

**Stage 2 Program Proposal:**  
**Master of Public Health (M.P.H.) Degree**  
**(with Certificate Program Component)**

Department of Pharmacy Practice  
College of Pharmacy, Nursing and Allied Sciences  
North Dakota State University

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## Executive Summary

A confluence of market and institutional-specific forces has created a unique market niche and subsequent opportunity to offer the Master of Public Health (M.P.H.) degree at NDSU. At the level of the market, the provision of health care is becoming more cost-conscious, requiring practitioners in all health care fields (including, but not limited to physicians, pharmacists, nurses) to adopt a more fiscally responsible, comprehensive and interprofessional approach to patient care. Additionally, as the population ages and chronic diseases become more prevalent, disease state management and health promotion/prevention activities occupy a larger portion of the typical practitioner's daily routine. These activities are both cost-effective and interprofessional in nature, and as such will further require practitioners to interact and work cooperatively to effectively and efficiently provide patient care. The interprofessional nature and widespread acceptance of the M.P.H. degree makes it a natural choice for educational programming in this context.

Economic and political conditions in the State of North Dakota provide also an economically viable market to offer the M.P.H. degree. North Dakota is a geographically large state with a predominately rural population. Moreover, the North Dakota Department of Health has openly stated its desire to proactively cross-train health care personnel to fill multiple roles as dictated by the needs of its communities. There are currently no M.P.H. programs or close substitutes to the M.P.H. degree that are offered and taught specifically by faculty from North Dakota institutions of higher education. Among all colleges and universities in the State, the rural, land grant mission of NDSU makes it uniquely qualified to offer rural health care educational programming. Moreover, the NDSU has the critical mass of faculty and resources, a variety of expertise within the institution, and desire to initiate and coordinate a rigorous, interprofessional M.P.H. program.

Our proposed program is designed for health care professionals holding a bachelor degree or higher in their field of practice. Individuals with medical, nursing or pharmacy degrees are ideal candidates for our proposed program. Other, non-medical practitioners would also be viable candidates for the degree; however, these individuals may be required to complete more prerequisite work and/or be limited to specific tracks in the program. The program would require the completion of 42 semester credit hours, and could be completed in as little as two years. Our proposal draws upon faculty and resources from the College of Pharmacy, Nursing and Allied Sciences, as well as other colleges and departments from across NDSU, including Veterinary and Microbiological Sciences; Food Safety; Sociology, Business, Anthropology and Emergency Management; Child Development and Family Science, and Health, Nutrition and Exercise Science. Our ultimate goal is to offer the program both on-site and via distance education, thereby making the program accessible to residents across the State, and in other states. Lastly, tracks of specialization within the program will be designed to enable those currently holding a M.P.H. degree, or those currently considering the degree, to complete selected specialization tracks as a certificate program.

## **A. Need for a New Graduate Program in Public Health**

### *External Considerations*

A confluence of market and institutional-specific forces has created a unique market niche and subsequent opportunity to offer the Master of Public Health (M.P.H.) degree, a professional graduate degree. At the level of the market, the provision of health care is becoming more cost-conscious, requiring practitioners in all health care fields to adopt a more fiscally responsible, comprehensive and interprofessional approach to patient care. Additionally, as the population ages and chronic diseases become more prevalent, disease state management (DSM) and health promotion/prevention (HPP) activities occupy a larger portion of the typical practitioner's daily routine. Services that promote wellness, health improvement and disease prevention are generally both cost-effective and interprofessional in nature, and as such will further require practitioners to work cooperatively to effectively and efficiently provide patient care.

Pharmacists, nurses, and other health professionals were involved in the public health response to the 9/11 terrorist attacks and hurricane Katrina, and will play critical roles in the emergency preparedness response to future disasters. Such disasters have emphasized the need for broad expertise and cooperation in public health among many disciplines, not only the traditional health disciplines. Today we face a public health crisis with regard to obesity, diabetes, heart disease and other chronic diseases. Even new outbreaks of infectious disease, such as the bird flu and H1N1 (swine) flu, call for rapid mobilization of broad public health expertise. The U.S. Department of Health and Human Services, in its Healthy People 2010 initiative, has called for integration of quantitative skills, clinical prevention, health services organization and delivery, and community dimensions of medical practice, into health professions practice and curricula.

Economic and political conditions in the State of North Dakota provide a unique and economically viable market to offer the M.P.H. degree. There are no currently available M.P.H. programs or close substitutes to the M.P.H. degree in the State. Perhaps the closest substitute at present is the Department of Community Medicine at the University of North Dakota (UND), which offers the University of Minnesota's Masters in Public Health (M.P.H.) degree in a distance format. Other potential substitutes include the Master of Public Administration (M.P.A.) degree offered at the University of North Dakota, the University of Mary's online Master of Business in Healthcare Administration (M.B.A.), the Master of Nursing Degrees (which may include public health coursework) offered by both UND and NDSU. While the M.P.H. program offered via the University of Minnesota is a viable alternative to our proposed degree, we argue that a program specifically designed for the needs of North Dakota practitioners (and offered on site in the state) would be more beneficial to its population. None of the remaining programs are specifically focused on the unique combination of disciplines and

health promotion activities that our program intends to offer. Not only with this collaborative program be of benefit to students and public health professionals, it will facilitate unique and useful collaborations among disciplines for research and service to the public.

Assuming no deficiencies in pre-requisite coursework, M.P.H. programs, by accreditation standards, require completion of 42 semester credit hours. This allows students to complete the program in less than two years for full-time students, and our program should attract a sustainable number of students (which we estimate at approximately 15-30 new students per cohort per year). Enrollment estimate is based on high interest among NDSU students, estimates of need from the North Dakota Department of Public Health, and the high enrollment in the University of Minnesota M.P.H. program.

Dr. Terry Dwelle of the ND Health Department identified over 300 North Dakota health professionals working in a public health related field about 2 years ago, and surveyed them about interest in advanced education. Just over 100 of them stated strong interest in obtaining a M.P.H. degree or a certificate in a public health option, provided the course work was affordable, practical, and easily available. (As an aside, the greatest interest was in a business management certificate). This suggests there are many jobs available related to public health in North Dakota alone, and that many professionals in the state have an interest in upgrading their knowledge.

The University of Montana established a program quite similar to ours in their College of Health Sciences in 2006. They enrolled 10 students in their first class, and currently have 37 active students with 14 more accepted for fall 2009 (personal communication with Craig Molgaard, April 2009). Montana expects to reach a steady state of about 50 actively enrolled students, with about half of those from Montana and half from elsewhere, most of the latter enrolled in on-line courses. The University of Minnesota currently has 46 actively enrolled North Dakota residents in their M.P.H. program (personal communication, Carol Francis, April 2009). If half of those students choose to enroll at NDSU instead we would have numbers very similar to Montana's program.

North Dakota has been one of the most proactive states in the country at encouraging pharmacy DSM and HPP activities. For example, in 2007, the North Dakota State Legislature passed House Bill 1433, which was subsequently signed by the Governor, allowing pharmacists and other qualified practitioners to provide, and be reimbursed for, DSM activities. NDSU's Department of Pharmacy Practice has partnered with the North Dakota Public Employees Retirement System (NDPERS) and the North Dakota Pharmacy Service Corporation to offer DSM activities to NDPERS enrollees suffering from diabetes. As such, there is a strong need for pharmacists in the State to receive this type of specialized training, and the NDSU College of Pharmacy, Nursing and Allied Sciences is uniquely positioned to offer this training. It is also safe to assume that other practitioners (including physicians, nurses and nurse practitioners) would benefit from this training.

More recently, the North Dakota Department of Health has expressed an interest in a graduate program to proactively cross-train health care personnel to fill public health roles as dictated by the needs of its communities. Because North Dakota is a large, rural state with an aging population, public health personnel must be cross-functionally trained in a number of core competencies (including, but not limited to leadership, cultural diversity and disease state management) not typically covered in traditional graduate public health coursework. Dr. Terry Dwelle, the State Health Officer, has recently received funding from the Bush Foundation to help develop both certificate and graduate programs that more effectively train individuals for public health careers.

The needs of the State dictate that the new program must exhibit several characteristics. First, it must provide students with a core set of fundamental public health skills to ensure a base level of competency. At the same time, students must be cross-functionally trained to ensure that all public health personnel (who may initially be trained in a variety of fields, including medicine, pharmacy, nursing, management, human development and sociology) can effectively work together to formulate and enact public health policies. The interprofessional nature of the coursework also necessitates that many of the courses be taught in a modular and collaborative format. That is, a typical class could be broken down into several modules, where each module is taught by a different instructor with a specific area of expertise.

Second, the program must be flexible enough to serve the needs of the variety of constituents working, or planning to work, in the field. Some of these individuals have no public health training and might wish to complete an entire sequence of M.P.H. coursework, while others might desire a shorter certificate program, whose credits could eventually be applied towards the M.P.H. degree. Finally, a third cohort might already hold a M.P.H. degree, but be interested in additional public health coursework that focused on new professional content areas not covered in their original degree program. To meet these needs we propose a program with specific tracks of specialization that could be completed as a stand-alone certificate program. The M.P.H. degree can later be earned in its entirety by completing the core coursework. Many, if not the majority, of the courses will be offered on-line. The Distance and Continuing Education department on campus is aware of the new program and committed to providing support to faculty for on-line course development.

A final external consideration is that North Dakota is a geographically large state with a predominantly rural population. Moreover, NDSU resides in Fargo, at the eastern edge of the State. While Fargo is the State's largest city, boasting two major health care systems and several thousand practitioners, it would be advantageous to offer the program both on-site and via distance education to maximize the potential market for the degree.

### *University-Level Considerations*

The NDSU Department of Pharmacy Practice is committed, through its strategic planning process, to the offering of graduate degrees. As pharmacists become more actively involved in DSM and HPP activities, there is a need for pharmacy students and other health professional students to obtain more specialized, post graduate training in these areas. Moreover, with the recent addition of two new faculty members whose areas of expertise lie in health administration, health promotion and outcomes assessment, the Department believes that it has nearly achieved the critical mass necessary to coordinate the M.P.H. degree, especially if the program makes efficient use of existing resources, both in the College, and elsewhere in the University. The M.P.H. degree also complements graduate programs currently offered in other areas of the University, most notably Veterinary Science/Microbiology, Nursing, Food Safety, Business, Human Development, Communication, and Sociology, Anthropology and Emergency Management. NDSU is unique in its ability to draw these disciplines together for effective training of students and collaborative research in public health. Most of the proposed M.P.H. tracks rely heavily on courses already developed and taught to graduate students in their specific discipline. Therefore, a sufficient number of students already exist to support the courses. All of these programs currently have a vigorous and growing enrollment.

The M.P.H. degree is a professional, health related degree, drawing professionals from the fields of pharmacy, nursing, medicine, and allied sciences, as well as other related disciplines. As with other graduate degrees on campus, we welcome academic oversight of the program by the College of Graduate and Interdisciplinary Studies, with the College of Pharmacy, Nursing, and Allied Sciences being responsible for the administrative management of the program including resources (space, equipment, operating, personnel), accreditation, and administrative oversight of the program director in perpetuity. Rationale to support this administrative model includes M.P.H. accreditation, Pharm.D. accreditation, established partnership with the State Health Officer, internal support from all Deans on campus, and future collaboration efforts with the University of North Dakota School of Medicine. The following paragraphs describe the rationale in further detail.

Should the M.P.H. program be approved by the University Senate and the Board of Higher Education, it will also be necessary to apply for accreditation from the Council on Education in Public Health (CEPH). The missions and goals of public health educational programs focus on preparation of individuals who will serve as practitioners, researchers and teachers who are competent to carry out broad public health functions in local, state, national and international settings. For purposes of accreditation, excellence in education relates directly to graduates' proficiency to practice. The College of Pharmacy, Nursing, and Allied Sciences has extensive experience in providing effective management and administrative oversight for health-related degree programs which require an accreditation process and accreditation standards. We feel that our experience and track record of success in gaining accreditation of our degree programs from

several different accreditation agencies and regulatory bodies places us in an ideal position to obtain and ensure accreditation for this M.P.H. program. Further, the College of Pharmacy, Nursing, and Allied Sciences would provide a stable and consistent administrative management structure to meet CEPH expectations that the M.P.H. be managed by a strong organizational/administrative structure. The College of Graduate and Interdisciplinary Studies will provide academic oversight to ensure program quality.

This Master of Public Health program fits well with our overall College mission of providing education and training in health-related disciplines, including professional and graduate degree programs. In addition, the Accreditation Council for Pharmaceutical Education (ACPE) requires as a competency of Pharm.D. graduates the ability to “*Promote health improvement, wellness, and disease prevention in cooperation with patients, communities, at-risk populations, and other members of an interprofessional team of health care providers*” (Standard No. 12: Professional Competencies and Outcome Expectations). Allowing the College of Pharmacy, Nursing, and Allied Sciences to have administrative and budgetary oversight is important to ensure we meet accreditation standards for the Pharm.D. degree. The M.P.H. program director will be required to administer the M.P.H. program and also assist with educational programming relative to public health for the Pharm.D. program.

The M.P.H. degree program will also require working collaboratively and cooperatively with the North Dakota State Health Officer, Dr. Terry Dwelle. The College of Pharmacy, Nursing, and Allied Sciences has established a close relationship with Dr. Dwelle, working with him for the last 12 months to develop a M.P.H. program to fit the needs of North Dakota. He currently has a Bush Foundation grant with the purpose of developing a state-wide public health training program for North Dakota. Dr. Dwelle invited our expertise as a college to the table for this task and believes our College would provide strong leadership for the state in the area of public health training (see attached letter of support). Dr. Dwelle has also expressed his confidence in collaborating with the College of Pharmacy, Nursing and Allied Science to the NDUS Chancellor.

The College of Pharmacy, Nursing and Allied Sciences took the lead to develop a comprehensive proposal. All colleges were invited to participate in program proposal and curricular design. We were encouraged at the number of colleges wishing to provide a track of specialization. We debated whether to initially offer only a few tracks but decided to include those tracks with most of the coursework already in place. All participating departments and colleges on campus, as well as the Deans Council, have agreed to the College of Pharmacy, Nursing, and Allied Sciences providing administrative oversight for the program (see letters of support).

This M.P.H. program offers the exciting possibility to collaborate with the University of North Dakota School of Medicine in a joint effort. A desire to collaborate in this program was



expressed in preliminary conversations between the Central Administrations of NDSU and UND. The University of North Dakota has plans to develop their own M.P.H. proposal and it has already assigned their M.P.H. curriculum development and coordination efforts to the UND School of Medicine. The College of Pharmacy, Nursing, and Allied Science has met several times with Dr. Joshua Wynne, Interim Dean of the medical school, to discuss the M.P.H. proposal and curriculum. The meetings have been very positive and productive. We are all in agreement that NDSU's M.P.H program director will need to work closely, collaboratively, and cooperatively with the School of Medicine at UND. In addition to the working relationship we have established with Dr. Wynne, the College of Pharmacy, Nursing, and Allied Sciences has a very close working relationship with UND's School of Medicine including co-funded faculty, our Dean being a member of UND's School of Medicine Area Health Education Center (AHEC) Advisory Board and we also share clinical training and research activities. Because of our current relationship with UND, the College of Pharmacy, Nursing, and Allied Sciences believes it is in a strong position to work closely and collaboratively with the UND School of Medicine to administer the joint NDSU/UND M.P.H. program. If the M.P.H. proposal is approved through our University internal process, NDSU's Central Administration will work collaboratively with UND to file a joint Stage 2 curriculum proposal for a M.P.H. degree program to the North Dakota State Board of Higher Education.

## **B. Mission Statement**

The M.P.H. program at NDSU will offer diverse tracks in public health that build on the strengths of the University and its land grant mission, to meet the practical needs of the public and health care practitioners who serve it.

### **Statement of Program Objectives**

Based on the previous discussion, the perceived need is to offer a Master degree that exhibits the following characteristics:

1. The program will focus on health promotion and prevention, disease state management, and related activities of interest to North Dakota public health care practitioners and policy makers.
2. The program will emphasize innovative and cross-functional approaches to public health.
3. The program will seek accreditation from the Council on Education in Public Health (CEPH).
4. It will be flexible enough to allow students from various health care backgrounds to enter and complete one or more of the tracks within the program with a minimum of pre-requisite work.
5. Students will be allowed to complete part of the M.P.H. coursework in the form of a certificate program, whose credit hours can be applied towards the completion of the M.P.H. degree.
6. The number of credit hours necessary to complete the M.P.H. degree will be kept at reasonable levels. Full-time students should be able to complete the entire program in two years or less.
7. It will make maximum use of existing departments and their resources at NDSU.
8. It will have the flexibility to be offered on campus at NDSU, as well as statewide via distance education and/or at satellite campuses.

A program with these objectives will not only be competitive with other alternatives in the area, but is also sustainable in the long run. In essence, such a program will not only draw students who would have otherwise enrolled in a different program, but will also draw students who would have not entered any graduate program. The program will also serve as a useful complement to students completing other degrees at NDSU. For example, students might choose to complete the M.P.H. degree in conjunction with the Pharm.D. degree, the M.S. and D.N.P. nursing degrees, and the M.S. and Ph.D. programs in Microbiology/Molecular Pathogenesis, Emergency Management, Food Safety, or Gerontology.

### **C. Costs and Resources**

To give a justification for the resource-related needs of the proposed program, one must first provide a reasonable assumption about the number of students we hope to attract, as well as the means by which that content will be delivered. Attracting a reasonable student base should not be a substantial issue. As a reasonable short-term goal, we hope to attract 30-50 students (10-20 full time and 20-30 part time) to enroll during the first two years of operation. As a part of this goal, we hope to generate significant cross-enrollment from other graduate programs. This should be sufficient to offer the necessary courses each academic year, with 10-20 students per course. This would also allow full-time students to complete all of the necessary course work within a 3-4 semester time span – a feature that has made related masters programs highly successful. In the long term (say, within a 5-7 year window) a reasonable goal would be to double the initial size of the program.

A more significant concern is the amount of faculty resources necessary to implement and sustain the program. Administration of the program would be handled through the Pharmacy Practice Department. One new faculty member in the Department would be hired specifically to serve as a permanent Program Director, primarily dealing with coordination, and recruitment and advising activities for students in the program. The Director's position would require course releases for these administrative activities, although it would also involve coordination of the public health component of the Pharm.D. curriculum. An advisory committee with broad representation (one member from each participating department) will be formed to provide additional oversight to the program and assist the director with key decisions. The Program Director, with the Chair of the Pharmacy Practice department, and help from the advisory committee, will be responsible for assessment of learning outcomes and program review, as well as accreditation issues.

All participating departments have the expertise to staff some of the core courses, as well as all necessary coursework for one track of specialization. However, there would be strain on existing faculty in each participating department due to the increased course enrollments, additional course sections, and advising students as they complete their thesis and field experience. The program would require most participating departments to develop and offer some new courses on a regular basis, or to convert some courses to on-line format. Some additional faculty expertise in public health is also needed to assure a quality program. Enrollments in existing courses will be expected to increase substantially in several cases. Some of this burden may be alleviated through qualified graduate teaching assistants and adjuncts who work in the community. Nonetheless, some of the burden must be managed through new faculty lines. We propose to add a total of 9.5 new tenure-track faculty, one administrative assistant, and 9.5 teaching assistant positions. The total annual cost of these additional resources would be approximately \$1.2 million. All new faculty lines, in addition to existing faculty, would be expected to advise students as they complete their Plan B thesis and practical training. Many

new faculty would have cross appointments with other departments in order to facilitate interprofessional research and teaching (e.g. between microbiology and food safety, between pharmacy practice and nursing, etc.).

**Summary of additional resources requested:**

Department Brief Justification

**Pharmacy Practice (Originating department)**

M.P.H. Director                      Coordinate entire program, prepare accreditation documents, advise students, coordinate admissions. Coordinate public health aspects of Pharm.D. curriculum.

Administrative Assistant            To work with M.P.H. director for paperwork, admissions, etc.

New faculty FTE                      Teach new courses in research methods, management, health care delivery systems, put appropriate courses online.

New faculty FTE                      Mary J Berg Endowed Professor in Women’s Health. Partially endowed position to teach public health courses in women’s health.

**Microbiology**

New faculty FTE                      Teach additional courses and class sections; put additional courses online, advise students pursuing that track.

**Food Safety**

New faculty FTE                      Teach additional courses and class sections; put additional courses online, advise students pursuing that track.

**Sociology and Emergency Management**

New faculty FTE                      Teach additional courses and class sections, most critically the core course in environmental health, advise students pursuing that track.

**Business**

New faculty FTE                      Teach additional courses and class sections, most critically the core course in Managing Public Health Systems, advise students pursuing that track.

**CDFS**

New faculty FTE	Teach additional class sections in gerontology track, advise students pursuing that track.
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**HNES**

New faculty FTE	Teach additional class sections in health promotion track, advise students pursuing that track.
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**Statistics**

New faculty 0.5 FTE	Work with additional graduate students completing Plan B papers
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**Additional Needs**

Teaching Assistants	One full time TA per new faculty line @ \$15,000 per TA
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CEPH Accreditation Fees	\$17,000 (application and accreditation fees for first two years)
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Operating Budget	Increase to Pharmacy Practice (or separate budget) for supplies, travel, etc.
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We expect that the new resources can be phased in over the next 2 to 3 years. If we receive fewer resources than requested, they will be prioritized by the M.P.H. steering committee to assure a reasonable number of available tracks. It is possible that some tracks may be dropped if resources to support them are not available.

**D. Accreditation Requirements**

Should the M.P.H. program be approved by the University Senate and the Board of Higher Education, it will also be necessary to apply for accreditation from the Council on Education in Public Health (CEPH). While the College's Pharm.D. and nursing programs are accredited by the American Council on Pharmacy Education (ACPE) and Commission of Collegiate Nursing Education (CCNE), respectively, those accrediting bodies do not supersede CEPH accreditation.

The missions and goals of public health educational programs focus on preparation of individuals who will serve as practitioners, researchers and teachers who are competent to carry out broad public health functions in local, state, national and international settings. For purposes

of accreditation, excellence in education relates directly to graduates' proficiency to practice. (CEPH Accreditation standards, <http://www.ceph.org/files/public/PHP-Criteria-2005.SO5.pdf>)

As part of the accreditation process, the program will need to produce (among other things) a mission statement (with evidence that the mission is being fulfilled), a suitable curriculum, evidence of enrollment sustainability and evidence of proper faculty and financial support. Given the potential market niche and the synergy between the M.P.H. program and the College's other programs, seeking accreditation should not be difficult, as it will be possible to draw heavily on documentation already generated for those other accrediting agencies. Additionally, the curriculum, its content and the number of credit hours in our proposal are based on CEPH guidelines, and thus are also comparable to those of other CEPH-accredited programs.

### **E. Relationship of the Program to the Institution, the System and the Region**

#### *Synergies with Existing NDSU Programs*

One potential benefit to offering the M.P.H. degree is that it allows the University to augment its course offerings in other areas; for example graduate students in Human Development, Food Safety, Emergency Management or Business might find the individualized track to be a useful complement to their existing coursework.

Similarly, departments or colleges choosing to offer their own specialized tracks in the curriculum will draw upon many current courses, taught by faculty whose credentials are consistent with CEPH accreditation standards. Drawing credit hours from current programs will enhance its potential sustainability – a necessary requirement for CEPH accreditation.

#### *Synergies with Future NDSU Programs*

The M.P.H. degree program could eventually serve as a foundation for the creation of a Ph.D. program in Pharmaceutical Outcomes and Health Policy. The College currently offers M.S. and Ph.D. programs in Pharmaceutical Sciences, and a doctoral program in the administrative and social aspects of pharmacy would provide a strong complement to its scientific counterpart. Currently, the course offerings in the Pharmacy Practice Department are insufficient to support such a program.

### *Synergies with other NDUS Programs*

As mentioned earlier in this proposal, there is not currently another M.P.H. program offered on site in North Dakota by a NDUS institution. The only program that exists is offered online by the University of Minnesota through UND, and thus is not a preferred option for most North Dakota residents. Moreover, each of the four-year degree granting institutions in the System offer one or more related undergraduate degrees (including business, human development, agricultural sciences and/or education, nursing and medicine) that would allow students to use the M.P.H. program as point of entry to the field of public health. The University of North Dakota has recently submitted a Stage 1 proposal for an M.P.H. degree. We intend to work with UND to avoid unnecessary overlap, and allow transfer of course credits from one institution to another where appropriate. Since UND's medical school and NDSU's unique tracks have little overlap, we believe a cooperative arrangement between institutions will be productive.

### *Synergies with the Region*

Our previous discussion highlighted the need for more North Dakota practitioners to be trained in public health. The training needs to be practical and delivered in both modular and distance formats to meet the needs of these potential students. Our proposed curriculum meets these ends, and thus fills an important educational gap in the State.

## **F. Addressing the Roundtable Recommendations**

The roundtable recommendations are a series of six objectives or strategies that are designed to embody the University's future aspirations. All new programs offered by the NDUS are expected to contribute to the fulfillment of these objectives.

1. *Does the program create direct connections and contributions of the University System to the growth and vitality of North Dakota?*

The crux of the proposed M.P.H. is exactly that; it intends to train rural health practitioners to meet one of the new and most important challenges facing the North Dakota economy (and its society) over the next two decades: training providers to take new leadership roles in the provision of health care. As the population ages, health promotion, disease state management and other related activities are going to be some of the most crucial components of health care. We believe that the M.P.H. degree gives practitioners in North Dakota the broad range of social, administrative and medical skills to meet this new challenge.

- 2. Does the program provide high quality education and skill development opportunities which enable students to advance in their careers, be good citizens and contribute to society?*

The M.P.H. program will be taught primarily by core faculty from the Pharmacy Practice; Nursing; Veterinary Science/Microbiology; Food Safety; Child Development and Family Science; Health Nutrition and Exercise Science; Emergency Management; and Business departments. All departments are accredited where applicable or nationally recognized for excellence in teaching, service and research. Faculty from other departments, adjuncts and part-time instructors will be held to similar expectations of classroom excellence.

The fundamental nature of the M.P.H. degree will allow practitioners to advance in their careers and be good citizens in advancing public health. The M.P.H. is an advanced degree providing students with skills that are both technical and interprofessional in nature. Thus, students will increase the depth and breadth of their knowledge base, which should increase their employment opportunities and allow them to move into new areas of practice. Moreover, as its name suggests, the M.P.H. degree gives students the skills to increase *the public's health*, which in and of itself is a fundamental contribution to the community.

- 3. Does the program contribute to a University environment that is flexible, empowering, competitive and entrepreneurial in a growing, but rural economy?*

The program is designed to be flexible, empowering, competitive and entrepreneurial. It has a set of core requirements comprising approximately two-thirds of the coursework. As such, students will receive a strong set of fundamental skills that are necessary for careers in public health. These courses are also required in order to be accredited by the Council on Education in Public Health (CEPH), the national accrediting agency. It is our contention that these make the program competitive and empowering. After completing the core courses, students will select one specialization track that allows tremendous flexibility in choosing coursework and areas of expertise.

The program requires the completion of six credit hours devoted to both thesis and experiential work. Most theses in public health revolve around creating needs assessments, searching for funding sources and implementing public health interventions for a particular community. Experiential training focuses on implementing such projects. Taken in tandem, these components of the degree program require students to master all major elements of social entrepreneurship as well.

- 4. Is the program accessible to all residents across the State?*

We intend the program to be accessible to students across the State. We initially intend to offer courses on site at NDSU's main campus in Fargo, as well as through distance education



formats, including web, compressed video and/or interactive television-based instruction. If the program is successful, it may also be possible to form collaborative arrangements to offer the program's coursework at other campuses across the State.

5. *Does the program have the potential to be self-sustaining and does it have the potential to use those resources to improve the excellence of the program over time?*

We anticipate that the program can be fully operational and self-sufficient in two to three years, depending on the speed at which we roll out the program and the extent to which our initial funding requests are granted. Our program will generate new tuition revenue to offset some of the costs of new faculty lines. New faculty members would also be expected to secure external funding to promote their research agendas in public health, and a portion of those funds can be used to improve the excellence of the program over time.

Additionally, we intend to encourage and assist students working on theses to search out and obtain possible funding sources. These sources of funds may be grant related, or they may be funds from local health care providers, governmental or philanthropic agencies looking for help to implement public health initiatives.

6. *Is the program proactive in the sense that it can be used as a vehicle for carrying the University forward into the next century?*

As explained earlier in this proposal, rural health care is a major driving force of North Dakota's economy. As the population ages, and the shortage of health care workers grows over time, finding new and inventive ways to provide medical care and promote healthy living will become a paramount concern for society. Training rural health care providers in public health, as we propose to do, is one way that North Dakotans can proactively work to meet these challenges.

## **G. The Proposed Curriculum and Program Requirements**

### *Admission Requirements*

Admission decisions will be made by a committee that includes the Program Director and at least 2 additional faculty. To be admitted to the M.P.H. program, students must meet the basic admission requirements of the NDSU Graduate School. Students are referred to the Graduate School for the specific details of these requirements. However, in general, these requirements represent our minimum admission standards.

1. Students must hold a baccalaureate degree from an educational institution of recognized standing.
2. Students must have adequate preparation in a field related to public health, and show potential to undertake advanced study, research and practical training as evidenced by GRE test scores (other academic scores may be appropriate for certain applicants, or the requirement may be waived for students with previous graduate or professional degrees from U.S. accredited institutions), previous experience and past academic performance. Strong preference will be given to students with at least one year of practical experience in their field, including practical field experience within an academic program.
3. A student's undergraduate cumulative grade point average must be 3.0 or higher. Undergraduate coursework in fields related to public health should generally exceed a 3.0 average.
4. International students must score above 600 on the paper version of the TOEFL, 100 on the Internet version, or above 250 on the computer version. (Students seeking teaching or graduate assistantships may need to meet more stringent University or department requirements).
5. A portfolio should be submitted containing a letter of intent and purposes for pursuing the M.P.H., an official transcript of their baccalaureate or professional degree, letters of reference, a description of relevant work experience and at least two other examples of the student's writing.

### *Curriculum and Learning Objectives*

The goals and primary learning objectives of a M.P.H. program, according to the Council on Education in Public Health (CEPH) guidelines, center on preparation of individuals who will serve as practitioners competent to carry out broad public health functions in local, state, national, and international settings (see <http://www.ceph.org/files/public/PHP-Criteria->

[2005.SO5.pdf](#)). To accomplish this, CEPH requires competencies in 5 discipline specific areas (see the core curriculum below) and the Association of Schools of Public Health (ASPH) recommends 7 additional areas of cross-cutting competencies, namely: Leadership, Communication and Informatics, Diversity and Culture, Public Health Biology, Professionalism, Program Planning, and Systems Thinking (see <http://www.asph.org/userfiles/version2.3.pdf>). The ASPH document has a detailed list of competencies in each of the discipline-specific and cross-cutting areas that we will use for assessing our program at NDSU.

Our proposal is designed for health care practitioners holding a bachelor degree or higher in their field of practice. Individuals working in fields such as nursing or pharmacy are ideal candidates for the M.P.H. degree, but many other candidates with bachelor's degrees may be suitable. Assuming an individual has the appropriate background and prerequisites, he or she should be able to complete the entire M.P.H. program with 42 credit hours. Individuals concurrently completing a Pharm.D, a M.S. in nursing, or a graduate degree in a related field (Microbiology, Food Safety, etc.) may double count up to 9 credit hours towards both programs, depending on their area of specialization within the program.

The program is also designed to address several other issues identified in the previous sections. First, the coursework was selected to maximize synergies with existing programs in the University. Second, a successful M.P.H. degree should be sufficiently comprehensive and rigorous to attain accreditation by CEPH, the national accrediting organization for public health programs. All required core coursework was specifically chosen to meet CEPH guidelines. Third, individuals are allowed to select one of several concentrations or tracks. Each track emphasizes a different aspect of public health. We currently have the ability to offer seven specific tracks of specialization.

The Director of the M.P.H. program, housed in Department of Pharmacy Practice, will be responsible for admitting students into the certificate and M.P.H. programs and coordinating content and scheduling of the core courses. One necessary condition for track approval is that the coursework addresses, in a practical fashion, the competencies outlined above. However, departments have flexibility in determining the depth by which those competencies are covered. They also have the ability to determine prerequisites (aside from program admission) for each and every course in their track.

The intent of this process is both to maximize the appeal of the program by giving students more choices, more practical course content and to minimize the amount of pre-requisite coursework. Each track in the program has different pre-requisites (and the potential to earn a certificate prior to earning the degree), so by selecting their tracks, students also select the amount of pre-requisite work to be completed. Pre-requisites for each of the courses listed below can be found in the NDSU Graduate Program Bulletin. It is expected that students have satisfied each of the prerequisites before enrolling in track-related courses. Once again, this assumes that

students choose their track(s) wisely. In the vast majority of cases, admitted students will likely have fewer than 10 credits of prerequisite coursework to complete before beginning their M.P.H. coursework.

***Required Core Coursework (21 credits)***

CEPH Core Area	Course	Credit Hours
Biostatistics	STATS 725: Applied Statistics <sup>1,2</sup>	3
Epidemiology	MICR 674/SAFE 674: Epidemiology <sup>2</sup>	3
Environmental Health	EMGT 715: Emergency Management for Public Health Professionals <sup>3</sup>	3
Social & Behavioral Sciences	SOC 618: Social Psychology	3
	NURS 602: Ethics	2
Health Services Administration	PHRM 710: Health Care Delivery in the U.S. <sup>2,3</sup>	3
	MGMT 753: Leading and Managing Public Health Systems <sup>3</sup>	3
	PHRM 705: Public Health as a Team Endeavor <sup>3</sup>	1

<sup>1</sup>minimal requirement. Individual departments may require or encourage a discipline specific research methods course.

<sup>2</sup>Course is currently offered, or will be developed as, an online course

<sup>3</sup>This course is not currently offered at NDSU, but will be submitted for approval per University guidelines.

***Master's Paper (3 credits, PHRM 797)***

Students must complete an analytical paper (plan B) related to public health, in accordance with NDSU graduate school standards. All work must be approved in advance by the Director of the M.P.H. program. Students will be assigned an advisor with whom the students will work and who will be responsible for grading student work/progress.

***Practicum (3 credits, PHRM 794)***

Students must complete experiential work (a practicum, internship or residency) related to public health for 3 credits. All work must be approved in advance by the Director of the M.P.H. program. Students will be assigned an advisor with whom the students will work and who will be responsible for grading student work/progress. Students will not be allowed to double count work related to other degrees or past work experience towards these credits. A maximum of 9 Thesis or Practicum credit hours will be counted towards the M.P.H. degree.

***Additional Coursework and Certificate Programs***

In addition, students must complete a minimum of 15 credits of additional course work in one of the following tracks of specialization. Students who do not wish to obtain a degree, or who already have a degree in public health but wish to add to their credentials, may pursue one of these tracks as a certificate program. Some tracks (e.g. Gerontology) may reserve the right to require more than 15 credits for a stand-alone certificate program. Students wishing to pursue a track must be approved for the track they are selecting by faculty in that discipline, to assure the students has an adequate background and is capable of successful work. The student will then be assigned an advisor from that discipline to assist them in choosing appropriate course work.

***Proposed Areas of Specialization (15 credits minimum)***

***Track 1: Pharmaceutical Disease State Management***

<u>Course</u>	<u>Credit Hours</u>
PHRM 620: Pediatrics and Gerontology	2
PHRM 700: Chronic Illness*	3
PHRM 715: Quantitative Methods for Pharmaceutical Health Outcomes Research*	3
And choose 7 credits from <i>elective</i> courses, including the following:	
PHRM 632: Infectious Disease Pharmacotherapy	3
PHRM 636: Neuropsychiatry Pharmacotherapy	3
PHRM 638: Cardiovascular/Pulmonary Pharmacotherapy	4
PHRM 665: Cultural Competence in Health Care	3
PHRM 685: Economic Outcomes Assessment	2
PHRM 716: Pharmaceutical Health Outcomes Research*	3
<u>PHRM 675: Advanced Pharmacy Management</u>	<u>3</u>

\* This course is currently being developed per University guidelines.

***Track 2: Emergency Management***

<u>Course</u>	<u>Credit Hours</u>
SOC 620: Sociology of Disaster	3
EMGT 712: Hazards Risk Assessment Theory and Practice	3
EMGT 661: Business Continuity and Crisis Management	3
And choose 6 credits from the following courses:	
SOC 631: Environmental Sociology	3
EMGT 732: Disaster Response Theory and Practice	3
<u>EMGT 651: Floods Blizzards and Tornadoes</u>	<u>3</u>

***Track 3: Health Promotion Practice***

<u>Course</u>	<u>Credit Hours</u>
HNES 721 Health Promotion Programming	3
HNES 724 Health Nutrition in the Community	3
HNES 727 Physical Activity and Wellness	3
And choose 6 credits from the following courses:	
COMM 680 Health Communication	3
HNES 652 Nutrition, Health and Aging	3
HNES 710 Recent Literature and Research in HNES	3
HNES 726 Nutrition in Wellness	3
<u>HNES 754 Assessment in Nutrition/Exercise Science</u>	<u>3</u>

***Track 4: Infectious Disease Management***

<u>Course</u>	<u>Credit Hours</u>
MICR 650: Infectious Disease Pathogenesis*	3
MICR 670: Basic Immunology	3
MICR 662: Zoonoses and Rural Public Health*	3
And choose 6 credits from <i>elective</i> graduate-level microbiology courses, including (but not limited to) the following:	
MICR 660 Pathogenic Micro	3
MICR 675 Virology	3
MICR 663 Parasitology* (to be re-developed from 363 to 463/663)	3
MICR 665 Fundamentals of Animal Disease	3
MICR 724 Applied Epidemiology and Biostatistics*	3
MICR 750 Advanced Epidemiology	3
MICR 762 Adv Pathogenic & 770 Adv. Immunology	(must be taken together) 6
MICR 775 Molecular Virology	3
MICR 781 Adv. Bacterial Physiology	3
MICR 782 Molecular Micro Techniques	3
MICR 785 Pathobiology	3
<u>MICR 572 Clinical Immunology (to be re-introduced; may replace 670 in core)</u>	<u>3</u>

In general, the 600 level courses are in the core, and 700 level in the electives. If a student has already taken the 400 level course, then the 700 level would be substituted into the core.

\* This course is not currently offered at NDSU, and is being officially developed per University guidelines.



***Track 5 – Food Safety***

Required Courses (Nine 1-Credit Modules)\*

<u>Course</u>	<u>Credit Hours</u>
SAFE 601 Food Safety Information & Flow of Food	1
SAFE 602 Foodborne Hazards	1
SAFE 603 Food Safety Risk Assessment	1
SAFE 604 Epidemiology of Foodborne Illness	1
SAFE 605 Costs of Food Safety	1
SAFE 606 Food Safety Crisis Communication	1
SAFE 607 Food Safety Risk Management	1
SAFE 608 Food Safety Regulatory Issues	1
SAFE 609 Food Safety Risk Communication & Education	1

Elective Courses - Choose 6 credits from the following courses:

SAFE 652 Food Laws and Regulations	3
SAFE 750 Advanced Topics in Epidemiology	3
SAFE 752 Advanced Food Microbiology	3
SAFE 753 Food Toxicology	2
SAFE 785 Advanced Crisis Communication*	3
<u>SAFE 786 Risk Communication*</u>	<u>3</u>

\* Courses currently offered via DCE

## ***Track 6 – Gerontology***

<u>Course</u>	<u>Credit Hours</u>
<i>CDFS 660: Adult Development and Aging</i>	3
<i>OR</i>	
CDFS 786: Advanced Human Development III: Middle through Old Age	
<i>CDFS 722: Research Methods in Gerontology</i>	3
CDFS 760: Aging Policy	3
<b>Elective Courses – Choose 6 credits from:</b>	
<i>HNES 652 Nutrition, Health, and Aging</i>	3
<i>CDFS790 Seminar: Perspectives in Gerontology</i>	3
<i>CDFS 790 Seminar: Professional Seminar in Gerontology</i>	3
ATID 796 Aging and the Environment	3
CDFS 678: Financial and Consumer Issues of Aging	3
CDFS 681: Women and Aging	3
CDFS 682: Family Dynamics of Aging	3
CDFS 761: Applied Gerontology Programs	3
Sociology 641: Sociology of Death	3

***NOTE: A 21-credit graduate certificate in Gerontology is available through the Child Development and Family Science Department. The five core courses required for the certificate are italicized above and students would take an additional 6 credits of electives. The certificate courses are all available online.***

***Track 7: Medical Management and Administration***

<u>Course</u>	<u>Credit Hours</u>
BUSN 740: Advanced Financial Management	3
BUSN 750: Advanced Organizational Behavior	3
BUSN 760: Strategic Marketing Management	3
BUSN 789: Business Policy and Strategy	3
And choose 3 credits from the following courses:	
TL/BUSN 727: Organizational Change Management	3
PHRM 675: Advanced Pharmacy Management	3
<u>Any Business Administration course labeled 600 or higher</u>	<u>3</u>