore MEDEX does not appoint postdoctoral fellows.

Describe how program graduates have had an impact on the field either academically or professionally.

MEDEX is the second oldest PA program. Early graduates were pioneers in developing the profession as well as establishing national PA organizations. After almost 50 years, over 2,200 graduates provide medical care to the WWAMI service region and the nation. Just under half work in primary care in comparison to national numbers of approximately 25%. Approximately one-third work in medically underserved settings. MEDEX graduates have also created opportunities in specialty areas, such as at Seattle Cancer Care Alliance and the Fred Hutchinson Cancer Research Center, where PAs and NPs lead oncology care teams and provide continuity to the clinical service. Several MEDEX graduates have held leadership positions in state and national academies and organizations, including the Washington Academy of PAs. Faculty have also provided consultation services to other countries that are establishing the PA profession there including the United Kingdom, Australia, New Zealand and Canada. Five graduates have become PA program directors here and elsewhere in the nation: Ruth Ballweg, Terry Scott, Linda Dale, Todd Doran and Greg Davenport.

In what ways have advances in the field or discipline, changing paradigms, changing funding patterns, new technologies and trends, or other changes influenced research, scholarship, or creative activity in the unit?

The PA profession is still evolving and this has definitely influenced research at MEDEX, as have policy issues. Examples include:

- As a result of the Affordable Care Act, many more rural and underserved Americans are insured; MEDEX has assessed the effect of higher levels of health insurance in rural areas on the need for PAs and nurse practitioners in rural areas.
- Specialty roles for PAs continue to emerge; this has put pressure on programs with strong commitments to producing primary care PAs. Program faculty have conducted national level research on which programs produce high proportions of primary care graduates, and what program characteristics are associated with that success.
- The rapidly growing number of PA programs places pressure on clinical training site availability. Most PA programs do not pay for clinical placements or rotations, but some do. This means that MEDEX faculty need to strengthen the message to volunteer preceptors that teaching PA students comes with non-monetary rewards.
- The requirement that all PA education must be at the master's level has the potential to create additional barriers for students from diverse backgrounds to access PA school. The MEDEX faculty have discussed this concern at length, and the topic of how to recruit and graduate diverse classes of PAs remain at the top of the program's agenda.
- Opioid addiction is an enormous health problem in rural areas; the program is assessing the potential of PAs to contribute to the workforce providing office-based treatment for opiate addiction in rural areas, especially now that prescribing regulations have been changed to allow PAs and NPs to prescribe buprenorphine.
- Simulation is increasingly used in PA training; MEDEX faculty have conducted one of the only national level surveys of simulation utilization in training. The results provide insight into which technologies and approaches are being used in training and the barriers that programs encounter when incorporating these techniques into their training regimes.
- Funding for research on PA education specifically has traditionally been minimal. The national PA education association (PAEA) has recently been working to make increased funding available. However, grant awards remain relatively small.
- HRSA has provided funding for PA training over several years. The HRSA training grant program has evolved to combine programs from different disciplines into a single grant program that incentivizes multidisciplinary training innovations in primary care. This will present an opportunity going forward to collaborate across departments as well as a challenge, as only one grant application can be submitted per institution.

List any collaborative and/or interdisciplinary efforts between the unit and other units at the University or at other institutions, and the positive impacts of these efforts.

The newest example of interdisciplinary activities is a newly created elective course on homelessness in Seattle. This course is co-chaired by MEDEX faculty and a member of the School of Social Work. It will also be inclusive of interested students from dentistry, occupational therapy, physical therapy, pharmacy and other health disciplines.

The DFM recently completed a five-year federal grant for Administrative Academic Units that was designed to support the integration of MEDEX into the overall department. This followed the 2011 MEDEX move from what was then the Department of Medical Education into DFM. This grant paved the way for PA students to participate in clinical rotations alongside medical students and residents at the Northgate clinic as well as other residency locations. Other departmental collaborations with the RHRC and CHWS have been described above.

MEDEX students at the Spokane campus have participated in educational activities with students in pharmacy and nursing at Washington State University. These take the form of case-based scenarios with simulated patients. Faculty in Spokane also contribute to teaching the pharmacy students. At the Seattle campus, similar case-based simulated patient scenarios include medical and dental students.

Another recent project involved MEDEX collaboration with the PA program in San Antonio TX. This was a pilot project to determine whether the perception that clinical preceptors see decreased productivity when students are present is actually true.

Faculty also work with clinical and research faculty and staff at medical, nursing, pharmacy and other health professional education programs both at the UW and other institutions with similar training and practice missions.

How does the unit work with junior faculty to maximize their success?

PAs who are new to educational roles need guidance in making the transition from clinician to teacher. MEDEX has fostered this transition for new faculty with senior faculty providing mentorship to newer members of the instructional team. Senior faculty meet with their mentees regularly to discuss activities and accomplishments, and to ensure they are on course to meet expectations discussed during their annual review. The program is also implementing a more formal system for senior faculty to give structured feedback to junior faculty as they become accustomed to the classroom setting. The program routinely funds junior faculty to attend faculty training and development workshops provided by the PAEA. These events also allow faculty to build networks with others faculty around the country. Additionally the program has worked with the Professional and Organizational Development Office to provide education and training in a variety of areas including onboarding new faculty, managing change, conflict management, and team-building.

Many of those who become PAs have done so in order to practice clinically. Those who become PA faculty members do so with the mission of "paying it forward" or giving back to the profession. The focus has traditionally been on educating more PAs more than on research. The move into the DFM brought with it an increased expectation that all faculty will engage in scholarly activity. Senior MEDEX research faculty (Drs. Evans, Brock, Wick and Larson) are available to all MEDEX faculty with research interests and have actively guided junior faculty through the research process all the way through to presentation and/or publication.

Describe how the unit utilizes institutional resources such as the Office of the Associate Vice Provost for Faculty Advancement to recruit and retain faculty from underrepresented minority groups.

This question has been addressed above on page 5.

To what extent has the unit been successful in diversifying its faculty ranks?

This question has been addressed above on pages 4-5.

What specific strategy has the unit employed to support the career success of, faculty members from underrepresented groups?

This question has been addressed above on page 5.

Section IV: Future Directions

Where is the unit headed?

The program will continue to serve its mission of educating a diverse population of culturally competent physician assistants to serve the healthcare needs of the nation and region with an emphasis on primary care. MEDEX promotes a flexible and innovative approach to both the curriculum and student learning styles, allowing the program to respond quickly to the ever-changing needs of the healthcare system. The program values its decentralized training model, and will continue to support this by remaining open to new opportunities. As the country and region continue to face primary care shortages, the program will work collaboratively with public and private institutions to identify ways in which PAs can help ease this problem. This may include expanding class size or developing new sites. Over the next 2-3 years, the program will complete the transition from to the master's degree. The program believes that master's-level graduates are well-equipped to assume leadership roles within healthcare delivery systems, advise health policy makers, and provide outstanding care, reducing the burden on access to care in the region and the nation.

What opportunities does the unit wish to pursue and what goals does it wish to reach?

MEDEX Northwest recently began the process of discussing the need to address major areas related to the success of its students. After a thorough analysis two overarching goals were established. First, MEDEX identified the need to increase first-time PA National Certifying Exam (PANCE) pass rates and individual student scores, and second, to continue to evaluate and implement changes to the curriculum based on student performance and current trends in healthcare education. These strategies include the following.

- Redesign the curriculum in each major course and adjust the academic calendar to facilitate these changes.
- Evaluate and revise admission requirements.
- Complete the transition to an all-master's program at all four sites.
- Evaluate the organizational structure and implement changes as needed.
- Continue to develop a robust clinical training network.
- Increase scholarly activity and take advantage of additional grant opportunities.
- Continue to explore ways to expand healthcare access, through expanding class size or developing additional didactic campuses.

- Work with state and national PA organizations to ensure the professional growth and recognition of PAs as vital members of the healthcare team.

How does the unit intend to seize these opportunities and reach these goals?

The curriculum in each major course is evaluated annually using student performance scores (course grades, test scores, etc.), student satisfaction with the course, faculty peer evaluation, and other measurement tools to determine what components of each course can be updated, changed or eliminated. In addition, any change to the PANCE or national accreditation requirements will be taken into consideration and course content will be adjusted to ensure new or updated information is included. Adjustment to the program's academic calendar to facilitate these changes will be considered.

In 2014 MEDEX reviewed the academic and clinical prerequisites to determine what additional courses would be beneficial to applicants. After thorough research into prerequisites at other PA programs across the country, and potential issues regarding access to the courses in rural and educationally underserved communities, the current list of academic and clinical prerequisites was created. Going forward MEDEX will also consider whether adding minimum grade point averages (GPAs) or minimum Graduate Record Examination (GRE) scores would be beneficial.

All applicants to the master's option are required to meet the graduate school 90-quarter credit cumulative GPA minimum of 3.0 on a 4-point scale. Academic records provided to the program through the centralized national application process provide a breakdown of GPA by overall science, science related categories (biology, chemistry, physics, etc.), non-science (math, English, behavioral science, etc.), and per academic year (freshman, sophomore, junior, senior, post-baccalaureate, etc.). This information provides the opportunity to establish minimum GPA requirements. MEDEX is engaged in discussions to ensure that academically prepared and mission fit students will have access to PA education. Additionally, discussion about the predictive value of the GRE scores to student success in the program continues.

The ARC-PA requires that all PA programs become master's-only programs by 2021. With that deadline in place, MEDEX is in the process of phasing out the bachelor's degree currently offered at two of the four campuses. This will be implemented through the creation of bachelor's-master's hybrid sites for the next two years, with all sites enrolling 100% master's students for the entering 2019 class. This transition provides a number of opportunities to collaborate with local colleges to incorporate MEDEX prerequisites into existing bachelor's degrees or to support colleges that may be developing bachelor's degrees in allied health. In addition, the program has been developing a strategic outreach program to provide information to specific groups of potential applicants about the requirements to prepare for this change. This strategic plan focuses on outreach to military members, veterans organizations, colleges with high percentages of URM students, and high schools and colleges in rural and underserved communities. Some elements of this outreach program have already been implemented (veteran outreach) while others (high school outreach) remain in the development stage.

MEDEX is a section in the Department of Family Medicine, and works within the hierarchy of the department, school, and university. However, the program has a certain level of autonomy to

decide how to structure the section. This allows the program to create cross-functional teams to evaluate all aspects of the academic and clinical curriculum, admissions requirements, and administrative functions within the unit. As a result, the program can focus on retaining faculty including URM faculty, creating a standardized onboarding process, and developing a comprehensive faculty handbook. Increased access to clinical practice opportunities in primary care for MEDEX faculty are a priority for the program. Leadership at MEDEX and DFM are discussing how to incorporate more PA faculty into clinical roles within UW Medicine, and some opportunities have been made available to faculty in Seattle. MEDEX continues to work with DFM to provide the same opportunities to faculty at all four campuses. Faculty who also work clinically are better able to provide students with current clinical context in the classroom.

All MEDEX students are required to complete a series of clinical rotations; a four-month primary care rotation and six one-month rotations in medical specialties (general surgery, behavioral medicine, inpatient medicine, emergency medicine, medically underserved settings and others) to complete the program. While MEDEX has an extensive network of clinical sites and preceptors, ongoing site development within the WWAMI region is needed. Clinical coordinators consistently take advantage of opportunities to expand this network of volunteer clinical preceptors in urban, rural, and medically underserved areas by working directly with program graduates and the systems in which they work.

MEDEX faculty currently collaborate with colleagues in the DFM research section, and the Schools of Medicine, Nursing, Pharmacy, Dentistry and Social Work. The UW and the SOM provide opportunities for increasing the program's level of scholarly activity. The program encourages each faculty member to pursue their area of scholarly interest, and to present that work locally and nationally. The program will build on existing collaborations within the Department, the School and with external colleagues, and will mentor junior faculty in scholarship efforts, including applying for extramural funding.

Describe the unit's current benefit and impact regionally, statewide, nationally, and internationally. Given the unit's envisioned future, describe how reaching this future will augment that benefit and impact.

As members of a relatively young profession, PAs have significant opportunities to increase access to care regionally, nationally and internationally. MEDEX faculty, students and graduates actively participate in discussions that impact core competencies of practicing PAs and set the standard for new and developing PA education programs. MEDEX graduates are sought after by the region's prominent healthcare organizations. Faculty and staff are sought after nationally for their expertise in PA education, including holistic admissions, recruitment of URMs and veterans, and clinical expertise.

MEDEX will continue to produce graduates who will build on the program's impact as described the above sections of the report. Students focus on one of four areas: public health, global health, rural and underserved healthcare, or professional leadership. MEDEX gradates are therefore well qualified to make an impact on the health and well-being of the region and the nation. MEDEX graduates work in primary care, with the medically underserved, and with rural populations; and are prepared to provide leadership in the rapidly evolving field of medicine.

Part B
Section II: Unit Defined Questions

a. What is our dismissal policy and why is it important to have a different process than other graduate programs?

The MEDEX program has concluded that the current policy and timeline for dismissal is appropriate for both students and the program itself. Physician assistants (PAs) diagnose, treat and prescribe for patients in collaboration with physicians as both autonomous and team-based clinicians. A PA must therefore be able to manage the entirety of a patient encounter without immediate access to a supervising physician. The MEDEX program has a responsibility to the state(s), to the public and to the students to ensure that each graduating PA is competent to engage in complex medical decision-making. This process begins with the initial academic education. The first didactic (classroom) year is followed by a year of clinical rotations.

The MEDEX program is a fast-paced, cumulative, cohort-based curriculum in which the material in each academic quarter builds on that of the previous quarter. The program has maintained a policy that students must pass each academic quarter, with reasonable accommodation if needed, in order to proceed to the next. The passing level for each exam, assignment and overall course is 80%. Students who do not achieve at least 80% on an exam or other assignment, or who do not pass a clinical rotation may be allowed one (1) retest, rewrite or repeat rotation. The repeated evaluation must achieve the passing level in order for the student to proceed in the program.

The majority of failed retests, and therefore failed courses, occur in the first (summer) or second (autumn) quarter of the program. The program has seen over many years that if a student fails retesting in one quarter and is allowed to continue with remediation, that student is highly likely to fail the following quarter. Therefore the process of remediation following a retest failure was discontinued. In an effort to offer deceleration, the program experimented with a system that allowed a failing student to return the following academic year to repeat the failed coursework, meanwhile working with a re-entry committee that provided requirements for additional preparatory courses or study skills training on a per-case basis. The results of this process were often that the returning student continued to fail exams and courses. After reviewing several years of recent outcomes, the program has seen that if a student must retest just four (4) exams in the didactic phase, the chances of passing the PA National Certifying Examination (PANCE) are 50% on the first attempt. Subsequent attempts (the maximum allowed is six [6]) come with diminishing odds of success.

These circumstances led the program to institute its current policy that if a student fails a retest (and therefore a course), that individual cannot proceed in the program. This change was accompanied by a policy that students who score between 70% and 80% on an individual exam, but who also achieve at least 80% in the overall course would not need to retest. This meant that they could continue to the next quarter. This rule from the 2008-2009 year greatly reduced the number of students in the retest pool. The students who fail one or more retests are allowed to re-apply to the program without prejudice, and upon demonstration that the deficiencies have

been appropriately addressed may be invited to admissions interviews. This process has been upheld upon review by the Office of the Dean of the School of Medicine.

The MEDEX program has provided resources to support students who are struggling, and to do so as early in the program as possible. As soon as a student fails a major exam, he or she is placed in mandatory group tutoring paid for by the program. Students in this situation also receive guidance from a faculty member who specializes in study skills counseling. Prior to retesting, the course chair provides tutoring focused on the material covered in the upcoming test. From the very beginning of the program, faculty encourage students who might qualify to seek evaluation for potential reasonable accommodations through the university's Disability Resources for Students office.

The program attempts to balance this student support with the need to be mindful of cases where the student may be paying tuition in quarter after quarter when the threshold of failing the program has already been met. The PA accreditation body expects programs to identify when continued enrollment in the face of repeated failure poses a financial burden to a student who ultimately will not be able to pass the PANCE and therefore cannot gain licensure to practice as a PA.

b. How are we addressing first-time Physician Assistant National Certifying Exam pass rates and readiness for clinical practice?

MEDEX maintains a complex balance between selecting students who are academically ready for training while adhering to program values that emphasize the acceptance and training of a diverse student body. These values lead the program to accept some students who have great potential to fulfill the mission, but sometimes have less than optimal academic preparation. In 2011, the first year of master's graduates, the program saw a drop in the overall PANCE first-time pass rate. Percentages since then have improved, however the program sees room to continue to bring up these numbers.

Table 2: MEDEX Master's Graduates' and National First-Time PANCE Pass Rate

Graduation Year	MEDEX	National Average
2011	70.2%	91%
2012	83.1%	93%
2013	84.7%	94%
2014	86.4%	95%
2015	97.2%	96%
2016	91.8%	not available
Overall Average	85.6%	94%

The potential solution is multi-faceted. It includes careful examination of the outreach and admissions processes, instruction in the program, course materials, and testing processes. In addition to continuing evaluation of program operations, the faculty has established a four stage process for early identification and selective remediation of those students who may have academic difficulties and be unprepared for their certification exam upon graduation.

Stage 1: Once accepted to the program, all available academic predictors of success are examined to identify students who may suffer academically. At matriculation, there are few predictive indices, however regression analysis examined the past three to five years of MEDEX graduate data. Specific metrics include overall grade point average (GPA), science GPA, the last 90 quarter credit GPA, grades for prerequisite courses, and the Graduate Record Examination (GRE) Quantitative and Verbal scores. This provides an indicator of at-risk status for each matriculant. These estimates are imperfect and faculty acknowledge that they may result in an over-identification of students at high risk. These estimates are not used to single out students for remediation, but instead as an early indicator about whether certain students may warrant additional help or will benefit from specific advisors. The purpose of estimating at-risk status serves to ensure that students are provided every opportunity to succeed and that assistance can be provided at the earliest stages of their education.

Stage 2: Similar regression processes are used to predict student at-risk status at multiple points during the PA program. As students progress, the number of predictor variables increases to include their individual course grades, a practice exam (called the PACKRAT) that is administered twice during training, a formative exam, and a summative exam.

At key points during the program, regression models are developed based on the past three to five years of graduating classes, using all applicable variables. For example, the predictors for assessing at-risk status at the beginning of the didactic winter quarter will include scores from the summer Anatomy and Physiology course and Basic Science courses, and also autumn quarter course grades. These are combined with the pre-selection indicators (e.g., GPA and GRE). From a statistical standpoint, when considered jointly, four or five variables are generally sufficient to offer predictive value. Faculty advisors receive estimates for each student's at-risk status.

The two PACKRAT exams are the most powerful predictors of first-time PANCE success. These exams are mapped to the PANCE and are used by over 90% of PA programs. The first administration (PACKRAT 1) occurs at the end of the students' first, didactic year. The second administration (PACKRAT 2) occurs in February of the clinical year. When available, these two scores are often more predictive of risk than coursework and pre-enrolment metrics.

Student scores available at each point during the program are added to the regression equation. The regression equation provides an estimate for a student's probable PANCE score. Students at a 20% or greater risk level for failing the PANCE are defined as significantly at-risk.

Stage 3, Remediation: Students who are identified as at-risk early in in the program are counseled using a holistic approach for identifying possible reasons for poor academic performance. On a case-by-case basis students may be referred to accommodations or UW counseling for test anxiety. They are also provided a content tutor for their academic courses and are advised periodically on study and test-taking strategies. In addition, course chairs and academic advisors will provide additional content support. As described above, students who require retesting receive 2-3 hour review sessions prior to the retest.

Stage 4, PANCE Remediation: PANCE remediation is a focused program developed for MEDEX clinical-phase students at academic risk. Students take four major exams during their clinical year. At certain points during the clinical year, student data are analyzed, and students identified as needing additional support are enrolled in critical thinking exercises four months into their clinical year. The final assessment for the clinical year is given in June, two months prior to graduation. Students who do not perform well on this exam are enrolled into the PANCE Foundations Course which is a formal PANCE program for remediation. Students are provided with support and feedback, even after graduation, until they pass the PANCE.

c. How will MEDEX maintain its mission to select experienced health personnel from diverse backgrounds that focuses on primary care with an emphasis on underserved populations as the applicant pool responds to an all-master's program?

As mentioned in Part A of this self study, MEDEX Northwest has a comprehensive outreach program focusing on rural and urban underserved communities, paying specific attention to URM populations. The results of this outreach are consistent across years, and the diversity statistics noted in this self-study are not unique to the 2016 entering cohort. The number of MEDEX students who self-report minority status are traditionally higher than the numbers represented in PA programs nationally. The planned expansion of the outreach program allows the program to focus on maintaining a diverse student body while completing the transition to an all master's-degree program.

In addition, MEDEX maintains its tradition of a holistic process that promotes diversity in all aspects of admissions, which was implemented by the founder, Dr. Richard Smith. An example of one such process is the student application review process. This focuses not only on academic and clinical prerequisites but also on the student's community service, mission fit applicants from rural and urban underserved communities, and students with a commitment to primary care in the WWAMI service region. Part of this process is to blind the reviewers to age, race, and ethnicity of the applicant to minimize bias. Faculty members are trained annually to review applications to evaluate the potential for academic success while paying specific attention to the applicant's commitment to serving diverse communities. The interview process is also designed to assess both non-cognitive factors (communication skills, emotional intelligence, altruism, etc.) and academic readiness. Interviewers are trained before each interview to assess these skills, and are reminded to recognize and minimize potential bias.

MEDEX places a high value on hiring and retaining faculty and staff who represent the mission of the program as well as the diversity in the classroom. Representation of diversity in program faculty and staff is vital to recruiting, reviewing selecting, and training a diverse student body.

d. What is our future direction of meeting PA school accreditation requirements for clinical rotations?

Accreditation requirements specify three main components of clinical-phase training: what kinds of patients students should see, the types of settings in which they should see patients, and with what types of licensed providers they should see those patients. The required setting that is now becoming a challenge is the true emergency department versus an urgent care setting. The

requirements for types of precepting providers that pose a challenge are general internal medicine clinicians, excluding those who are highly specialized and general surgeons, again, excluding those who are highly specialized.

The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) defines the requirement for students to work in an emergency department as a "must", and defines the requirement for students to work with general internists and general surgeons as a "should". The ARC-PA does not require programs to have a dedicated, specifically labeled rotation to meet these standards, but does expect programs to document that all students have received supervised clinical experiences in each of the settings and with each of the provider types listed. The ARC-PA definitions of "must" and "should" follow.

> ***Must:*** *The term used to designate requirements that are compelled or mandatory. "Must" indicates an absolute requirement.*
>
> ***Should:*** *The term used to designate requirements that must be met unless there is a compelling reason, acceptable to the ARC-PA, for not complying. (Programs not meeting any component(s) of a should standard are expected to describe in detail why they are unable to do so. A program or institution may be cited for failing to comply with a requirement that includes the term 'should'.)*

The first question when addressing the challenge of a general internal medicine rotation is the years-ago link that the MEDEX program made combining internal medicine with inpatient medicine (also a required setting). Many inpatient rotations do not include contact with general internists, many internists are in the outpatient setting only; ARC-PA does not require this link. By uncoupling that setting requirement from the provider requirement, additional opportunities for meeting expectations become available. Outpatient internal medicine will also qualify to meet the provider-type designation.

The other challenge with identifying generalist preceptors is that many physicians in both internal medicine and surgery specialize. This holds true for the PAs who practice with them. Subspecialists do not meet the intent of the ARC-PA requirement (Standard B3.07). As noted above, ARC-PA does not require programs to have dedicated rotations for these experiences. They also do not designate a minimum length of time or number of patient encounters. The programs must define what they deem to be sufficient exposure for each student to each of these provider types. There are clinical sites that employ these provider types along-side the preceptor of record. The program believes that students would have sufficient exposure if they are guaranteed one day or half-day with them per week (on a four-week rotation). Faculty are exploring mechanisms within the current patient encounter logging software to document these interactions. Faculty believe that there are enough co-preceptors for all students to see patients with these provider types, and the program needs to explore additional options to document the encounters that are already taking place.

The challenge with the setting of the emergency department (ED) seems to have two primary causes. One concern is that some EDs have been scaling back the level of complexity that they accept, and instead are transporting the most difficult cases to a smaller number of true EDs. The other concern is that at some hospitals in the WWAMI region, the emergency physicians no

longer work for the hospital. In these cases, there is an external physician specialty group that contracts with the hospital, and that external employment company sees no benefit for paying their clinicians to teach students.

The relevant ARC-PA standard (B3.04) specifically notes that urgent care facilities do not meet the intent of the requirement. However, some hospitals in the region run an urgent care operation in close proximity to their true ED. One solution may be to have the students placed in the urgent care, with the written expectation that they spend at least one day per week (of a four-week rotation) on the ED side. The program can also endeavor to increase use of the several critical access hospitals in the five-state region, many of which include emergency care in their small facilities.

Another potential solution to both the setting and provider type requirements is to allow for something other than the program's traditional one-month or four-month rotations. Allowing for one-week rotations would increase the number of facilities and practice groups willing to take on students since the time obligation would be greatly reduced. In these cases, the program would need to work with clinical administrative offices to streamline onboarding and student credentialing. For all of these new permutations to the established clinical rotations, the program would need to provide additional options in the existing software and also instruction to the students in terms of documenting all the aspects of their supervised clinical experiences.

e. How do we recruit, retain and promote faculty into the professorial ranks with the UW School of Medicine clinical requirements?

Most faculty arrive at MEDEX from clinical practice settings, having had no traditional academic teaching experience; therefore, they come in at a rank of "Lecturer" in order to reduce the strain on new faculty in a 'publish or perish' environment. There is no time frame set for how long a faculty member remains a Lecturer. This allows them the opportunity to acclimate to the academic environment, and to develop their skills of scholarly work, and teaching, as well as to find a clinical practice site within UW Medicine. Once a faculty member has established teaching and scholarly skills, they are usually ready to move to the professorial ranks. The most significant barrier to this move is the requirement of clinical practice within UW Medicine. For both our faculty in Seattle as well as at the other campuses, this is a challenge. Program leadership continues to work with the Chair of the Department of Family Medicine and the Dean's Office to identify potential solutions.

f. In the admissions process, what factors aid in identifying mission-fit students with success potential

MEDEX is very much a mission-driven program. The admissions process looks at each candidate broadly to identify mission fit with the program. All applicants are required to submit an application to the central application service as well as a supplemental application directly to the program. Individuals with unique circumstances (veterans, international medical graduates, and re-applicants) are required to complete additional sections of the supplemental application. Application screening, completed by admissions staff, is designed to ensure that all applicants have turned in all required elements of the application, including the submission of any

supporting documents relevant to unique situations. Admissions staff members screen each application to determine whether the required minimum academic and clinical prerequisites have been met. Admissions staff members make no decision on overall competitiveness of any individual applicant, as this is the responsibility of the faculty during review.

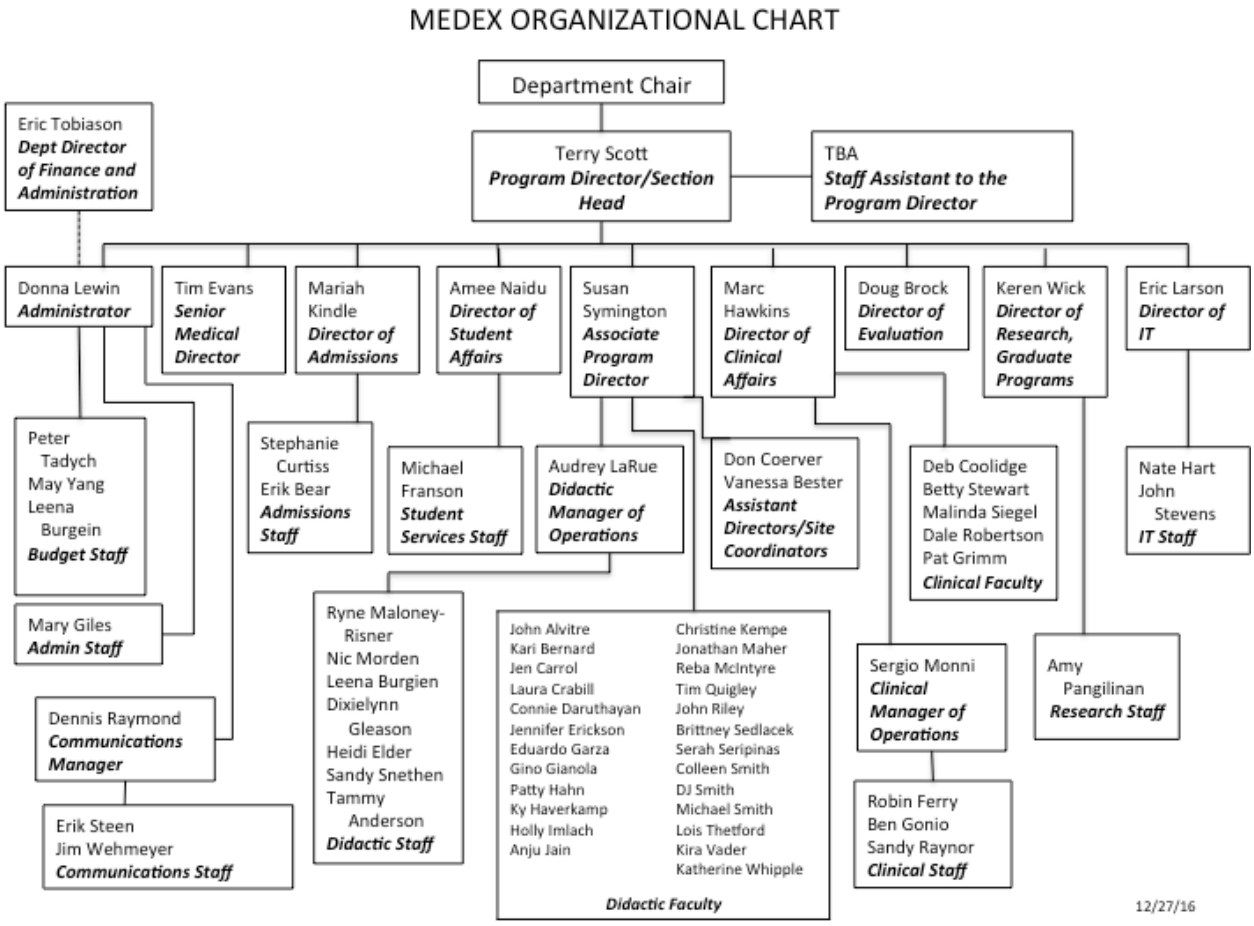
If an applicant meets the minimum requirements, the application is assigned to faculty for a full review. Two faculty members, at the applicant's preferred campus, review all elements of each application including, academic prerequisites, course distribution, GPA details including the overall science GPA, clinical experience and PA shadowing hours, community service, personal statements, and letters of reference. These are thoroughly reviewed to determine the applicant's academic readiness and potential mission fit. Each aspect of the application is scored using set guidelines, and faculty then make a final decision regarding who should be interviewed.

In addition, GRE scores are reviewed and are part of the overall review process, however these scores are not heavily weighted. Past student performance indicates that a GRE quantitative score above the 30th percentile suggests an increased likelihood of success in the program. MEDEX has not yet established a minimum GRE score, thereby allowing for flexibility in selecting students who are a strong mission fit but who may not reach that minimum score. MEDEX balances academic risk and potential success, as historically many of these mission-fit students go back to underserved areas to practice in primary care.

Applicants selected to interview go to their preferred campus for an interview conference held in autumn and winter quarters. Each conference includes 36 qualified applicants and 12 interviewers. The larger group of applicants is divided into small groups of three for each interview hour, and two interviewers interview these small groups during each interview slot. Interviewers are faculty, program graduates, community providers, and current clinical preceptors. The result is that each applicant has three interview times throughout the day, and sees a total of six interviewers. Interviewers review the complete application packet prior to the interview conference. Questions are designed to get to know the applicant, assess clinical and academic readiness; and also to determine each applicant's level of problem solving ability, communication style, ethical decision-making, level of professionalism, and capacity for teamwork. At the end of the conference day, a meeting of all interviewers takes place and each interviewer has the opportunity to provide input into the selection of the applicant. Following the conference day, program leadership and admissions faculty hold a second meeting to confirm applicant selection. Discussions at both meetings include a review of the interview performance, academic readiness, and mission fit.

Part C Appendices

Appendix A: Organization Chart



Appendix B: Budget Summary

Budget for the last six years (two complete biennia and current biennium)

Fiscal Year	Revenue	Salary/Benefits	Operations	Surplus/Deficit
FY12	6,265,077	4,015,374	1,383,684	866,019
FY13	6,166,549	4,716,658	1,519,852	-69,961
FY14	7,480,826	5,097,791	1,875,898	507,137
FY15	7,870,039	5,835,696	1,901,073	133,271
FY16	7,441,207	5,962,274	1,650,538	-171,605
FY17 (YTD)	4,139,928	1,469,474	346,087	TBD

As a self-sustaining program, MEDEX revenue is derived from student tuition with a small percentage received from State General Operating Funds. In FY16 only $217,000, approximately 3% of total revenue, was provided by the State. Because almost all revenue is tuition-generated, fluctuations in enrollment can have a significant financial impact on the program. For this reason, and since the ARC-PA requires MEDEX to have funds available to "teach out" a current class should the program cease to operate, the program maintains a reserve.

The Provost approves any request to increase the tuition for the MEDEX program. MEDEX benchmarks tuition against similar institutions with the goal of keeping the program affordable to students. Quarterly tuition for the MCHS program is $7,967.75, which is less than the tuition for the UW medical, dental, graduate nursing and pharmacy programs. Because MEDEX has a campus located outside of Washington (Anchorage) and actively recruits applicants from across the WWAMI region, all MCHS students pay the same tuition; there is no nonresident tuition differential. Tuition is established for the overall program rather than on a per credit basis because the credits earned per quarter fluctuate throughout program and because there is a required course of study across all quarters of the program for the entire cohort of students.

Appendix C: Information about Faculty

A full listing of current faculty follows. A separate PDF document contains the CVs of these faculty members.

NAME	RANK, APPOINTMENT TYPE	AFFILIATION WITH OTHER UNITS
Alvitre, John Jeffrey	Lecturer Full-Time-Competitive Recruit	
Bernard, Kari S	Lecturer Full-Time-Competitive Recruit	
Bester, Vanessa S	Asst Professor Without Tenure	Division of Cardiology
Brock, Douglas Michael	Assoc Professor Without Tenure	Department of Biomedical Informatics and Medical Education
Carrol, Jennifer S	Lecturer Full-Time-Competitive Recruit	
Coerver, Donald A	Senior Lecturer-Full Time	
Crabill, Laura A	Lecturer Full-Time-Competitive Recruit	
Daruthayan, Constance	Lecturer P-T Comp Recruitment	
Erickson, Jennifer M	Lecturer Full-Time-Competitive Recruit	
Evans, Timothy C	Assoc Professor Without Tenure	
Garza, Eduardo Jr	Lecturer P-T Comp Recruitment	
Gianola, Fred J	Lecturer Full-Time-Competitive Recruit	
Grimm, Patrick J	Lecturer Full-Time-Competitive Recruit	
Hahn, Patricia L	Lecturer Full-Time-Competitive Recruit	
Haverkamp, Kenneth	Lecturer Part-Time	
Hawkins, Marc A	Lecturer Full-Time-Competitive Recruit	
Jain, Anju	Lecturer Full-Time-Competitive Recruit	
Kempe, Christine	Lecturer Full-Time-Competitive Recruit	
Larson, Eric H	Research Associate Professor	
Maher, Jonathan C	Lecturer Full-Time-Competitive Recruit	
McIntyre, Susan Reba	Lecturer Part-Time	
Naidu, Amee S	Senior Lecturer-Full Time	
Quigley, Timothy F	Senior Lecturer-Full Time	
Riley, John O	Lecturer Part-Time	
Robertson, Dale	Lecturer Full-Time-Competitive Recruit	
Scott, Terry B	Asst Professor Without Tenure	
Sedlacek, Brittany A	Lecturer P-T Comp Recruitment	
Serpinas, Sarah L	Lecturer Full-Time-Competitive Recruit	
Siegel, Malinda S	Lecturer Full-Time-Competitive Recruit	
Smith, Colleen E	Lecturer P-T Comp Recruitment	
Smith, Donald J	Lecturer P-T Comp Recruitment	

NAME	RANK, APPOINTMENT TYPE	AFFILIATION WITH OTHER UNITS
Smith, Michael B	Lecturer Full-Time-Competitive Recruit	
Stewart, Betty L	Lecturer Full-Time-Competitive Recruit	
Symington, Susan L	Assoc Professor Without Tenure	Division of Pulmonary and Critical Care Medicine
Thetford, Lois C	Lecturer Part-Time	
Vader, Kira S	Senior Lecturer-Full Time	
Whipple, Katherine J	Lecturer P-T Comp Recruitment	
Wick, Keren H	Assoc Professor Without Tenure	