

University of Wyoming
College of Health Sciences
Clinical Education Plan

The intent of this plan is to guide the College of Health Sciences as new educational programs in the health professions are considered as directed under University Plan 3, Action Item 87 (Appendix A). This plan is undertaken with the realization that programs in the health sciences may require resources beyond those of classroom based instruction, must meet appropriate accreditation standards, often require relocation of students and may have associated additional costs. It is understood that these programs, if they are to be offered, may require alternative funding sources. The risk with any new degree program is that it will either siphon resources away from existing programs during establishment or, once established, compete with existing programs for new assets to strengthen them. This competition can frustrate the university's efforts to attain excellence, by spreading a necessarily limited pool of resources too thinly. Additionally, when a new program cannot be justified, the College may seek alternative avenues where students may gain the education and skills for clinical practice, e.g., collaborative relationships with other institutions offering such programs. This is especially true for high cost programs where there is need within the state but not at the number that justify offering the program at UW. *The guiding principle for the plan is to provide access to high quality education in the health professions that are most important to healthcare in Wyoming and the region. A corollary of this principle is the need to avoid the establishment of programs at minimally viable levels of staffing or budgeting, since this approach yields low quality programs that are vulnerable to accreditation difficulties or closure. It is the intent of this plan to have maximum flexibility to address those changing needs and to take advantage of opportunities as they present.*

The remainder of this plan discusses clinical education as a general concept, defines the scope of programs to be analyzed, reviews the resources required for new programs, discusses the Western Interstate Commission for Higher Education, gives a program by program analysis of clinical degrees not offered at UW, summarizes the College's commitment to outreach efforts, and reviews UW's involvement in statewide health policy matters.

Clinical Education

A range of academic programs recognize the importance of learning in the community in a variety of settings. Today, the newest recognition of the value of community-engaged or civic learning arises from the service-learning movement. Interestingly, professions such as nursing, social work, speech language pathology, pharmacy, kinesiology and health, medicine and others have required clinical education in health and service organizations for many years. Clinical education has served as the vital learning environment to translate knowledge learned in classroom settings to professional practice. Theories, concepts and terms vital to professional practice are made real in the clinical arena. Many of these professions are now moving to requiring this learning across the continuum of the curriculum.

Clinical education has taken on new importance in higher education. Shulman¹ introduced the “signature pedagogies” that are used in professional programs, including those used in clinical education. He and others at the Carnegie Foundation for the Advancement of Teaching have investigated teaching and learning in professional programs, including nursing, engineering and law. Shulman writes, “In professional education, it is insufficient to learn for the sake of knowledge and understanding alone; one learns in order to engage in *practice*.” The challenge in clinical education is that professionals face a variety of uncertainties in their practice, and, consequently, students must learn to deal with uncertainty as they progress through their professional education. Signature pedagogies are those approaches to teaching that help students to “link ideas, practices, and values under conditions of inherent uncertainty that necessitate not only judgment in order to act, but also cognizance of the consequences of one’s action. In the presence of uncertainty, one is obligated to learn from experience.” Learning from experience through a variety of clinical activities then becomes the foundation of professional education, and given the “uncertainties” of practice that students encounter as they begin to assume the role of a health care professional, the length of clinical programs varies. Nationally, health professional programs range from those at the bachelor’s level (e.g., entry level registered nursing) to master’s level (e.g., MSW in social work) to practice doctorates (e.g., the AuD in audiology).

Scope of this Plan

Currently there are shortages of practitioners in virtually all of the health professions and projections indicate that these shortages will increase. The Wyoming Department of Employment in May 2010 released the long-term industry projections for Wyoming for 2008-2018 and the largest gains are projected to be in the healthcare and social assistance industry, an increase of 24.1%. This increase is double or triple the amount projected for other sectors.²

A detailed analysis of every program in the health professions would be difficult because of lack of information and low likelihood of implementation for the high cost/low need professions (e.g. optometry or podiatry). However, those healthcare professions that are listed by the Wyoming Department of Employment as high growth or those identified as critical to the delivery of high-quality healthcare in Wyoming will be detailed.

There are many variables that determine the benefits of being able to offer a degree program at the University of Wyoming. Some are very tangible but may be difficult to determine such as the money lost to the state when patients go out-of-state because services are not available, costs associated with recruiting health professionals to work in Wyoming, and having a sufficient number of practitioners to meet demands. The last point is a very important consideration because this number must be maintained to prevent current healthcare

¹ Shulman, L. (2005). Pedagogies of uncertainty. *Liberal Education*.

² *Wyoming Labor Force Trends*, Wyoming Department of Employment, Research and Planning, May 2010.

practitioners from leaving because of the stress produced by being overworked. Other variables are less quantifiable, such as the feeling of security provided by having services close or the impact of adequate healthcare on economic development. Additionally, the benefit of an opportunity for Wyoming residents to receive their education within the state and thus retain these highly qualified citizens is less quantifiable.

Only those professions that require a bachelor's degree or higher for practice will be discussed in this document. Those programs are listed in Table I. Additionally, emerging programs in healthcare are not evaluated due to lack of consensus regarding degree requirements and data on their employment prospects. An example is healthcare information technology, a emerging and important area in today's healthcare environment. The intent of this document is to address potential new programs, so existing programs will not be discussed even though expansion in the student numbers in some cases may be beneficial and should be considered. (Indeed, one reason to exercise caution in adding new programs is to be able to direct new resources, when available, to the expansion of existing programs in high-need fields.) The existing programs at the University of Wyoming College of Health Sciences are listed in Table II. Below the programs that are not offered at the University of Wyoming are briefly discussed as well as the potential for addressing the statewide needs and student demands.

Resources Required for the Adoption of New Clinical Programs

The University of Wyoming has a responsibility to help the state meet its citizens' needs for clinical health care professionals in fields critical to Wyoming's future. Yet it would be impossible for UW to educate health care professionals in all clinical disciplines. It is necessary to make some judgments about which clinical programs to offer at UW, which to offer through arrangements with other schools, and which not to offer.

No discussion of the Clinical Education Plan can occur without an evaluation of the resources required. There are three important considerations regarding resources which will be briefly discussed: faculty, facilities and clinical practice sites.

1. Faculty

This includes UW salaried faculty and adjunct faculty members. There must be adequate numbers of both for a program to be successful. Generally, the UW salaried faculty members will consist of practitioners in the discipline of the degree being offered. These faculty members will provide most of the didactic teaching, some of the clinical teaching and will be responsible for the curriculum. Each of the academic programs is accredited by a national organization that is usually composed of practitioners. These accreditation bodies may have specific requirements for faculty size and training level and may require that specific faculty to student ratios are maintained. In addition, some

of the programs require state approval through a regulatory body, e.g., the Wyoming State Board of Nursing. Those boards also have standards for educational programs.

While current College of Health Sciences faculty members may have areas of expertise that would allow them to teach in a new program, the use of existing faculty is limited by their area of specialization and workload. In short, new programs, even if taught by existing faculty members, divert faculty energies from programs currently in place.

An adequate number of adjunct faculty members³ in the discipline must also be available and these faculty members must be located in the most common practice sites for the profession. These adjunct faculty will be necessary to provide the students with supervised clinical experience as they rotate through their required practice experiences. Usually it is required that this be a small group or one-on-one experience for the student. This will entail a large number of practitioners since each student may have numerous practice experiences at different sites. Also, many adjunct faculty members are not able to take more than a few students per year.

Another dynamic currently at play is that with the shortage of health professionals more new programs have opened, exacerbating the already existing shortage of qualified faculty. The shortage of faculty members and a lack of interest in faculty appointments on the part of qualified practitioners have caused a dramatic increase in faculty salaries. Since the faculty will consist primarily of practitioners, the salaries will have to be competitive with the market nationally. A new program may have to offer even higher salaries, to compensate for the risks associated with joining a less well recognized and potentially fragile academic unit. This compounds the resource problems mentioned earlier: shortages of qualified faculty members nationally often make it difficult to staff new programs with available or realistically foreseeable budgetary resources.

2. Facilities

Space to house the program will be necessary. As with all academic programs the programs in the health sciences will need classroom, faculty office space and student space. The classrooms may require specialization and since clinical education is often taught in small groups, seminar rooms may be required. Additionally virtually all educational programs in the health professions will require a teaching laboratory equipped with current technology. Depending upon the skills that need to be taught, these teaching laboratories may be quite complex and require specialized and expensive equipment. Patient care services may also be required and clinics may have to be established. Accreditation standards may also require more specific facility requirements.

³ Adjunct faculty may also be identified as preceptors, field supervisors, etc. depending upon the discipline.

Lack of space is currently a major issue within the College of Health Sciences. With the expansion of existing educational programs and the research enterprise, space for expansion is not readily available. This is especially true for the amount of space that any new educational program would require.

3. Practice sites for experiential education

Another aspect of contemporary health professions education is that clinical practice starts early in the program, is coordinated with the didactic teaching and the capstone experience time allotted to the final preparation of the student has been expanding. Practice sites are required to provide depth and breadth of experiences. There must be a sufficient number of clients or patients for the students to interact and there must be a wide range of conditions and diseases for the student to gain experience. There must also be qualified adjunct faculty at each of those practice sites to monitor the student's progress. In the past many of those adjunct faculty members donated their time as adjunct faculty as a professional obligation. This has changed in some professions to where the employers of adjunct faculty or individual adjunct faculty now require payment. This has a direct impact on the cost of education. The current economic situation has hastened this.

Unfortunately, because of its small population and relatively limited spectrum of patients, Laramie does not provide an environment that can provide a sufficient number of experiences to meet student demand and most practice sites, especially those for the terminal experiences, must be completed elsewhere. Additionally, while Laramie may provide the diversity in clients needed for breadth and depth of experiences for some disciplines offered, it may not for others. Laramie and the University do have opportunities and these will be investigated but they may lend themselves better to introductory practice experiences where students are earlier in their education and the need for depth and breadth is not as strong.

WICHE

The Western Interstate Commission for Higher Education (WICHE) is a regional organization created by the Western Regional Education Compact, adopted in the 1950s by Western states. WICHE was created to facilitate resource sharing among the higher education systems of the West. It implements a number of activities to accomplish its objectives. Wyoming joined the compact in 1953 and has participated since. The benefits of WICHE participation are numerous and go beyond training of health science professionals. It may be useful to differentiate between WICHE's 3 student exchange programs. The Professional Student Exchange Program (PSEP) helps students who want to earn a professional degree in the health professions pay reduced tuition at participating programs in the West. PSEP is the only program that requires a money exchange. The Western Undergraduate Exchange (WUE) helps undergraduate students to study out of state in the West for less than full resident tuition (150 percent of resident tuition). The Western Regional Graduate Program (WRGP) assists students who want to earn a

master's or doctorate to save money at participating institutions across the West by paying resident tuition. WUE and WRGP are both tuition reduction programs (so a real bargain for Wyoming to send students).

In the context of this Clinical Education Plan the primary consideration is WICHE's Professional Student Exchange Program (PSEP). PSEP enables students in 12 western states, including Wyoming, to enroll in selected out-of-state professional programs usually because those fields of study are not available at public institutions in their home states. Students enrolled in WICHE PSEP receive preference in admission. They pay reduced levels of tuition: for most students, resident tuition in public institutions or reduced standard tuition at private schools. The home state pays a support fee to the admitting school to help cover the cost of students' education. State support and program participation affecting students are subject to change by legislative or administrative action. The number of students supported by each state is determined through state legislative appropriations. The benefit that motivates legislatures to support PSEP is the ability to provide access to high-quality degree programs without having to support them locally, which can be expensive.

Professional degrees unavailable at the University of Wyoming:

The following are programs in the health professions where the degree is not offered at the University of Wyoming. For most of these there is access for Wyoming students to the professional programs through other options.

For quick reference a table is provided for each of the professions. The first column addresses whether the profession is offered through the Western Interstate Commission for Higher Education (WICHE) program, which is described later in the report. WICHE can support student education for many of the healthcare professions. The second column addresses equipment cost related to the on-site expense of providing teaching equipment in the educational program. The equipment cost per student can be low (<\$5,000/student), moderate (\$5,000 to \$10,000/student) or high (>\$10,000/student). In the third column, faculty salaries are reported as the average cost of a full time faculty member as the associate professor rank using OSU data. In the fourth column, Adequate Clinical Sites, addresses whether the UW College of Health Sciences has access to a sufficient number of training sites that provide the depth and breadth of experiences to meet the needs of a class size that is economically feasible if the program were to be considered. The fifth column summarizes student demand and is reported as the average number of students from Wyoming who have expressed interest in the program over the last 5 years. The last category, Demand State needs being met, is the number of practitioners estimated to be needed each year from the Wyoming Department of Employment *Wyoming Projected Occupational Growth by Standard Occupational Classification Code and Typical Education/Training Required, 2006 and 2016* study. Not all healthcare professions are included in this study and those are noted on the tables.

Doctor of Nursing Practice

Since the 1970s, UW's School of Nursing (SON) has offered several advanced nursing practice (APN) programs (graduate level programs that build upon entry level nursing education at the baccalaureate level). The family nurse practitioner (FNP) program has been in existence for approximately 30 years. An average of 10 students a year have graduated from the program, with 6-7 of these staying in Wyoming and providing much needed primary care to residents throughout the state. In 2005, the school began offering a psychiatric mental health nurse practitioner (PMHNP) program which has been very positively received in the state. The first graduates of this program finished in December 2007. All 23 counties in the state are underserved for mental health care. Consequently, the graduates of the PMHNP program are well positioned to address significant shortages in mental health, especially in diagnosis and treatment of mental illness and substance abuse—problems that can have profound impacts on small communities.

In fall 2005, American Association of Colleges of Nursing members voted to change the level of preparation necessary for advanced practice nursing from the current master's degree to the doctorate level (DNP) by the year 2015. Many boards of nursing are responding to this movement and nurse practice acts and the associated rules and regulations now include doctoral preparation for advanced practice nursing roles.

There are no state or national studies specifically focusing on demand for DNP graduates, in large part because the DNP represents a level of training, not a specific nursing role. DNP graduates will function in existing advanced practice nursing roles, including nurse practitioner, certified nurse midwife and certified registered nurse anesthetist roles. We know that the demand for NPs continues to grow. NPs are playing a more substantial role in health care, with evidence that they are providing an increasingly higher percentage of health care to the U.S. population, especially in primary health care.

Interest in the DNP program is high among current undergraduate and graduate students and registered nurses throughout the state of Wyoming. The SON has already received inquiries about offering a DNP program. In order to document this demand more definitively, the SON undertook several needs assessments, which highlighted significant demand for the program (see DNP proposal for a complete discussion of need and demand for nurse practitioners and the DNP program). Currently, we admit approximately 20 students to the NP program per year and this demand is expected to continue with the implementation of the DNP program.

WICHE Program	Equipment cost	Faculty salaries	Adequate clinical sites in Wyoming	Student Demand	State needs
Yes	Low	\$72 K	Yes	20 NP/yr	8/yr (included with PAs)*

*state employment estimates are for mid-level practitioners (i.e. PAs and NPs)

Analysis: The Doctor of Nursing Practice degree will be the entry level degree for nurse practitioners and this degree will replace the current Masters in Nursing Nurse Practitioner Program, which will no longer be a viable professional credential, as a newly-earned degree, after 2015. The DNP curriculum better addresses the education and training needed for a rural state. The School of Nursing has prepared a well developed proposal which is an element of UW's 2009 strategic plan.

Doctor of Optometry

Optometry is an expensive program when the need for sophisticated equipment for each student and high faculty salaries are considered. Students begin their clinical experience in a clinical simulation laboratory, with classmates serving as patients, and then proceed to clinical training with real patients. In the third year, students spend part of their time in the classroom and part of their time in the clinic examining patients. Fourth-year students continue their clinical training, which may include off-campus clinical externship rotations. This necessitates having a school-based clinic fully staffed with faculty at a site with an adequate number of patients for student interaction. Laramie could not provide a sufficient patient base and it is questionable if such a site exists in Wyoming.

While there are a few Wyoming students interested in optometry every year, the demand for this program is being met through WICHE at one of the 4 western schools of optometry. Additionally, students are not being recruited back to Wyoming as evidenced from a recent discussion. "At Pacific, we met with about 14 optometry students, 10 of whom were from Wyoming. They were all profoundly grateful for WICHE and pretty vocal about it. The 3rd year students also told us that there were currently no optometry jobs in Wyoming. One said he thought every optometrist in Wyoming had his resume but no bites. The optometrists said they were waiting to see what would happen with the economy, health care reform, and workforce before feeling able to take anyone new on. Other students agreed that this was their experience as well. Several of the students, mostly those with employed spouses, plan to stay in the Forest Grove area; none of them wanted to risk the certainties of the one income for another that may be uncertain." (Lisa Shipley, WICHE Certifying Officer, May 2010)

WICHE Program	Equipment cost	Faculty salaries	Adequate clinical sites in Wyoming	Demand	State needs
Yes	High	\$80 – 90 K	No	10/year	2/year

Analysis: Wyoming's demand for optometrists is currently being met through WICHE and this high cost, faculty intensive program should not be considered.

Masters of Science in Physician Assistant Studies (MPAS), Health Science (MHS), or Medical Science (MMSc); or Doctor of Science Physician Assistant or (DScPA)

In the past, there have been several discussions between UW Administrators and members of the Wyoming legislature about the perceived need for a Physician Assistant (PA) program in Wyoming. Currently, a footnote is attached to the University's budget directing the University to determine the feasibility of starting a program. To that end, the admission requirements, curricula, and costs at two regional programs are reviewed: the PA program at the University of Colorado and MEDEX program at the University of Washington.

PA programs arose in the late 1960s to fulfill workforce needs unmet by traditional medical education. They provided a vehicle for returning servicemen with corpsman training as well as nurses to expand their education into another venue. Those programs were often certificate only programs. Over the years they have evolved into programs offering mainly baccalaureate and masters level degrees. The main exception is the MEDEX program at the University of Washington which still offers a certificate with an option for either a bachelor or masters degree. MEDEX does not mandate an undergraduate degree for admission to the certificate program, but does require 2 years of paid experience in a medical field prior to admission. An undergraduate degree is required for the Masters program. All other schools require a Bachelors degree for admission.

The length of each of these PA programs is two to three years. The first year is comprised of didactic instruction coupled with courses on patient interaction (history taking and physical examination). The second year mirrors the first except that more patient contact is involved. The third year consists of clinical rotations under the supervision of a Physician in the major medical disciplines (Internal Medicine, Family Medicine, Pediatrics, Surgery, Obstetrics/Gynecology and Psychiatry). Note that both schools are part of a four year medical school which makes the acquisition of clinical teaching faculty much easier.

To start a physician assistant program at UW, several steps would have to be taken. Courses taught during the first year are a mix of basic science (e.g. pharmacology, anatomy and physiology) and clinically oriented material (e.g. pulmonary, gastroenterology, cardiology) which is why most programs are on medical school campuses. At UW, faculty in WWAMI, pharmacy and nursing have the expertise to teach the basic sciences and clinical courses in the first year. However, these faculty are already fully committed to other programs with a full teaching load and are not available for additional teaching assignments. Consequently, for most of the first year courses additional faculty would have to be hired (physicians, physician assistants or nurse practitioners). These health professionals would command fairly hefty salaries (\$90-200K). Conservatively, for the first year alone it is estimated an additional four faculty members would be required. Additional support staff would also be required in the form of at least a PA program coordinator, one full-time administrative assistant, and a part-time staff position to handle admissions, credentials, analysis and advising. The PA program coordinator could teach

some of the classes. Additional faculty and an experiential coordinator would be required for the second and third years of the program.

In addition, a new PA program would be required to establish and comply with national accreditation standards. The process of establishing compliance with accreditation standards, maintaining accreditation, and assessing the educational outcomes will involve an enormous amount of time, administrative coordination, documentation and cost. Such an undertaking would, by necessity, require considerable concentration by additional administrative personnel at all levels and divert attention from other important academic goals. In contrast, as discussed below, sending Wyoming students to established PA programs in more densely populated states does not require such large expenditures or administrative overhead.

A compounding factor may be a lack of classroom space because, as with the WWAMI medical program, a dedicated classroom for the PA program will be required. Both the first and second year students would need space for the majority of their didactic instruction, the size of which would depend on the number in each class. In the second and third years, a mix of didactic classroom teaching and clinical experiences is needed. These clinical experiences would be done in outpatient and inpatient settings. Local physicians are already involved with the first year WWAMI students and nurse practitioner students. To have first and second year PA students would be a significant burden on these practitioners, since students do decrease the efficiency of a busy practice. Additionally, Iverson Memorial Hospital cannot provide the depth and breadth of patient experiences necessary for a sufficient number of students. As a result, clinical experiences would need to be distributed throughout Wyoming and Northern Colorado, and UW would be competing for sites with the Colorado program. A necessary part of the program could well involve securing housing at clerkship sites. Therefore, the program would either have to be entirely located at a site removed from the Laramie campus, which makes using existing resources on campus difficult, or have the students start at one site and relocate, an additional burden for them.

Demand for a PA program is difficult to assess. Colorado had 193 applications, interviewed 91 and accepted 40. The numbers for the University of Washington are difficult to interpret because of the multiple sites. There are currently 6 Wyoming students enrolled in PA programs with WICHE sponsorship. Since 1995 Wyoming has educated 24 additional PA students through WICHE, approximately 2/year. The majority (13) have matriculated at MEDEX (Washington). The University does have an agreement with Washington for 5 positions in the MEDEX program each year; currently these slots are not being fully utilized. Finally, the Wyoming Health Resources Network (WHRN) includes PA vacancies with Nurse Practitioners and currently shows 23 open positions. WHRN placed 1 Nurse Practitioner and 4 Physicians Assistants in Wyoming practices last year. Considering the small number of students sponsored in the past, it's doubtful there would be as many as 10/year who qualify. Additionally, this demonstrates that the need for PAs overlaps significantly with the need for Nurse Practitioners, for which UW already has a strong program in place that can be even stronger by upgrading to a DNP

program—a measure that is far less costly because the required resources are largely in place at UW. As an independent practitioner, the DNP graduate is well prepared for rural practice.

If UW were to start a PA program it would be expensive. It could be modeled after the Doctor of Pharmacy program and take out-of-state registrants under WICHE/PSEP or it could be kept small and limited primarily to Wyoming residents, a constraint that might limit the applicant pool. Colorado charges \$40,225 (all amounts are per year) for nonresidents and \$22,944 for residents. MEDEX charges \$29,636 for both residents and nonresidents. For WICHE students, Wyoming pays a support fee for tuition and other fees of about \$15,600/yr for the maximum of 2 years of instruction. The student pays resident tuition (\$29,636 MEDEX, \$22,944 Colorado).

There are several options for Wyoming:

1. Continue with WICHE support for successful applicants. This is the least expensive of all the solutions, and it easily accommodates foreseeable levels of student demand.
2. Develop a WWAMI or WYDENT like contract program with a specific school. In this scenario the University of Washington's MEDEX is arguably not the best choice, because of the two year paid experience requirement for entry. Other universities' requirements are straightforward. A Bachelors degree satisfying basic requirements could easily be obtained, for example, in Kinesiology and Health. Similarly pre-medical or pre-dental students would have the requirements for admission. In such a scenario the student would contract with Wyoming to return to the state for a specified number of years. Having part of the education in Wyoming as is done with the WWAMI medical education program is not favored because of the need for new clinical faculty, staff, space, and resources.⁴
3. Start a PA program and piggyback it onto an existing program such as the Pharm.D. or M.S. for nurse practitioners. There are hybrid programs of this sort in existence. Once again the start up costs, need for classroom space, clinical faculty, and accreditation would be very expensive and it is difficult to know whether this approach would affect the accreditation reviews in Pharmacy or Nursing.
4. Start a new PA program at the University of Wyoming. For all of the reasons stated above—cost of faculty, classroom space, lack of demand (only 21 students since 1995), the cost of such a program seems to far outweigh the merits at this time. Another consideration is that with the economic downturn, support for a program could drain resources from other successful programs such as WWAMI, WICHE, and nurse practitioner training in the School of Nursing. This could be partially addressed by starting an enterprise program where the entire cost is borne by the students, but it is estimated student fees would be in the \$40,000 to \$50,000 per year range.

⁴ Colorado has an emphasis on pediatrics and offers a Child Health Associate(CHA) certificate which is not the greatest need for Wyoming. Admission into Colorado's program is very competitive with an average GPA of 3.8 required.

In summary while there is a demonstrated need for additional midlevel practitioners (nurse practitioners or physicians assistants) in Wyoming, there is already a well developed nurse practitioner program in place, with the infrastructure in place, to change to a DNP. To meet demand for those where nursing is not an option to this area of practice; Wyoming could possibly obtain more access to existing PA programs by contracts similar to what we already do with WWAMI and WYDENT. This is a more viable solution for the University and State at the present time.⁵

WICHE Program	Equipment cost	Faculty salaries	Adequate clinical sites	Demand	State needs
Yes	Low	\$80 K	Unknown	20/year*	4/year

*some applicants use this as a fall-back if not admitted to other professional programs

Analysis: Access for Wyoming residents to physician assistant education and state needs are currently being met and there is not a need to further investigate offering this education at UW at this time.

Doctor of Physical Therapy

Physical therapists (PTs) are licensed health care professionals who help patients reduce pain and improve or restore mobility - in many cases without expensive surgery and often reducing the need for long-term use of prescription medications and their side effects. PTs examine each individual and develop a plan, using treatment techniques to promote the ability to move, reduce pain, restore function, and prevent disability. In addition, PTs work with individuals to prevent the loss of mobility before it occurs by developing fitness- and wellness-oriented programs for healthier and more active lifestyles. Physical therapists provide care for people in a variety of settings, including hospitals, private practices, outpatient clinics, home health agencies, schools, sports and fitness facilities, work settings, and nursing homes. (from American Physical Therapy Association, <http://www.apta.org>)

Physical Therapy made the U.S. News and World Report's 2009 list of best careers, as the growing elderly population continues to drive demand for services. This is a high demand program with WICHE schools reporting that they receive an average of 8 applications per seat for the coming academic year. The Doctor of Physical Therapy (DPT) is a post-baccalaureate degree conferred upon successful completion of a three year professional education program. Wyoming is only one of three WICHE states that does not offer the degree (Alaska and Hawaii are the other two). There are approximately 20 Wyoming students who are certified for admission into a DPT program through WICHE each year indicating the demand. Class size varies and as expected the larger universities and the private universities are larger. For universities comparable to Wyoming the class size ranges from 24 to 50 students per year. This

⁵ Information regarding the physician assistant program provided by Dr. Walter G. (Jerry) Saunders.

degree could be a good fit with the UW College of Health Sciences program in Kinesiology and Health. Additional new resources consisting of space, faculty, equipment and support would definitely be necessary if starting a DPT program is contemplated.

WICHE Program	Equipment cost	Faculty salaries	Adequate clinical sites	Demand	State needs
Yes	Moderate	\$80 K	Unknown	18/year	8/year

Analysis: While access for Wyoming residents to physical therapy education appears to be addressed, it is unknown if the state's needs are being addressed and there is enough demand for physical therapy that further investigation may be warranted. However, this should only be undertaken if there is a commitment to providing additional new resources. In addition, any decision to add a program like the DPT must be weighed against the opportunity cost: would the same expenditure of resources have a greater positive effect on health care in Wyoming if it were directed toward increases in the training of primary care givers, such as DNPs, or MDs, through the WWAMI program? The availability of DPT training through WICHE makes this opportunity/cost analysis especially pertinent.

Medical and Laboratory Technology Clinical Laboratory Science Bachelors

Clinical laboratory science professionals, often called medical laboratorians, are vital healthcare detectives, uncovering and providing laboratory information from laboratory analyses that assist clinicians in patient diagnosis and treatment, as well as in disease monitoring or prevention (maintenance of health). They use sophisticated biomedical instrumentation and technology, computers, and methods requiring manual dexterity to perform laboratory testing on blood and body fluids. Laboratory testing encompasses such disciplines as clinical chemistry, hematology, immunology, immunohematology, microbiology, and molecular biology. Clinical laboratory science professionals generate accurate laboratory data that are needed to aid in detecting cancer, heart attacks, diabetes, infectious mononucleosis, and identification of bacteria or viruses that cause infections, as well as in detecting drugs of abuse. In addition, they monitor testing quality and consult with other members of the healthcare team. (from American Society for Clinical Laboratory Science, <http://www.ascls.org/>)

The clinical laboratory science profession has more than one career track based on level of education: clinical laboratory technician (2 year, associate degree) and clinical laboratory scientist (4 to 5 year, bachelor level). Clinical laboratory technicians are competent in the collection, processing and analysis of biological specimens, the performance of lab procedures, the maintenance of instruments, and relating lab findings to common diseases/conditions. Clinical laboratory scientists have a more extensive theoretical knowledge base. Therefore they not only perform laboratory procedures including very sophisticated analyses, but also

evaluate/interpret the results, integrate data, problem solve, consult, conduct research and develop new test methods.

In response to inquiries from many of the hospitals in Wyoming, the University of Wyoming College of Health Sciences is currently investigating the possibility of partnering with other institutions of higher learning or certificate programs to offer this degree or certificate to practice. One program provides the didactic course work by distance learning and places the students in a clinical practice site at a participating institution in Wyoming while the student still resides and receives their degree at UW. Another program will affiliate with the university to assure that the students have the required prerequisites and the students can then matriculate into the CLS program after they have earned their degree. This is a yearlong program leading to certification. UW did have a program at the Bachelor of Science level that was discontinued in the late 1990's because staffing pressures in other clinical programs at UW – especially Pharmacy and Nursing—made it impossible to staff the program at a level required for high-caliber training.

WICHE Program	Equipment cost	Faculty salaries	Adequate clinical sites	Demand	State needs
Yes (WUE)	Low	85 K	Yes	Unknown	4/year

Analysis: UW's earlier experience with this discipline is an object lesson in the perils of starting clinical degree programs with minimal staffing levels and budgeting support alongside other programs such as family practice, nursing, and pharmacy that are critical for health care delivery in the state's many small communities. Access for Wyoming residents to clinical laboratory science education and state needs should be addressed shortly.

Doctor of Audiology

Audiologists assess, treat, and rehabilitate hearing and balance disorders. Audiologists also select, fit, and dispense amplification systems; prevent hearing loss through fitting hearing protective devices; and evaluate noise levels in the workplace. Audiologists work closely with physicians, hospital personnel, teachers, hearing aid manufacturers, and speech-language pathologists. The practice of audiology requires a doctoral degree (AuD), which is typically three years post-baccalaureate.

In 2007, the University of Wyoming decided not to offer a doctorate in audiology after the profession moved to that as the minimum standard. The master's of science degree in audiology was formally closed at that time. The master's program was a small but strong program with steady demand from students, employers, and clients. However, the more expensive doctoral program with the low numbers anticipated was not supported because the transition to the Aud.D. would have required the addition of faculty lines just to reach a minimally viable staffing level. In addition, adoption of the Aud.D. degree program would have siphoned faculty resources away from a thriving core of teaching and research expertise in

speech-language pathology in UW's Division of Communication Disorders, thus weakening the focus of an academic unit that has begun to achieve distinction. Undergraduate preparation continues in the Division of Communication Disorders through the Bachelor's in Speech-Language-Hearing Science. Students now go on for doctoral study elsewhere, including a number of doctoral programs in the neighboring states of Colorado, Idaho, and Utah. There is one program, the University of Colorado-Boulder that offers audiology within the WICHE graduate school agreement.

WICHE Program	Equipment cost	Faculty salaries	Adequate clinical sites	Demand	State needs
Yes	High	\$78 K	Yes	Low	<1/year

Analysis: Access for Wyoming residents to audiology education and state needs are currently being met and there is no need to further investigate offering this education at UW at this time.

Doctor of Speech-Language Pathology

Speech-language pathologists assess and treat speech, language, reading, cognitive, and swallowing disorders across the lifespan. They work in educational, medical, and private practice settings. They are sometimes informally referred to as speech therapists. There has been a chronic shortage of speech-language pathologists, especially in the schools. There is a high demand for the current master's in speech-language pathology campus and distance tracks. The current Division action plan is directed at increasing numbers of graduates within available resources.

The practice of speech-language pathology requires a master's degree, but there is an emerging demand for advanced clinical preparation. While this has been accomplished to date within the research doctorate framework, education that specifically focuses on clinical expertise is emerging in the form of a clinical doctorate. There are currently only two clinical doctoral programs, at the University of Pittsburgh and Nova Southeastern University. We do not anticipate a demand for the clinical doctorate at the University of Wyoming within the next ten years, but the presence of this advanced training and possible shifts in the profession should be recognized.

WICHE Program	Equipment cost	Faculty salaries	Adequate clinical sites	Demand	State needs
No	No	\$78 K	No	Low	<1/year

Analysis: Access for Wyoming residents to speech-language pathology education and state needs for speech-language pathologists are currently being met and there is no need to further investigate offering a doctoral degree at UW at this time.

Bachelor of Science in Athletic Training

This program was discontinued at the University of Wyoming in 2009 after the national accrediting body insisted that the program be offered as a separate major, not a concentration within a major. Approximately 50 students were enrolled across the four year athletic training program, 10-12 students within each year of the program. Students graduating in athletic training found employment in high schools, colleges, and physical therapy clinics. Demand for athletic trainers is high. However, this discipline is not among those that are most critical for Wyoming's health care delivery system.

WICHE Program	Equipment cost	Faculty salaries	Adequate clinical sites	Demand	State needs
No	Minimal	\$70 K	Yes	10/year	8/year

Analysis: The Bachelor of Science degree in Athletic Training is a program that would be best delivered collaboratively through the Division of Kinesiology and Health and the Department of Athletics. The athletic training program would require minimal resources beyond the non-faculty resources already allocated to the area of athletic training within the Department of Athletics.

Doctor of Osteopathy

For completeness, the Doctor of Osteopathy (D.O.) is included. In the United States, the D.O. and the M.D. are the only two degrees permitting licensure as medical physicians. D.O. and M.D. physicians undergo similar training, both requiring four years of training in the basic and clinical sciences and the successful completion of licensing exams (D.O. physicians must pass either the COMLEX or the USMLE, while M.D. physicians must pass the USMLE). D.O. physicians receive additional training in Osteopathic Manual Manipulation. D.O. and M.D. physicians train and work side by side at many of the same institutions and hospitals across the country. D.O. graduates are admitted to the University of Wyoming Family Medicine Residency Programs on an equal standing with M.D. graduates.

Wyoming residents' education leading to the D.O. degree is supported through WICHE and the College of Health Sciences, through its residency programs, has an affiliation with Rocky Vista University College of Osteopathic Medicine in Parker, Colorado.

WICHE Program	Equipment cost	Faculty salaries	Adequate clinical sites	Demand	State needs
Yes	Moderate	\$170 K*	No	13/year	16/year [†]

*depending upon specialty †number includes all physicians

Analysis: Access for Wyoming residents to doctor of osteopathic medicine education and state needs are currently being met and there is not a need to further investigate offering this education at UW at this time. UW's involvement in the WWAMI program for training M.D.s offers a superior avenue for medical physician training for Wyoming students. Additionally, there are not currently adequate in-state clinical teaching sites available for the number of students necessary to economically justify a program.

Doctor of Occupational Therapy

Occupational therapists help patients with various disabilities—from decreased motor skills to short term memory loss—learn how to work around their limitations. Occupational therapists devote their expertise to helping people reach their potential for living full, productive lives. Occupational therapists see patients with a wide variety of challenges. Some patients need help with daily tasks such as getting dressed or cooking, while others need assistance improving less tangible skills such as decision-making and memory. An occupational therapy job provides wide exposure to different people, situations and issues. Typical duties of an occupational therapist may include: developing rehabilitation plans for patients and providing ongoing evaluations of their activities and progress, assisting clients in a wide range of activities, from driving a car to daily living skills and training those with permanent disabilities to use adaptive equipment. Occupational therapists practice in hospitals, clinics, long term care facilities and in private practice. One of the largest areas of job growth for occupational therapists is in business consulting.

The University of North Dakota/Casper College site Occupational Therapy Program is part of UND's School of Medicine and Health Sciences and offers students the opportunity to earn an entry-level Master of Occupational Therapy (MOT) degree in three and one half-years, on the Casper College campus. Therefore, there is in-state access to occupational therapy education for Wyoming residents.

WICHE Program	Equipment cost	Faculty salaries	Adequate clinical sites	Demand	State needs
Yes	Moderate	\$71 K	Unknown	3/year	5/year

Analysis: Access for Wyoming residents to occupational therapy education and state needs are currently being met and there is not a need to further investigate offering this education at UW at this time.

Master of Public Health or Doctor of Public Health

The Master of Public Health (M.P.H.) and the Doctor of Public Health (Dr.PH.) are multi-disciplinary professional degrees awarded for studies in areas related to public health. The MPH degree focuses on public health practice, as opposed to research or teaching. The traditional MPH degree is designed to expose candidates to six core areas of public health: biostatistics, epidemiology, health services administration, health education, behavioral science and environmental science.

The Master of Science in Public Health (MSPH) degree is an academic public health degree rather than a professional public health degree. The MSPH is more research-oriented than is the MPH. Required MSPH coursework includes most of the same classes needed for the MPH degree, but in addition the MSPH degree requires additional coursework in research methods, epidemiology, biostatistics, and similar public health studies. Also, MSPH students must complete a research thesis. The extra coursework roughly requires an additional year of study in relation to what is required for the MPH degree.

The DrPH degree is for those who intend to pursue or advance a professional practice career in public health and for leaders and future leaders in public health practice. They face the particular challenge of understanding and adapting scientific knowledge in order to achieve health gain and results. This degree leads to a career in high-level administration, teaching, or practice, where advanced analytical and conceptual capabilities are required. The usual requirement for entry into this program is a Masters degree in Public Health (MPH). The DrPH program develops in its candidates all competencies included in MPH programs, with increased emphasis on high level skills in problem-solving and the application of public health concepts.

Most often these degrees are sought after the person has earned a first professional degree in one of the health professions and has been in the workforce. The person is often transitioning to an administrative role in healthcare. For this reason the course work is often offered on the "executive program" model where the material is taught by self-study and distance learning and the students meet infrequently. This allows the student to earn the degree while continuing their employment.

WICHE Program	Equipment cost	Faculty salaries	Adequate clinical sites	Demand	State needs
Yes	Low	\$87 K	Unknown	Low	21/year*

*Medical & Health Services Managers category includes all BS, MBA, etc. trained.

Analysis: There is good access to these programs for Wyoming residents, financial support through WICHE, and state needs appear to be addressed. The demand for this educational program is anticipated to remain low and there is no need to further investigate offering this education at UW at this time.

Masters of Healthcare Administration

The Master of Health Administration (or Master of Healthcare Administration) is a master's-level professional degree granted to students who complete a course of study in the knowledge and competencies needed for careers in healthcare administration, involving the management of hospitals and other health services organizations. Programs can differ according to setting; although practitioner-teacher model programs are typically found in colleges of medicine or allied health, classroom-based programs can be found in colleges of business or public health.

Accredited programs of study typically require students to complete applied experiences as well as course work in areas such as population health, healthcare economics, health policy, organizational behavior, management of healthcare organizations, healthcare marketing and communications, human resource management, information systems management and assessment, operations assessment and improvement, governance, leadership, statistical analysis and application, financial analysis and management, and strategy formulation and implementation. The degree program is designed to give graduates of health disciplines (in particular) greater understanding of management issues and prepare them for senior management roles. The degree traditionally focuses on health administration at the local, state, and federal level as well as in the nonprofit sector. This contrasts with the general Master of Business Administration or the Master of Public Administration degrees.

As with the Public Health Degrees, this degree is often sought after the person has earned a first professional degree in one of the health professions and has been in the workforce. The person is often transitioning to an administrative role in healthcare. For this reason the course work is often offered on the "executive program" model where the material is taught by self-study and distance learning and the students meet infrequently. This allows the student to earn the degree while continuing their employment.

If there were sufficient student interest, a partnership between the College of Business and the College of Health Sciences could investigate the feasibility of offering a hybrid of this degree. Currently, the UW College of Health Sciences offers a minor in health sciences to address the interest of those students in the College of Business interested in healthcare administration. While not at the graduate level, this does offer a background in health care that would help prepare a student for healthcare administration. This minor is open to all university students.

WICHE Program	Equipment cost	Faculty salaries	Adequate clinical sites	Demand	State needs
Yes	Low	\$84 K	Unknown	Unknown	21/year*

*Medical & Health Services Managers category includes all BS, MBA, etc. trained.

Analysis: There is good access to this program for Wyoming residents, financial support through WICHE and state needs appear to be addressed. While the demand for this educational program is unknown it is anticipated to be low. A hybrid program between the College of Business and College of Health Sciences could be investigated. However, any program consideration would require new resources, especially in the form of faculty positions.

Doctor of Podiatry

Again for completeness, the degree leading to the Doctor of Podiatry degree is included. Podiatry is a branch of medicine devoted to the study, diagnosis and treatment of disorders of the foot, ankle and lower leg. The term "podiatry" came into use first in the early 20th century United States where it now denotes a Doctor of Podiatric Medicine (DPM), also known as a podiatric physician or surgeon who is qualified by education and training to diagnose and treat conditions affecting the foot, ankle and related structures of the leg. Within the field of podiatry, practitioners can focus on many different specialty areas, including surgery, sports medicine, biomechanics, geriatrics, pediatrics, orthopedics or primary care.

WICHE Program	Equipment cost	Faculty salaries	Adequate clinical sites	Demand	State needs
Yes	High	\$157 K	No	<1/year	<1/year

Analysis: There is good access to these programs for Wyoming residents and financial support through WICHE. The state needs appear to be addressed. The demand for this educational program is anticipated to remain low and there is no need to further investigate offering this education at UW at this time.

Business Plan for New Program Proposals

At the time that any new health sciences degree program is considered for addition to the University of Wyoming College of Health Sciences a detailed business plan will be prepared. This plan will identify the costs and benefits of starting a new degree program. Among the costs to be analyzed will be the opportunity cost of directing new resources to the proposed program instead of using those resources to strengthen existing programs. A detailed *pro*

forma budget that covers the first 3 years of the program will be included (there is a University of Wyoming template for this business plan). Also, before any new degree in the health sciences is considered, a consultant will be retained to provide a feasibility study. This person should be unbiased and have strong familiarity with the discipline being considered.

College Commitment to Outreach Efforts

UP3 asks in the Clinical Education plan for a discussion of the College's outreach efforts and its commitment to outreach. The following is a description of what is currently being accomplished for each of the College's programs.

Fay W. Whitney School of Nursing

The Fay W. Whitney School of Nursing is heavily involved in Outreach efforts. Two undergraduate programs (BRAND and RN-BSN Completion) and one graduate program (Nurse Educator) are offered through the Outreach School. The RN-BSN Completion and Nurse Educator programs are on-line, while the BRAND program using a hybrid approach, involving on-line, teleconferencing and intensive on-campus seminars. The Nurse Practitioner program, while not technically offered through the Outreach School, employs a hybrid approach as well. In addition, all of the programs require a variety of practicum experiences and these are completed in sites all over the state (and, for many of the programs around the country). Through these various outreach efforts, UW's School of Nursing is a cornerstone in the college's efforts to address Wyoming's primary health care needs.

Division of Social Work

The Division of Social Work reaches out to students, faculty, practitioners and stakeholders across the state as part of its clinical outreach efforts. An accredited professional baccalaureate degree program (BSW) is offered in Laramie and in Casper through the University of Wyoming/Casper College Cooperative Program which delivers curriculum using faculty members who are part of the division. An accredited professional masters' program (MSW) is offered through the Outreach School to multiple sites statewide (by compressed video and online coursework) combined with classroom hours in Laramie as face-to-face programming. BSW and MSW student have field placements throughout WY, including the state hospital at Evanston, state governments sites in Cheyenne, multiple health and social service agencies in Cheyenne and Casper, and individualized placements for students in outlying areas such as Jackson, Rock Springs, Gillette, and Sheridan. Division faculty hold leadership positions in National Association of Social Workers-WY through board membership and annual conference presentations and sponsorships. There are multiple community advisory boards, committees, and grants/contracts that include social work faculty, students, and community practitioners. Social work faculty members have participation and leadership in WICHE-ICE (Internet Course Exchange), including student and faculty involvement across the WICHE area. Social work

faculty participate and provide leadership in CHS interdisciplinary events that reach a statewide audience, such as the Stroke Conference and Sex and the Senior Conference. Social work faculty members participate and provide leadership in the statewide work of the Wyoming Geriatric Education Center. In summary, social work is a profession that is critical to Wyoming's rural setting and fluctuating economy, and UW's Division of Social Work has a long-standing commitment to statewide access.

Division of Communication Disorders

Through the Outreach School, the Division of Communication Disorders offers a Master's in Speech-Language Pathology and prerequisite coursework in speech-language-hearing science for students with bachelor's degrees in other fields (called Leveling). Both have strong demand from within and outside the state.

The distance courses are offered via teleconference with internet support to individual students (not group sites) throughout the U.S. and occasionally beyond. The distance master's program takes three years of part- and full-time study, with two summers on campus. Recent graduates number 3-5 students a year, but we have recently increased class size and expect to graduate 6-7 students a year. The distance Leveling takes three years of non-degree part-time study. We do not track the number of students who complete the Leveling courses.

Distance education is an integral and important part of the program. Most of the faculty have a significant percentage of workload effort dedicated to Outreach. The division offers an average of 18 credits or 6 upper division and graduate courses a year (excluding practica and project credits). 30 students are enrolled in each undergraduate distance course and 20 students in each graduate distance course. In addition, distance graduate students tap our on-campus resources in the summers. The summer campus clinical experience is reserved for distance students and they form 25% of the summer graduate academic course enrollment in the division. The division has an Outreach Coordinator, a Graduate Advisor, and a Speech Clinic director who work with our distance students. We evaluate curriculum, course delivery, student performance, and instructor performance as closely as for on-campus instruction.

Division of Kinesiology and Health

The Division of Kinesiology and Health is involved in Outreach efforts in undergraduate and graduate education. At the undergraduate level the Division offers four health courses (HLED 4025, 4030, 4110, and 4900) that lead to a teaching endorsement in health education. These courses are offered online and/or via teleconference. Clientele include undergraduate students and certified teachers. At the graduate level the Division offers the M.S. degree program in Kinesiology and Health. This program is for practicing physical and health education teachers and community health educators who are seeking to complete a graduate degree at the master's level. Nine different HLED/KIN graduate level courses are offered through the Outreach School using online and/or teleconference delivery approaches. Approximately one-third (15) of those admitted to the M.S. degree in Kinesiology and Health are distance students.

School of Pharmacy

The School of Pharmacy is not involved in outreach education as outreach education is normally defined. However, the School has fourteen clinical faculty members presently practicing and providing clinical education for the Introductory Pharmacy Practice Experience (IPPE) and the Advanced Pharmacy Practice Experience (APPE) in WY and CO. In addition, the School pays adjunct faculty (preceptors) to teach in WY, CO, NE, MT, ID, NV and a few other states. The IPPE occurs in the summer between the P1 and P2 years and consists of a 4 week rotation in both a community and institutional site. The APPE occurs during the P4 year and consist of nine (9) four week rotations in Internal Medicine, Ambulatory Care, Advanced Community, Advanced Institutional and elective rotations. The Drug Utilization Review (DUR) Program in conjunction with the State Medicaid Department is involved in educating professionals in pharmacy, nursing, human medicine, dentistry and veterinary medicine throughout WY by distance learning.

The School of Pharmacy has been a partner in the Tripartite Committee on Continuing Education for Pharmacists. The School provides a full program of continuing education through the Hoy Seminar and other programming during Pharmacy Weekend in the fall. The faculty present at various continuing education programs during the year; both for pharmacy CE and for other professions. An example is the immunization certification program held annually (this serves two audiences – students and practitioners). The School of Pharmacy in 2009-10 certified 716 Continuing Pharmacist Education hours and certified 25 students and practitioners in immunization provision. Several of the faculty members are active in geriatric outreach teaching. The School of Pharmacy has two Memoranda of Understanding with the Outreach School each semester (including the summer) for service courses. These courses generated 2328 credit hours in FY2009-9 and assisted several off-campus students in attaining their non-pharmacy degrees. Two faculty members are active in teaching nursing students in pathophysiology and pharmacology and one faculty member teaches pharmacology as an outreach class. The School attempts to maintain contacts with the Community Colleges (without formal articulation agreements) to assure that their students are prepared for application to the Doctor of Pharmacy program.

The students, through their professional organizations, provide service through several activities, including the College of Health Sciences Health Fair, Operation Diabetes, Operation Heartburn, osteoporosis screening, poison prevention programs to Kindergarten and first grade students, and drug use and misuse programs to 4th grade students.

A Health Resources Services Administration (HRSA) grant was awarded to the School of Pharmacy in 2007. The purpose is to provide both on-campus geriatric education and continuing education for practicing health professionals across the state. In the past year, WyGEC distributed on-line needs assessment surveys to Wyoming health professions faculty (UW and community colleges) and to health professions in multiple disciplines. WyGEC also partnered with AARP to conduct a health needs survey of Wyoming's 50+ population. WyGEC has provided both on-site and distance education to 1,584 health professionals: physicians, PAs,

APNs, nurses, social workers, psychologists, therapists (occupational, physical, and recreational), counselors, and health administrators. WyGEC faculty associates created a Speaker's Bureau of 20 health specialists who present lectures and workshops at state-wide conferences. A 10-week Telehealth Series in Geriatric Topics (from the U. of Washington Medical School) was broadcast via WyGEC to 9 remote sites in Wyoming. The two-day Foundations of Dementia Care has been presented in 12 communities across the state-- from Lovell to Evanston, Jackson to Cheyenne, and points in between! A unique train-the-trainer program has produced 10 mental health specialist trainers in all regions of the state, who conduct 4-hour training sessions for CNAs in nursing homes. And finally, the WyGEC web site and lending library are available resources for all Wyoming health professionals, older adults and their families.

Division of Medical Education

The Department of Medical Education includes the Family Medicine ACGME Residencies in Casper and Cheyenne, and the WWAMI Medical Education Program. The WWAMI students complete their first year of medical school at the University of Wyoming in Laramie. All WWAMI students then go to Seattle for the second year of medical education at the University of Washington School of Medicine. A number of our basic science and clinical lectures in the first year of medical education are videoconferenced between the different WWAMI sites including Seattle. At present, however, only a handful of lectures are videoconferenced from the Laramie WWAMI site.

Although the WWAMI program does not include an outreach education component in the strictest sense of the definition, it does have many educational components that involve strong ties to various Wyoming communities. During the first year of the WWAMI medical education in Laramie, students spend approximately one afternoon per week with a local preceptor physician learning clinical team skills and patient interviewing skills. This provides an excellent tie between our medical education program and the local community.

During the summer between the first and second year of medical education many of our WWAMI students participate in the Rural/Underserved Opportunities Program (R/UOP). The RUOP program allows students to spend four weeks learning and working with rural physicians in various communities around the state of Wyoming. Most RUOP students also develop a community oriented research and service project while they live in the rural environment. Some RUOP students form contacts with physicians that later facilitate their job placement back in the state.

WWAMI students receive clinical clerkship training in approved sites during their third and fourth years of medical school in any of the five WWAMI states (Washington, Wyoming, Alaska, Montana, and Idaho). Clerkship opportunities are offered in over 12 different areas of medicine in Wyoming, ranging from family medicine to radiology. These clerkship opportunities are offered in all of the major cities in Wyoming and are available to all University of Washington medical students. Third and fourth year clerkship training sites allow physicians in various

communities to be connected with the medical education efforts at the University of Wyoming and the University of Washington.

The Family Medicine Residency Programs also have outreach programs in Wyoming and are planning on developing more of these opportunities. The Cheyenne Family Medicine Residency staffs a clinic in Pine Bluffs Wyoming with healthcare providers through a partnership with the Cheyenne Regional Medical Center. Medical residents from both programs have the opportunity to participate in rural rotations throughout Wyoming. Additionally, planning is underway for a program to provide patient coverage by a faculty member and resident physician to allow a rural physician time for vacation or continuing education.

Statewide Health Policy Involvement

The University of Wyoming College of Health Sciences is heavily involved in statewide policy discussions related to healthcare. The College's administration and faculty members of the various divisions work closely with the Wyoming Department of Health and the Wyoming Division of Family Services. The College's Dean's Advisory Council is one avenue where the healthcare needs of the state are discussed with the College's administration. This group consists of practitioners and health policy decision makers. Additionally, each of the divisions has a separate advisory board. These boards have a membership consisting of stakeholders from Wyoming and across the United States.

The College holds one seat on the board of directors of the Wyoming Health Resource Network (WHRN) along with the State Department of Health, the Wyoming Medical Society, the Wyoming Hospital Association and others. The charge of WHRN is to address the healthcare manpower needs of the state by providing a clearinghouse and placement services for select healthcare professionals. The dean of the college is also active in several groups that are addressing access to primary care in Wyoming and assuring that the healthcare manpower needs are being addressed. He is a member of the State Agency Leadership Team for Health Care Reform (SALT) which is charged with developing the state's response to changes in the recently passed federal healthcare reform legislation.

The College provides its expertise to the state through its various programs and is always open to providing expertise to the citizens of Wyoming. Additionally, there are numerous contracts between various state agencies and units of the college to provide consulting services. While there are numerous examples of these affiliations, only a few examples will be included. The School of Pharmacy houses the Drug Utilization Review (DUR) Program, a grant-supported program that fulfills the Federal mandate of retrospective medication use review for the joint Federal-State supported Medicaid programs. In addition, the DUR program assists the Wyoming Department of Health achieve a quality (both clinically and economically) medication program for this population. The DUR makes decisions that directly affect the

care of Wyoming Medicaid enrollees. In addition to the employees of the grant, one faculty member sits on the board and two serve as consultants (as part of their job descriptions).

UW College of Health Science faculty have regular involvement with officials, agencies and professional organizations in discussions about state healthcare policy, professional responsibilities and clinical education in WY. Faculty members hold positions on licensing and professional organizations in the state. For example, Dr. Jaime Hornecker is the current President of the Wyoming Pharmacy Association and Dr. Melissa Hunter is the Secretary; Dr. Linda Martin is the Secretary-Treasurer and Dr. Whitney Buckley a member of the Board of Directors of the Wyoming Society of Health-Systems Pharmacy. Dr. Linda Martin is an elected delegate to the American Society of Health-Systems Pharmacy House of Delegates. Dr. Carrie Deselms is a member of the Wyoming State Board of Nursing and Dr. Diane Noton is a member of the Wyoming State Board of Medicine.

A brief description of select activities of each of the schools and divisions of the College is presented.

School of Nursing

The SON has a significant amount of statewide health policy involvement. The Robert Wood Johnson Foundation funded a major grant in collaboration with the Wyoming Community Foundation and the SON to develop a nursing workforce center for the state. The Wyoming Center for Nursing and Health Care Partnerships, which is housed in the SON, focuses on strengthening the nursing workforce through ongoing collaboration, communication, and consensus building to meet the health needs of the people of Wyoming. The project involves a statewide partnership that includes hospitals and long-term care facilities, the Fay W. Whitney School of Nursing, Wyoming Business Council, Tate Foundation, Sigma Theta Tau International-Alpha Pi Chapter, Wyoming Hospital Association, Wyoming Nurses Association, Wyoming Community Foundation, Wyoming Department of Health, Office of Rural Health, and the University of Wyoming College of Health Sciences.

The SON in collaboration with the Wyoming Nurses Association has hosted 6 statewide nursing summits, which have addressed workforce and health policy issues. The 7th annual nursing summit is scheduled for September 2010 will focus on facilitation of transition into practice for graduate nurses. The Wyoming Center for Nursing and Health Care Partnerships and the SON also sponsored a nursing Education Summit in May 2010. Faculty from UW and all the community colleges, nurses from clinical facilities, and representatives from workforce entities, UW Outreach School, Wyoming State Board of Nursing, and Wyoming Nurses Association attended. The Oregon Consortium for Nursing Education presented their model for statewide curriculum and clinical redesign in nursing education. A statewide steering committee is being formed to continue this work.

Finally, faculty members play key roles across the state. One faculty member is on the board of directors for the Wyoming Nurses Association. One faculty was recently appointed to the Wyoming State Board of Nursing by the governor. Another faculty member was recently

appointed to the Governor's Distance Education Center Task Force. The dean of the school is an active member of Nurse Educators of Wyoming (NEW) which involves the university and community college nursing programs. The SON also has an external advisory board that is composed of nurses, nurse leaders, the Wyoming State Board of Nursing, representatives from legislative offices, etc.

School of Pharmacy

The School of Pharmacy and its faculty and staff have a long history of service to the State and to the professions of pharmacy, health care and basic science. Students on rotation and faculty (through their 30-40% commitments to the sites) provide direct patient care for patients in hospitals, clinics and at community pharmacies. The numbers of patients provided this care is in the thousands each year; this does not include filling of prescriptions. Doctor of Pharmacy students may also elect rotations at the State Board of Pharmacy, the State of Wyoming Medicaid program, and the Wyoming Pharmacy Association.

The Drug Information Center has a mission to serve the health professionals of Wyoming. Secondary customers are the citizens of Wyoming (in professional or personal capacities) and Wyoming healthcare professional alumni residing outside the State. This mission has multiple purposes –allowing advanced practice experiences to Doctor of Pharmacy students, improved healthcare to the patients of Wyoming and support of University faculty and students. The Center answers over 1000 questions each year, covering an average of 19 Wyoming counties. The Center also provides didactic presentations to Doctor of Pharmacy students, articles for the Drug Utilization newsletter, and assistance to the Drug Utilization board.

The Drug Utilization Review (DUR) program is a grant-supported program that fulfills the Federal mandate of retrospective medication use review for the joint Federal-State supported Medicaid programs. In addition, the DUR program assists the Wyoming Department of Health achieve a quality (both clinically and economically) medication program for this population. This support is through the management of the DUR, the Preferred Drug List, and the Psychiatric Advisory Boards as well as the Drug Effectiveness Review Project. The DUR also publishes at least 6 newsletters yearly for Medicaid-enrolled healthcare providers to the citizens of Wyoming. The Director of the DUR program also provides input into selection and implementation of new adjudication and other software systems. One pharmacy faculty member serves on the DUR board and another is an in-kind consultant to the program.

The School of Pharmacy is the academic home of the Wyoming Geriatrics Education Center (WyGEC), another grant funded project. Dr. Tonja Woods has been appointed as the Associate Director for the Center. Several other faculty members serve on the Center's committees and assist with its projects.

Dr. Linda Martin (solo for 2002-04) and with Dr. Tonja Woods (2005-06, 2008-09) conducted programs under a grant from the State of Wyoming Aging Division to provide programming at Senior Centers. From 2002-2009 (exception of 2007), 10-34 programs were conducted

throughout the state on medication management (a general program plus special topics of arthritis, depression, diabetes, cardiovascular health, and Medicare Part D).

The faculty in the School of Pharmacy serve on numerous professional committees at the state, regional, national and international level. Outside of the School, the faculty serve on the full spectrum of College and University Committees (this is a service of the School by releasing the time to the College). In addition, one faculty member serves as an administrator at the College level. Researchers provide service by having other researchers' graduate students rotate through their laboratories.

One example of impact on health care policy is the result of a study conducted by School of Pharmacy faculty, Dr. Kem Krueger and Dr. Linda Martin, for the Wyoming Healthcare Commission (as dictated by the State Legislature) in 2007 (with testimony to the Joint Labor, Health and Social Services Interim Committee) on insurance coverage of routine medical expenses for persons enrolled in clinical trials for cancer. This project directly resulted in Wyoming Statute 26-20-301.

Another area is the Center for Community Health and Economic Development which really has just a fiduciary arrangement now. The School would like to see this Center expand outside the relationship with Human Capital Management Services (HCMS), Hank Gardner's company. Even in its present form the relationship is still a good one. The project for the state on Occupational Injuries by Dr. Suzanne Clark, Carol Kobulnicky and Dr. David Hunter from Management and Marketing (College of Business) used data from HCMS and is working under the Center.

Division of Communication Disorders

The Division of Communication Disorders participates in shaping statewide healthy policy. Clinical faculty are active on the executive of the Wyoming Speech-Language-Hearing Association. Two faculty members are on the State Licensure Board for Speech Pathology and Audiology. This past year, one faculty member participated in the Utah Regional Leadership Education in Neurodevelopmental Disabilities (URLEND) and Infant & Pediatric Audiology Enhanced Program. The program required a minimum of 300 hours in didactic, clinical and research/leadership activities. Another faculty member has been asked to provide the Wyoming leadership for URLEND starting in the fall. This past year, our faculty were actively involved in responses to the Wyoming Department of Education's proposed revisions of the state's special education rules and regulations.

Division of Social Work

The Division of Social Work (DOSW) faculty participates in many statewide activities and maintains statewide professional relationships that influence health and mental health policy discussions. Faculty is involved in grants and programs that improve the quality of services for children, families, and young, middle and older adults. The Division works with the Department of Family Services (DFS) through the Title 4-E Child Welfare stipend program; Dr. Schatz is actively involved in the Children's Justice Project and other child advocacy work. The Division has been involved in a mental health training program for DFS workers and frontline

paraprofessional staff. Dr. Murdock provides leadership within the Wyoming Geriatric Education Center (WYGEC), holding membership in the Central Advisory Committee and as chair of the Faculty Development Workgroup that serves the university and all Wyoming community colleges. Faculty works with WY AARP, WYGEC, and statewide agencies around education and research with older adults. Faculty welcomed visiting professor Dr. Anwar Alkurinej, who helped to interpret the healthcare documentary, "Hold Your Breath," the end-of-life story of an Afghani, Muslim man and his family struggling with the American healthcare system.

Faculty serves on the board of Wyoming Independent Living and Rehabilitation. Dr. McKinney has developed the UW chapter of "Active Minds," a student group dedicated to reducing the stigma around mental illness for young adults, and is currently working to create a Wyoming affiliate of Mental Health America. Liz Dole serves on the statewide Sexual Violence Prevention Taskforce of the WY Division of Victims' Services. Marilyn Patton, an adjunct instructor for the Division, holds the state-level position of Community Services' Coordinator for WY DFS Mental Health and Substance Abuse Division. The faculty is participating in a 6-year social work workforce grant with the University of Denver that has identified the local Casper/Natrona County DFS office as a pilot site for workforce initiatives and student stipends. Social work faculty and students located at UW/CC promote healthcare policy from their satellite campus.

Students are involved in health and mental health policy development as well. WYGEC has consistently had 1-2 MSW students placed there as a primary practicum site. Faculty and students serve as members and board members of the Wyoming chapter of the National Association of Social Workers (NASW). Liz Dole has just completed two years as president of WY-NASW; other faculty and students serve as university representatives to the group. Social work students complete placements and hold healthcare jobs across Wyoming. A grant from the New York Academy of Medicine/Hartford Foundation provides stipends to students placed in agencies that serve older adults.

The BSW and MSW curricula are being transformed as mandated by new accreditation standards, focusing on clinical practice skills and knowledge as well as policy, research and community organizing skills and knowledge for 21st century practice. Using a competency-based curriculum that requires students to meet or exceed specific measurable practice behaviors will allow students to enter the healthcare workforce with skill sets to improve the health and mental health of Wyoming citizens.

WWAMI

Students admitted to the WWAMI program are required to sign a contract with the University of Wyoming for monetary and medical service repayment. When the student is finished with their medical education, they must practice medicine in the state of Wyoming for 3 years, or repay the cost of their education plus interest. To date, 29 out of 41 Wyoming-WWAMI graduates have completed their residency training and returned to Wyoming to practice medicine. Moreover 70.7% have returned to practice medicine in Wyoming as of June 15, 2010. The WWAMI program within the College of Health Sciences tracks the progress of Wyoming WWAMI

graduates. The WWAMI office shares this information with hospitals and clinics around Wyoming. The WWAMI office has helped place 3 physicians in local communities in Wyoming during the last 2 years.

Casper Family Medicine Residency Program

Members of the UW Casper Family Medicine Residency Program (UWCaFMRP) are very active in the Casper community, throughout the state and nationally. They work closely in providing affordable medical care to the community through the affiliation with the Community Health Center of Central Wyoming (CHCCW). They are also strongly represented on administrative committees of the medical staff of the Wyoming Medical Center (WMC).

A few of the activities of some of the faculty are highlighted as examples of the service provided to the community, state and nation. Stephen Trent, DO, program director, is on the Board of Governors for Osteopathic Postgraduate Institution at Kirksville, MO (OPTIK) and the Board of Directors for the Osteopathic Postgraduate Institution of the Rocky Vista College of Osteopathic Medicine in Parker, CO. He is on the Executive Committee for the WWAMI Family Medicine Program Development group. He is a Medical Executive committee member for Wyoming Medical Center. He is leading the UW CHS team in developing a state of the art medical simulation lab for Central Wyoming with the WMC. He is the chair the Fiscal Oversight committee for the affiliation with the CHCCW and a member of the Clinical Oversight committee. He provides surgical coverage for any obstetric patient that drops in to the WMC without a physician. He is a member of the Graduate Medical Education Committee for Wyoming. He also represents the University and Program at many regional and national meetings: AOA, AAFM's PDW, ACOFP, AODME, WWAMI FMRD, Hospital Days recruiting, WMS, and Medical Frontier Days.

Dr. Tom Radosevich, Clinical Assistant Professor, is a member of the Natrona County/Casper Board of Health, the Central Wyoming Hospice Board and Wyoming Medicaid Physician Advisory Group. Brian Veauthier MD is the Chief of the Department of Family Medicine at WMC. Zach Deiss, MD is a member of the WMC Women's Health Committee. Beth Robitaille, MD, Associate Program Director, is a member of the WMC CCEAP (clinical oversight) committee and is completing a one year fellowship this year on the medical needs of the underserved which she hopes to apply in Wyoming.

Cheyenne Family Medicine Residency Program

Members of the UW Cheyenne Family Medicine Residency Program (UWChFMRP) are very active in the Cheyenne community, throughout the state and nationally. They provide affordable medical care to the community through the operation of their clinic. The faculty is also strongly represented on administrative committees of the medical staff of the Cheyenne Regional Medical Center (CRMC).

A few of the activities of some of the faculty are highlighted as examples of the service provided to the community, state and nation. Dr. Ronald Malm, program director, is a member of the Board of Trustees of the Rocky Vista University College of Osteopathic Medicine, is on the Institutional Review Board and Continuing Medical Education Committee of the CRMC, and a member of the Residency Development Committee of the American College of Osteopathic Family Physicians. Dr. Diane Noton, associate program director, is a member of the Wyoming Board of Medicine. Dr. James Broomfield is currently serving as the Chief of Staff of the CRMC, is a Medical Commission Panel Member for the Wyoming Worker's Safety and Compensation Division, and is Secretary/Treasurer of the Wyoming Academy of Family Physicians. Dr. Robert Monger is also a Medical Commission Panel Member for the Wyoming Worker's Safety and Compensation Division, is a member of the Wyoming Medicaid Drug Utilization Review Board, a trustee of the Wyoming Medical Society and is the medical director of the CRMC Hospice. Dr. Kimberley Broomfield is also a Medical Commission Panel Member for the Wyoming Worker's Safety and Compensation Division and a member of the Child Major Injury/Fatality Review Team for Wyoming. Dr. Amy Trelease-Bell is a board member of the Wyoming Medicaid Total Health Record Advisory Board and a board member of the Wyoming Breast and Cervical Cancer Early Detection Program. Dr. Doug Schmitz is the Medical Director of the Wyoming Trauma Program and the chair of the Wyoming Committee on Trauma. He is also the Medical Director of the State of Wyoming Emergency Medical Services and chairman of the State of Wyoming Emergency Medical Services Task Force.

The Wyoming Institute for Disabilities (WIND)

The Wyoming Institute for Disabilities, as Wyoming's university center for excellence in the study of developmental disabilities, has a federal mandate to provide pre-service preparation and continuing education, community services (including technical assistance, community education, and direct services), research, and information dissemination in a variety of areas of emphasis including health-related activities. The specific health-related activities related to this mandate include advocacy, capacity building and systemic change activities that (a) enhance awareness, change behavior, or create environments that support good health practices and (b) result in individuals with developmental disabilities having access to and use of coordinated health, dental, mental health, and other human and social services, including prevention activities. WIND partners with a variety of state-wide stakeholders to accomplish these objectives.

WIND has several ongoing health-related projects that inform policy within the state. For example, the Early Childhood Vision Screening Project provides services to over 4000 Wyoming children ages 6-72 months each year. Access to Care, conducted in collaboration with the Children's Hospital of Los Angeles, improves access to care for children and youth with epilepsy and their families. The People Unable to Self Evacuate (UTSE) project engages with Wyoming communities to create emergency planning for people with disabilities and provides related training for emergency responders throughout the state. WIND has served as the regional coordinator for the Utah Regional Leadership Education in Neurodevelopmental Disabilities program since 2003. This program, sponsored by the University of Utah School Medical Center

and Utah State University, provides health-related graduate level leadership training as well as interdisciplinary services and care to improve the health of infants, children and adolescents with special health care needs. Graduates of the program provide vital expertise to the state on issues related to maternal and child health.

With regard to policy development, WIND faculty and staff serve on advisory boards for two divisions in the Department of Health as well as the Wyoming Suicide Prevention Council. WIND's executive director is an active participant in state level policy discussions related to children with special health care needs as well as discussions related to mental health issues among people with intellectual disability. Finally, the Director of the Wyoming Department of Health and the Administrator for the Department of Health's Division on Developmental Disabilities are members of the WIND Advisory Committee and provide input on health related issues related to developmental disabilities.

Center for Rural Health Research and Education

The Center for Rural Health Research and Education (CRHRE) has, as its main pursuit, the brokering of a statewide telehealth network created to provide tools and technology that enable practitioners, administrators, educators, researchers, policy makers, and students to improve the quality of health care and services throughout Wyoming. The CRHRE's main functions are (1) to provide expertise to the College, University, and State to further technology in health research and education and (2) to create strategic partnerships in support of decision-making and policy development in the area of rural health care, particularly with regard to technology. The CRHRE research staff is recognized throughout the state as leaders in technology used to support health care. Specifically, Dr. Rex Gantenbein is a member of the Wyoming Telehealth Consortium, a group legislatively charged with the responsibility to facilitate the development of a statewide telehealth Network. Dr. Bob Wolverton is president elect of the Board of Directors for the Northwest Regional Telehealth Research Center, which facilitates development and operation of telehealth networks in 8 Western states and the Pacific Islands and is often called on for policy evaluation and comments. The CRHRE has received a grant from the Federal Communications Commission to build a telehealth network in Wyoming and Drs. Gantenbein and Wolverton lead a statewide Advisory Committee with the task of developing sustainability and operational plans for the network when it is installed and operational.

The Wyoming Geriatric Education Center (WyGEC)

WyGEC is actively engaged with a variety of state-wide stakeholders. To stretch the limited HRSA grant funds, WyGEC depends on partnerships to deliver geriatric education to health professionals from all disciplines involved in the care of older adults. The Alzheimer's Association, several Divisions of the Wyoming Department of Health, and statewide associations (Wyoming Hospital Association, Wyoming Primary Care Association, two nursing home associations) and others are active partners in issues of geriatric acute and chronic care; in addition, WyGEC provides training and collaboration with community college faculty, Community Health Center providers and local agencies. The WyGEC Assistant Director is currently president of the NASW-Wyoming and is active in the Wyoming Hospice Association. As a former legislator

and state health director, the WyGEC Director often serves on health policy committees, panels and task forces. WyGEC has a state-wide Advisory Council of 11 committed individuals. To promote long-term care reform and culture change, WyGEC has become involved in the "Greenhouses for Sheridan" project, and is working with Cheyenne Regional Medical Center (CRMC) to establish Wyoming's first Program for All-Inclusive Care of the Elderly (PACE) clinic in Cheyenne. Through WyGEC, our health sciences students have been part of the interdisciplinary team delivering Palliative Care at CRMC. A major policy conference on Care Transitions was held in Laramie last June. The intent was to introduce the concept of *managing* transitions (from one site of care to another) to Wyoming hospital staff and health professionals. A major focus of the Center is on partnering and networking to change policy and practice for all Wyoming older residents.

Area Health Education Center (AHEC)

In the past, the Wyoming Area Health Education Center was funded as part of the consortium under the University of Washington's AHECs. This was done because it was required under federal guidelines that the AHEC be affiliated with a medical school. That requirement has changed and the University of Wyoming College of Health Sciences will apply for a AHEC for Wyoming. This should allow for additional funding to address needs within the state.

Currently there are two boards on which the AHEC director sits as an AHEC representative - the Laramie Senior Housing Board and the Wyoming Center for Nursing and Health Care Partnerships Advisory Board. The hope is that over the next few years, AHEC will be able to partner with entities to offer programming in various regions of the state. Much will depend on funding. The AHEC director is currently working with the Wyoming Office of Rural Health on a project that will allow AHEC to coordinate community-based day-long "Health Career Exploration" opportunities for junior high and high school students at local hospitals. This is in the early stages of development of this idea and is modeled after successful programs in Montana and other states.

AHEC can be viewed as a useful partner for health care pipeline education and programming, and the hope is it will have opportunities to influence health care policy in Wyoming.

Profession	Degree awarded	Time to degree	Wyo projected need for new (2006-2016) ^a	State needs currently being met by	Comments
Nurse Practitioner	Doctor of Nursing Practice	3 years post BS	82 ^{oo} (categorized with physician assistant)	New degree for nurse practitioners	Proposed for UW
Optometrist	Doctor of Optometry	4 years post BS	19	WICHE	1 to 2 year residency for specialized practice
Physician Assistant	Master of Science	2 years post BS	82 ^b	WICHE	
Physical Therapy	Doctor of Physical Therapy	3 years post BS	104	WICHE	
Medical & Clinical Laboratory Technologists	Bachelor of Science	4 years	44	Unknown	Affiliation agreements are being investigated
Healthcare Administration	Master of Healthcare Administration	2 to 3 years post BS	Unknown	Unknown	
Public Health	Master of Public Health	2 to 3 years post Bs	Unknown	Unknown	
Audiologist	Doctor of Audiology	3 years post BS	3	WICHE	Entry level degree
Speech-Language Pathologist	Doctor of Speech-Language Pathology	3 years post MS	1	Unknown	Advanced training degree
Osteopathic physician		4 years post BS	169 ^c	WICHE	Usually a 3 year or longer residency is required
Podiatrist	Doctor of Podiatry	3 to 4 years post BS	3	WICHE	Usually a 2 to 3 year residency is required
Occupational Therapist	Doctor of Occupational Therapy	3 years post prerequisites	48	WICHE and Casper College/U No Dakota	Tuition discounted program through CC/UND
Athletic Training	Bachelor of Science	4 years	1	Unknown	Eliminated at UW in 2009

^a Wyoming Department of Employment

^b Includes Nurse practitioners and Physician Assistants

^c All specialties and for both MD and DO physicians

Table II: Inventory of Current Programs offered by the University of Wyoming College of Health Sciences					
Profession	Degree awarded	Time to degree	Wyo projected need (2006-2016) ^a	Currently being met	Comments
Kinesiology and Health - Various Opportunities	Bachelor of Science	4 years	Unknown	Unknown	
Registered Nurse	Bachelor of Science	Basic BSN: 4 years BRAND (2 nd bachelors): 15 months RN-BSN Completion: 1-2 years	1,278	~ 68 graduates/year for Basic BSN and BRAND programs. ~ 20 graduates/year for RN-BSN	
Nurse Practitioner	Master of Science	2 years	82 ^b	~ 20 graduates/year	Degree moving to the Doctor of Nursing Practice nationally
Nurse Educator	Master of Science	2 years	Unknown	8 – 10 graduates per year	Needed by the community colleges to transition BS trained faculty to required MS
Pharmacist	Doctor of Pharmacy	4 years post minimum 67 cr hr pre-pharmacy	129	~ 50 graduates/year	
Speech-Language Pathologist	Bachelor & Master of Science	BS: 4yrs MS: 2 yrs	43	~22 graduates /year	About half of the graduates stay in WY
Social Worker	Bachelor & Master of Science	BS, 4 years MSW, 2 additional years	BS – 191 MSW - 132		
Allopathic physician	Doctor of Medicine	4 years post BS	169 ^c	WWAMI (16 students/year)	Moving to 18 students/ year in FY12 and 20 students/ year in FY14
Dentist	Doctor of Dental Surgery (DDS) or Doctor of Dental Medicine (DMD).	4 years post Bs	26	Creighton & U Nebraska (8 students total/year)	
Dental Hygienists	Bachelor of Science	4 years	134	UW -Sheridan College agreement	Delivered through UW Outreach

^a Wyoming Department of Employment

^b Includes Nurse practitioners and Physician Assistants

^c All specialties and for both MD and DO physicians

Appendix A:

Action Item 87 Comprehensive clinical education plan in the College of Health Sciences. The Dean of Health Sciences will develop a plan for clinical education at UW. The plan should contain the following elements:

1. An **analysis of conceivable clinically oriented graduate and professional degree programs**, together with an assessment of their benefits and costs — including opportunity costs — as well as an evaluation of the degree to which each potential program is critical to the delivery of high-quality health care in Wyoming and the region.
2. Options for **greater involvement of Laramie-area clinics**, including Student Health, the UW Counseling Center, the Downtown Clinic, Iverson Memorial Hospital, and private clinics, in the provision of clinical experiences for UW students. The Vice President for Student Affairs will support the expansion of these options by developing clinical practice opportunities at UW for faculty and students.
3. Vehicles for more effective involvement by UW faculty members and academic professionals in **statewide policy discussions** related to health care, including closer articulation with the Wyoming Department of Health and the Wyoming Division of Family Services.
4. A plan establishing the college's commitments to **courses and degree programs offered off campus or via distance delivery**.

The analysis in element 1 should include an examination of the costs and benefits of starting a new degree program to offer the Doctor of Nursing Practice (DNP) in the Fay Whitney School of Nursing. The new degree proposal itself should address the following issues:

1. **Foundation:** Summarize the existing resources that can contribute to the program, including relevant faculty expertise, existing curriculum, and evidence of student demand. Also summarize the degree to which the program will address the existing and future health care delivery needs of Wyoming and the region, including projections of needs for DNP-qualified nurses at hospitals and private clinics.
2. **Cost:** Summarize the extent to which the new professional program will require resources — including faculty positions, institution-supported graduate assistantships, new or renovated space, new support budgets, new library resources, and new technical facilities — that the College of Health Sciences cannot currently supply.
3. **Curriculum:** Summarize the curriculum required for the proposed program, including (a) the unifying core curriculum that will be required of all participating students, (b) any new courses not currently offered, (c) the degree to which these new courses will replace existing courses, and (d) the future viability of existing graduate degree programs at UW if the university starts a DNP program.
4. **Interdisciplinarity:** Describe the anticipated levels of involvement of faculty members in key departments that could conceivably be important to the development of a robust and effective DNP.

Appendix B: Current Clinical Teaching Sites.

Attached are the current adjunct faculty and their sites. This list does not include those sites with contracts but where the preceptor has not been appointed as adjunct faculty and there are many of these. As is evident from this list, the programs at the UW College of Health Sciences extensively utilize sites in Laramie and Wyoming in general. Sites outside of the state are also used when the number of instate sites are insufficient to meet the teaching needs of the program or when the expertise is not available. There are limitations to using sites in Wyoming and in particular Laramie. One of the limitations is the lack of breadth of patient conditions the student will encounter because the facility does not have the resources to treat some of those conditions and the patients are transferred. Ivinson Memorial Hospital in Laramie is a good example where patients with even moderately severe conditions are transferred. Students in the introductory practice experiences can learn in these environments but the scope of practice is insufficient for students in their final practicum. Another problem is overwhelming the site with too many students for the physical space and teaching resources available. While it would be ideal to have students of the various professions learn together in the clinical setting, many of our sites cannot physically accommodate that number of students. Additionally, there may not be a sufficient number of patients available for multiple students. It must also be remembered that having students may require some sacrifice on the part of those preceptors. Students can take time and this may slow the volume of patients being seen. Some preceptors or their employers require payment to precept students in the clinical setting and some practitioners are either just not interested or are considered unacceptable.

The various programs at the College uses the Laramie sites listed in UP 3 extensively and expanding their use is limited for the reasons described above. These sites include: UW Student Health, the UW Counseling Center, the Laramie Downtown Clinic, Ivinson Memorial Hospital, and private Laramie clinics. For example, the College's programs would like to use UW Student Health more, but they are so limited by space that it makes it difficult to use. Ivinson Memorial Hospital is used extensively. The same is true for private clinics and the Laramie Downtown Clinic.