February 20, 2017

Sarah C. Mangelsdorf, Ph.D.                                      William Karpus, Ph.D.
Provost and Vice Chancellor for Academic Affairs                  Dean of the Graduate School

Sent electronically

Re:    Review of the Capstone, Graduate and Professional Certificates in Clinical and Community Outcomes Research

Dear Provost Mangelsdorf and Dean Karpus:

On behalf of the School of Medicine and Public Health, I endorse the five-year review of the Capstone, Graduate and Professional Certificates in Clinical and Community Outcomes Research.

After discussion at the February 15, 2017 meeting of the SMPH Academic Planning Council, APC members unanimously approved the report of the review committee, the recommendations of the committee for implementation, and the response of program leadership to the review committee’s report. Those reports are attached. Also attached is a rationale to continue the capstone certificate program despite its low award status.

Program Strengths: The review committee and APC are highly laudatory of the certificate programs. The certificate programs meet a need for the university and research communities with regard to translational research. The programs focus on community-based research with a mixed methods approach. The programs have a high impact, as most students who participate in the program publish their research. The programs are highly interdisciplinary, promote interactions among faculty and students, attract a diverse student body and have requirements that are clear to students. Program Director Barb Bowers and Program Coordinator Sharon Schumacher provide outstanding leadership and support.

Recommendations: The review committee made many recommendations, with the following being the most salient. The APC supports these recommendations and commends the program for already having taken action.

1) Recommendation: The programs have low enrollment and thus a low number of certificates awarded. The review committee recommends that the program increase its marketing to increase enrollment.
   Program response: The program has revised its website, developed a new brochure and increased direct marketing across campus. As a result, students from a wider variety of disciplines are enrolled (e.g., business, engineering, kinesiology). Due to the following limitations, enrollment in CCOR certificate programs will remain relatively low:
   • Enrollment limitations in the core/intro course, POP HLTH 709
   • A key element of the program is having a staff member to advise students on conducting translational research. Funding is only available for a 0.5 FTE.
Dean’s response: The SMPH will provide funding to expand POP HLTH 709. The APC supports this decision.

2) Recommendation: The review committee recommends that the program establish student grievance procedures and create a student handbook.
Program response: The program has created a handbook and established grievance procedures, which are posted online.

Both the SMPH Academic Planning Council and I concur with the review committee’s recommendation to continue the Capstone, Graduate and Professional Certificates in Clinical and Community Outcomes Research. We recommend that the next review occur in ten years.

Thank you for your consideration. If you require additional information, please do not hesitate to contact Andrea Poehling.

Sincerely,

Robert N. Golden, M.D.
Robert Turell Professor in Medical Leadership
Dean, School of Medicine and Public Health
Vice Chancellor for Medical Affairs
University of Wisconsin-Madison

Copies to:
Barbara Bowers, Ph.D., RN, FAAN, Clinical and Community Outcomes Research Certificate Programs
Sharon Schumacher, Clinical and Community Outcomes Research Certificate Programs
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Marty Gustafson, M.S., Graduate School
Emily Reynolds, M.A., Graduate School
Jocelyn Milner, Ph.D., Academic Planning and Institutional Research
Sarah Kuba, Ph.D., Academic Planning and Institutional Research

Attachments:
1) Review committee report
2) Program response
3) Implementation forms
4) Rationale to continue capstone certificate program
Clinical and Community Outcomes Research Certificate (Capstone, Graduate, and Professional)

Program Review December 7, 2015

The CCOR program was reviewed in fall, 2015, by Jane Mahoney, MD, Department of Medicine (committee chair); Susan Thibeault, Ph.D, Department of Surgery (Graduate Faculty Executive Committee representative); and Elizabeth Cox, M.D., Ph.D., Department of Pediatrics. The committee reviewed the following:

- original proposal for the Certificate in Type 2 Translational Research, dated February 27, 2009. The certificate program was later renamed to Clinical and Community Outcomes Research
- the Self-Study by Program Director Barb Bowers, RN, PhD, dated October 2014
- data on enrollment and completion of students from 2009 to 2015
- review sheets for grants received by students during and shortly after completion of the program,
- webpage materials (Capstone through Division of Continuing Studies, and Capstone, Graduate and Professional through ICTR, and program material available on a google webpage)

On September 14, 2015, the committee conducted a site visit, meeting with the program director, Barb Bowers, the program administrator, Sharon Schumacher, faculty advisors Maureen Smith and Betty Chewning, and three current students (2 capstone, 1 professional) and 3 alumni (1 capstone, 2 graduate)

The Capstone, Graduate, and Professional certificates have identical application processes, student services, requirements and curricula. Therefore, the review and report focus on all certificates. There are a few differences across the certificate programs, in particular with regard to student enrollments and dropouts. We highlight these at the end of the report.

PROGRAM STRENGTHS:

- This is a unique program on campus and fills an important niche. It aligns with a number of the UW-Madison strategic priorities, particularly those related to translational research. It is essential to ICTR’s success in community engagement and training. It is important for career development of graduate students, post-doctoral fellows, and junior faculty, who may enroll in the program preparatory to, or as part of, a K-award. Graduates of the program are well positioned to build scholarship around community engagement. Students and graduates of the program have been successful in obtaining peer-reviewed intramural and extramural funding. The committee reviewed “pink slips” for career development awards received by 4 of the CCOR students/graduates. All peer-reviews praised the training that the CCOR certificate provides.
- The program is highly interdisciplinary, both in students and faculty. Students are matched with an advisor from outside their discipline in order to broaden perspectives. It is innovative in its emphasis on community engagement. Very few students in health sciences have a sense of organizations in the community. This program provides them with an organizational and community perspective. Students are required to take a course in community engagement in research, and must include community stakeholders in their project. For many of the students, it also provides their first training in qualitative methods, which are increasingly necessary for translational research.
- The diversity of students in the program is remarkable (7 of 12 alumni are non-white).
- Students were highly complimentary about the program. They agreed that the certificate was different from, but synergistic with a masters or PhD. They stated they learned the importance
of and how to engage stakeholders, and learned to apply research methods in clinical and community outcomes research. The required course, Pop Health 709, Translational and Outcomes Research in Health and Health Care, was universally appreciated by students. They stated they wouldn’t have been able to find all the courses without the structure of the program. They appreciated the extensive set of electives from which to choose, and valued the flexibility of the program in selecting electives. They felt they had adequate guidance in selecting electives. They appreciated having the opportunity to do a community-engaged project, and found it helpful to have structured templates to initiate and complete the project. Students found advisors to be accessible and helpful. They appreciated receiving feedback from a faculty advisor through all phases of the project, from conception to completion.

- The program administrator is friendly, highly engaged, committed to the program and responsive to students’ needs.
- For most students, project completion resulted in one or more publications.
- The requirements for the certificate are in order and are clear to students.
- Learning outcomes are articulated clearly on the websites, and are assessed using grades for required and elective courses. The project is reviewed by the student and advisor together prior to starting it. Clear instructions are given to the students on how to write a project plan incorporating the learning outcomes that the student wants to achieve. After the project, students complete a rubric for self-evaluation and then review it with their advisor.
- Certificate graduates have been surveyed yearly, with the types of questions changed from year to year. Questions have addressed: what they learned, how the certificate advanced their professional goals, opportunities open to them as a result of the certificate program, advice they would give to current and future students, whether courses were useful, and suggestions for recruitment. The program administrator also called students who withdrew to find out the reason why.

WEAKNESSES:

- The primary weakness is that enrollment is low. Since its inception in 2009, 14 students have completed the certificate (10 graduate, 2 professional, 2 capstone), and 8 are enrolled (3 graduate, 1 professional, 4 capstone). The enrollment goal for all 3 programs combined is 10 to 15 new students per year, per the 2009 certificate program proposal. Certificate awards for all three programs combined have been increasing over time (one in 2010, two in 2012, three in 2013, six in 2014), but numbers remain below that specified in the program proposal. There is not a systematic approach to recruitment. Given the program’s worth to campus and ICTR, it is not visible enough across campus. For example, programs that could serve as feeders for CCOR, such as ICTR’s KL2, Masters, and PhD in Clinical Investigation don’t have links to CCOR from their websites.
- There is not a specific handbook that is provided to students. Students are provided a link to a Google App website where there is information similar to what would be in a handout (e.g. the requirements of the certificate, student learning outcomes, curricula, etc). There is no information about grievances procedures and policies.
- The CCOR Capstone website through the Division of Continuing Studies (https://advanceyourcareer.wisc.edu/capstone-certificates/clinical-community-outcomes-research) is visually appealing but lacks detail. ICTR, as the administrative home, has a website for CCOR (https://ictr.wisc.edu/T2TRCertificate), which has more detail, but the program administrator cannot update it to meet program needs. Neither have a student handbook. The ICTR CCOR webpage doesn’t link with the Division of Continuing Studies CCOR webpage.
An opportunity exists to create a sense of community among program participants and students expressed a willingness for this and saw potential benefits. They suggested a forum for all students to share their research with each other. Students have one annual meeting that highlights their research and are together for 1 course (Pop Health 709), but could benefit from additional opportunities to convene.

There is no access to Cooper Hall for meetings before or after regular hours.

Students do not have access to a manuscript-writing group as part of the program.

Policies and procedures appear to vary across faculty advisors. Students may have only annual communication with their advisors. The google webpage has information for advisors but it is not clear how systematically it is accessed by them. The number of advisors is small, and there has not been a systematic plan to recruit or train more. There is no regular structure for CCOR faculty advisors to meet.

Community stakeholder involvement with students’ projects can vary, which at times can result in under-engagement, or engagement that begins too late in the project’s course.

Similar to other capstones, it can be difficult for students to get all the coursework in, if getting it as part of an MPH or PhD, in particular, if they don’t begin the certificate early in the course of their graduate degree.

The program administratively is under ICTR’s REC (Research Education and Career Development) core, but there is not a strong communication link with REC, making it hard to take advantage of ICTR programs as feeders for recruitment and as opportunities for students enrolled in CCOR.

CCOR’s administrator is the person the students seek out when they have questions. There is no trained back-up for the administrator when she is gone or should unanticipated absence occur.

Five students withdrew from the certificate program in 2012. Many of these were community members. To decrease dropouts, in 2013, the program quit recruiting community members. Since then, there has been 1 dropout in 2013, and 1 in 2014. While dropouts have decreased it remains a concern when number are small to begin with.

RECOMMENDATIONS FOR PROGRAM:

• The program needs to increase its numbers to those specified in the original application (10-15 new students enrolled each academic year). To accommodate growth, the program needs to systematize procedures. The committee felt the program is very valuable and ultimately has potential to grow beyond the numbers projected in the initial application. Most of the recommendations below have to do with marketing to increase growth, and systematizing procedures to accommodate the increase in size.

• The leadership should focus on marketing the program across campus to increase number of students. The certificate program should appeal to junior faculty seeking K awards, to people on training grants, or in fellowships or post-doctoral positions, and to master’s and PhD students. We would recommend increased marketing to department chairs in relevant schools and colleges (e.g. SMMP, Nursing, Pharmacy, Business, Education, Engineering), and to Directors of the MPH, related PhD programs, and T32’s. Directors of masters and PhD programs should be advised to encourage students to enroll in CCOR early on during their masters or PhD, to ensure they can get all the CCOR coursework in.

• Grievance procedures need to be established.

• A formal handbook should be created that follows Graduate School’s requirements (https://kb.wisc.edu/gsadminkb/page.php?id=34123). Hard copies should be distributed to all
faculty and to incoming students, in addition to being available online. It should be on the CCOR website(s).

- The program should work to foster an increased sense of community among students. This could be through “community of scholars” meetings several times per year, where students share and get feedback on their projects, with attendance by faculty advisors and possibly community stakeholders as well. As an alternative, an additional seminar could be established, to feature students’ projects and provide a forum for discussion and development of relationships, with the same stakeholders attending.
- The program should consider other ways to increase community stakeholder involvement.
- CCOR’s webpage should be linked to other programs that may serve as recruitment sources (eg ICTR’s MS and PhD in Clinical Investigation, other Departments across campus).
- The google website materials should be on the ICTR CCOR website.
- The program should continue to monitor drop-outs and formally document the reason for each; if they persist, they should develop a plan to decrease drop-outs.
- Program leaders should develop a 5-year plan. It should include plans to increase enrollment.
- Advisors should meet with students at least twice yearly. The student experience across faculty advisors should be standardized with respect to faculty’s use of templates to help guide students, guidelines for initiation and completion of student projects, standards around meeting frequency/content, etc. There should be formal policy and procedures for recruiting new advisors, and formal training for onboarding new advisors. The advisor manual should be shared with and vetted by all advisors. The program should incorporate the potential for co-mentoring by more than one advisor, and provide guidance to students and faculty about this. Faculty should meet to discuss governance, structure, and needed changes at least twice yearly.
- The program should include plans to grow diversity as part of program growth. Current diversity is commendable. This program offers a natural niche to increase diversity.
- Standards should be established regarding community stakeholder involvement (when community engagement should begin, what involvement should constitute at a minimum, etc). It would be ideal to have a stipend for community stakeholders.
- Guidelines should be in place for advisors to work with students with a clinical background who lack formal (masters or PhD level) research training. If such students are seeking an academic career, they need early advice to get a masters in a research area, as the Capstone alone will not be sufficient for career success.
- The program needs a back-up for the administrator if she is gone for a period of time.
- We would recommend regular, better integration with ICTR’s REC core. The masters and PhD Clinical Investigator programs may be a feeder for enrollment, and better linkage may help in advising students of opportunities through ICTR.
- The program should ensure that manuscript and grant writing groups for both quantitative and qualitative methods are available to students.
- The director should track outcomes of, and survey former students to demonstrate the importance of the certificate to future careers, and identify strengths and weaknesses.
- Program alumni may be engaged more systematically, particularly alumni who remain on campus. They could join a re-union/welcome day event with new students, could participate as part of a seminar, could help advise students, etc.
- Students should receive access to the building after hours.
- To ensure timely progress, advisors should encourage students to being writing their manuscript as soon as they have finished writing their research protocol.
• The program may want to consider adding Computer science 769 (natural language processing) as a relevant elective course.
• Consider allowing 2 students to work collaboratively on 1 project.
• Encourage and model inclusion of IT as an often essential stakeholder in clinical and community outcomes research.
• In response to students’ feedback, to help students who are applying for training grants, they are creating lists of courses that are compatible with both training grant needs and Certificate requirements. We recommend this information be made available on the CCOR webpage.
• Students have reported difficulty finding qualitative methods courses. One option is to develop a qualitative methods course specifically for the Certificate program. We would encourage the program leaders to explore all alternatives that may be available on campus through other departments (sociology, etc).
• Create a directory of CCOR students and alumni with information about their projects and contact information when available.

RECOMMENDATIONS FOR SMPH AND THE UNIVERSITY

• CCOR needs to increase enrollment as per initial program prospectus. Increased enrollment will require additional financial support, towards the goals of increasing director’s time, number of core faculty, and numbers of students. Additional funding could also provide stipends for community stakeholders, support a new seminar as described above, and potentially help support research staff to take advantage of the Capstone certificate. This could help research staff obtain promotions and even work toward PI status, ultimately expanding UW’s research capacity and ability to attract external funding.
• ICTR, and REC in particular, should work with CCOR team members to make the ICTR CCOR website easier to find and to give the program the ability to update the website with information necessary to meet the program’s needs.
• ICTR should create links from the K-program, and the Masters and PhD programs in Clinical Investigation to the CCOR webpage, to make it easier for potential students to learn about the program.

Summary:

Although enrollment has been low, both certificate programs (Capstone and Graduate/Professional) are innovative and of high importance to the mission of ICTR and SMPH. The committee believes there is potential to increase the number of students. The review committee has outlined a number of steps that can be taken to increase enrollment and the Director has identified others in the self-study.

Comments on the Capstone Certificate: Initially, the majority of dropouts were from the Capstone program. The program Director rectified this problem by more carefully selecting students for the program. Recently, junior faculty and postdoctoral fellows have enrolled in and are completing the Capstone as part of their training grants or fellowships. For junior faculty and postdoctoral fellows from SMPH, Pharmacy, Nursing, Industrial and Systems Engineering, Kinesiology, and other departments across campus, the Capstone serves a very important role, allowing them to extend their skill in clinical and community outcomes research.

The committee’s recommendation is to continue the Capstone and Graduate/Professional certificates. We recommend the next review occur in 10 years.
Response to the Five-Year Review
Certificate in Clinical and Community Outcomes Research

The Certificate Director, Administrator, Faculty Advisory Committee and Students are grateful to the Review Committee Members for their time, effort and professionalism in conducting the review. We thank the SMPH Academic Planning Council for the opportunity to respond.

A. The Certificate Faculty Advisory Committee met on 2/3/16 to address issues raised in the Review Committee’s report. Following is a summary of their resolutions.

1. **Low enrollment.** Although enrollment has increased gradually over time it is still below the number projected in the original certificate program proposal. We acknowledge this but support maintaining total enrollment at the current level (five to ten) as the level is consistent with both campus need and program capacity.
   a. **Campus Need.** Although there may be limited demand for the certificate across campus, the certificate serves an important purpose for people in the field. Specifically, the program meets an otherwise unmet need of graduate students and junior scholars with career development awards in the health sciences. In particular, K scholars and postdoctoral fellows have been including the certificate in their proposal professional development plans. This group has been increasing in the past few years, with four of the last 6 enrollees being K scholars.
   b. **Target enrollees.** The program continues to send recruitment messages to graduate program coordinators across campus. However, since the program inception, there has been a shift in enrollment, from a distribution across professional, graduate and capstone (community based) students, to a predominance of capstone students (K scholars and postdoctoral fellows). The greatest increase has been in students already in their professions (mostly MDs) with career development awards (K awards from NIH and fellowships). The certificate has frequently been included as an integral part of K proposal training plans. Eliminating the certificate would negatively influence the success of this group in competing for K awards. Our recent marketing efforts have primarily targeted this group. (See a sample K scholar proposal training plan in Appendix 1.) One obstacle to enrollment for K scholars has been the recent increase in cost of enrolling in courses. However, we are seeking additional funding from the CTSA to support the cost of these courses for junior investigators with K awards.
   c. **Program Capacity.** A required course in the certificate program is POP HLTH 709—offered each fall semester. This course fills and has a wait list every time it is offered. Because of this, increasing certificate program numbers would exceed the capacity to accommodate additional certificate students. There are no resources for program advisors or to support faculty teaching. The program has been designed to take advantage of courses across campus along with program faculty advisors’ expertise in translational research. Given the lack of resources for program faculty, there is no untapped capacity.
d. **Time to Completion:** The time to completion for this certificate ranges from 1–5 years, with most completing the certificate program in 1–2 years (9 of the 14). Completion of the program is dependent on 1) successfully completing the one required course, 2) completing additional course requirements from electives, and 3) completing a formal project. (See certificate checklist in Appendix 2.) This requires at least a full year, and for many students, will take longer as the course completion must be aligned with other responsibilities and most K scholars and postdoctoral fellows take only one course at a time. As well, many students require a full year, sometimes longer, to complete the project. The advisory committee considers this time frame to be quite reasonable, and does not see a need to reduce the time required for completion of the certificate or the project.

e. **Attrition of certificate enrollees:** Of the 30 people who've been admitted to the certificate program since it began in 2009, eight withdrew without finishing the requirements. Five of these withdrew in 2012 for a variety of reasons. (See below.) Five of the eight withdrawals were Capstone students. From this we learned that we needed to provide more information to off-campus students before they apply for enrollment, i.e., that most or all courses are offered only on campus and during weekdays and that none of the courses are offered online. We continue to watch for opportunities to convert courses to a distance education format. However a distance education option for some courses, e.g., the core course POP HLTH 709, wouldn't necessarily increase course capacity because of the amount of support and interaction required from the course instructor.

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<th>Enrollment</th>
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2. **Forming a sense of community among students.** The Certificate Faculty Advisory Committee agreed that additional strategies to create a community would benefit the certificate students and strengthen the program. The committee decided to create a forum for students, meeting at least once each semester, in addition to the annual spring gathering. One or two advisers will meet with certificate students in a seminar-style gathering once or twice each semester. The primary purposes will be to foster a sense of community and provide a forum to discuss ongoing projects.

3. **Consistency in advisement procedures.** The Certificate Faculty Advisory Committee will add to the existing “Checklist for Completing the Certificate” (Appendix 2) that students should meet with their adviser at least once per semester. In the discussion about this, the committee emphasized that the program was intentionally designed to be flexible in order to accommodate a variety of student career goals and projects. Standardizing project initiation and completion times or project content would be at odds with this goal and might not be sufficiently flexible to address the unique circumstances of each student.

4. The Certificate Faculty Advisory Committee will continue to meet to determine how to operationalize committee recommendations about recruiting and training new advisers, mentoring students with clinical backgrounds, increasing community stakeholder involvement, developing a five-year plan and vetting the adviser manual.

B. **In addition, the program plans to adopt the following review recommendations**

1. **A printed handbook.** The program will collect evidence from students and advisers about the format that would be most useful and accessible to them, e.g., printed, online, online with printable PDFs, etc. There are many printable program handouts provided to students and advisers, most frequently sent as attachments to e-mails but also available online: checklist, curriculum plan worksheet, approved electives, and several others.

2. **Add a grievance procedure to the handbook along with other information suggested in the Graduate School’s handbook template.**

3. We will request that the ICTR web page for CCOR include a link to the online handbook <https://sites.google.com/a/wisc.edu/t2trcertificate/home>.

4. We will request that ICTR web pages for the KL2 program and graduate programs include a link to the CCOR web page.

5. **Add Computer Science 769 – Advanced Natural Language Processing to approved electives.**

6. **Back up administrator.** The current administrator works with the administrator of the ICTR Certificate in the Fundamentals of Clinical Investigation (Sally Wedde) on certificate-related matters. Sally is familiar with this certificate program. There is a detailed guide for certificate coordinators in the online handbook that will be useful if the current administrator is ever unavailable.

7. **Manuscript and grant writing groups.** The program will collect evidence of need from enrolled students. Many students are in such groups through other majors.
C. **Committee recommendations that were already being practiced by the program**
   1. Include lists of courses that are compatible with both training grant needs and Certificate requirements with CCOR online information.
   2. The program tracks outcomes and surveys former students to demonstrate the importance of the certificate to future careers and to identify strengths and weaknesses. The program uses this information for program development and in marketing materials. *We’ll put effort into disseminating these materials more effectively.* Certificate alums are invited to—and participate in—the Annual Certificate Meeting of Students, Alums and Faculty. Some Certificate alums mentor current students and serve as project advisers. *We will explore additional ways to increase involvement of alums.*
   3. There’s no policy preventing two students from working collaboratively on one project. It would be encouraged. *We’ll add this to the “Examples of Project Options” page in the online handbook.*
   4. Information about CCOR students and alums who agreed to be listed is available in the online handbook, indexed under “Students and Alums.” It includes quotes and information about their careers, research interests, projects, what they learned, how they applied what they learned, published works, and advice for current and future students. *We will disseminate this information more effectively.*
   5. The program lists among approved electives nine qualitative methods courses from across campus. The courses were selected from among the departments of Anthropology, Counseling Psychology, Curriculum and Instruction, Educational Leadership and Policy Analysis, Medical History, Nursing, Sociology and Social Work. They were approved as meeting the following elective criteria.

   Course learning objectives and content must be relevant to research in communities or organizations. Ideally, the course might also address research methodologies that take account of community and organizational culture and values, that are responsive to community partners’ priorities, or that have a direct benefit to the partner.

D. **How the program would prioritize recommendations that require additional funding**
   1. Salary support for developing core course POP HLTH 709 into a distance education course (We are watching for external funding opportunities for this.)
   2. A new seminar for Certificate students, faculty and community stakeholders
   3. Stipend for community stakeholder involvement
   4. Tuition support for UW-Madison research staff to pursue the Certificate
   5. Funds to develop incentives for recruiting and/or buying the time of new advisers
   6. Funds to print handbooks if there is evidence of need
   7. A back-up Certificate administrator

**Summary**

The Review Committee provided many valuable ideas for improving the Certificate program. We plan to adopt almost all of the ideas and/or use them to take a second look at our practices.

**Appendices**

1. Sample K scholar proposal training plan
2. Checklist for completing the certificate
3. Enrollment update 3/31/16
4. Letter of support from ICTR
I. Career Development and Training Plan

Urinary and/or bowel incontinence affect more than 60% of community-dwelling US women aged 65 and older, and will become even more prevalent as our population continues to age. Incontinence is associated with significant negative impact on quality of life and substantial health care costs, but the majority of people with this condition do not seek care. Interventions to reduce symptoms and increase care-seeking for both urinary and bowel incontinence among older women in the US are urgently needed to minimize unnecessary suffering, prevent institutionalization, and decrease healthcare costs. My long-term research career goal is to become an academic urogynecologist leading a federally-funded translational research program to develop, implement, and disseminate innovative programs to reduce symptoms and increase care-seeking for urinary and bowel incontinence. This research has a high likelihood to positively impact continence and improve quality of life, prevent institutionalization, and decrease healthcare costs for over 14 million Americans.

The research and training plan proposed in this application will supplement my existing epidemiologic and clinical research skills with additional skills in adaptation and intervention development, community-based research, and dissemination and implementation research. These skills are necessary for me to continue my research trajectory through adaptation and pilot-testing of a community-based urinary and bowel continence promotion program. The findings of the research that will be conducted during the course of this career development award will provide preliminary data for an R01 application to evaluate the effectiveness of the adapted intervention and subsequently to conduct related dissemination and implementation research.

Through the use of structured mentoring and formal coursework, my objectives are to:
1) Acquire a foundation in community-based research
2) Develop skills in implementation science and dissemination research
3) Develop collaborative partnerships with communities and other stakeholders
4) Advance my leadership and mentorship skills

Research Knowledge and Skills

I have a strong foundation in quantitative methods and have published several manuscripts of preliminary data upon which the proposed work builds. This work was supported by my former training in an Applied Epidemiology Fellowship and a Masters of Advanced Studies in Clinical Research. My career development and training plan (Table 1) incorporates additional training in the following key areas critical to the proposed research and my professional development: community-based research and implementation science, development of collaborative partnerships, and leadership and mentoring skills.

### Table 1. Training Plan and Timeline

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<tr>
<th>Training Needs</th>
<th>Training Activity</th>
<th>Yr 1</th>
<th>Yr 2</th>
<th>Yr 3</th>
<th>Benchmarks for Success</th>
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<td>ICTR Capstone Certificate in Clinical &amp; Community Outcomes Research</td>
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1. IRB approval
2. CITI certification
Wisconsin Multidisciplinary K12 Urologic Research Career Development Application:

To obtain Objective 1, attaining a foundation in community-based research, I will complete a Capstone Certificate in Clinical and Community Outcomes Research through the Institute for Clinical and Translational Research (ICTR) at UW. This certificate focuses on examining factors that facilitate or impede implementation of evidence-based practices in real-life communities and specifically provides training in building stakeholder engagement. Mandatory coursework includes electives in working with communities, quantitative methods, and qualitative methods. The curriculum for this certificate includes five courses and one project totaling 15 credit hours, which I will plan to complete over the three years of the mentored career development award. Table 1 provides the list of courses and their timing within the context of the K12 Program. During the first year of the award, when I have 50% protected time for research, I will complete one course in the fall semester. This course, CURRIC 719: Introduction to Qualitative Research, meets each Tuesday from 9:30-12:00, and my Department Chair has supported the redesign of my clinical schedule to accommodate attendance. I will complete the remaining coursework during the second and third years when I have additional protected time (75%) for research. The award of this grant is essential to provide me with the necessary time to devote to my research development. Without it, I will not be able to find the time to be released from my clinical duties to achieve my goal to become an independent investigator in implementation and community based interventions.

To complete Objective 2, development of skills in implementation science and dissemination research, I will work closely with mentor Dr. Jane Mahoney, who has extensive expertise in intervention adaptation and dissemination and implementation research. In addition to a short course in Dissemination and Implementation Research I attended in October 2013 at UW, I will attend the Annual Conference on the Science of Dissemination and Implementation held in Bethesda, MD in December each year.

To attain Objective 3, development of collaborative partnerships with communities and other stakeholders, I will continue to work closely with mentors Dr. Jane Mahoney and Dr. Maureen Smith, both of whom are leaders in community-academic partnership. I have already secured a partnership commitment from the Director of the Fitchburg Senior Center for the proposed work, after an introduction by way of the Community Academic Aging Research Network (CAARN) and Dr. Mahoney. At Dr. Mahoney’s suggestion, I have assembled an Advisory Board of stakeholders to ensure their voices are heard and appreciated through the duration of the proposed work and beyond. I will be closely mentored by Dr. Mahoney and Dr. Paul Moberg, both of whom have experience working with community centers to evaluate health promotion programs, to continue building collaborative partnerships with relevant stakeholders.

To achieve Objective 4, advancing leadership and mentorship skills, I will attend an 8 hour workshop on mentoring offered through ICTR during my final year on the mentored career development award. I will continue to volunteer with my national and international professional organizations and will continue to serve as a peer reviewer to develop a national academic reputation. I will submit abstracts to present my work at both national and international urogynecologic research meetings annually. I will continue to serve on the Healthcare Advisory Board for the Healthy Mature Living Foundation, as well as a contributing editor for www.ABLinfo.org, to promote national recognition of the importance of bowel incontinence as a mature health issue. Most importantly, I will be mentored by four outstanding mentors, who will lead by example and serve as role models so that I am able to mentor residents, medical students, and fellows in their research endeavors in the future. Because our institution does not have a funded investigator in Female Pelvic Medicine and Reconstructive Surgery, I have secured the mentorship of Dr. Rogers, at the University of New Mexico. She has extensive experience in qualitative research and is a leader in questionnaire development. She has collaborated extensively in the submission of this application and has experience with successful distance mentoring, with three of her recent mentees achieving research independence.

Responsible Conduct of Research
I will take a one-credit seminar in the Responsible Conduct of Research during the spring semester of the first year of my career development award, which will address all 9 core instructional areas in the responsible conduct of research. To address issues with publication practices and responsible authorship, I have already taken a two day short course on grant writing, and will continue to attend two writing groups through ICTR and the Health Innovation Program. I will also continue to serve on the International Urogynecological Association’s Publication Committee. To continue to gain experience with ethical issues of peer review, I will continue to serve as a peer reviewer for the International Urogynecology Journal, the British Journal of Obstetrics and Gynecology, and the Journal of Urology. The mentorship seminar during my third year of the career
Wisconsin Multidisciplinary K12 Urologic Research Career Development Application: development award will address mentor/trainee responsibilities. I will continue to participate in CITI training modules to address the remaining ethical issues in: data acquisition, management, sharing and ownership; collaborative science; human subjects research; research involving animals; research misconduct; and conflict of interest and commitment.

**Career Goals**

The training and professional development plan outlined above will allow me to move beyond my early studies describing the prevalence of urinary and bowel incontinence, associated risk factors, and poor rates of care-seeking, towards adaptation of targeted interventions to improve symptoms and increase care-seeking for these conditions. Table 2 displays the anticipated research career trajectory through which I will pursue independent R01 funding for subsequent intervention dissemination and implementation research, which has the potential to impact quality of life, independence, and healthcare costs for over 14 million Americans. Further, this platform of community-based research in urogynecology aligns with priorities of the Departments of Obstetrics & Gynecology and Urology and will provide the research mentoring skills I need to support our Female Pelvic Medicine and Reconstructive Surgery fellows when our fellowship training program is established in the next 5-7 years. With the skills and training offered by the Wisconsin Multidisciplinary K12 Urologic Research Career Development Program, I will not only advance my own research agenda, but will also become a mentor for future young scholars pursuing similar research and clinical careers.
Appendix 2

Checklist

For completing the Certificate in Clinical and Community Outcomes Research

Use this checklist to make sure you follow all the procedures required to complete the Certificate.

Apply for enrollment

- See admission policies and procedures at https://sites.google.com/a/wisc.edu/t2trcertificate/home.
- Non-degree-seeking students, follow the procedures for a Capstone Certificate application.
- There’s no deadline. Applications are reviewed and admissions are decided on a rolling basis.
- Don’t hesitate to contact Sharon Schumacher with any questions, sscschumache2@wisc.edu, (608) 262-1415.

Receive your notification of admission and adviser assignment

If you have completed all the application procedures, you will receive notification of the admission decision within three weeks. If you have any questions about the status of your application, feel free to contact Sharon Schumacher sscschumache2@wisc.edu, (608) 262-1415.

- **Your adviser**: After you have been admitted, the Certificate Advisory Committee will review your stated research interests and recommend a Certificate adviser for you. (Your Certificate adviser will not be the same as the adviser for your degree program.) An objective is to match each student with a Certificate adviser from a discipline other than their own in order to expose students to a variety of perspectives. Sharon Schumacher will e-mail you the name and contact information of your Certificate adviser.

- **Certificate declaration form**: If you are a graduate or professional student, Sharon Schumacher will ask you to complete and sign a certificate declaration form. This tells the UW Registrar to enter your Certificate program enrollment into the Integrated Student Information System (ISIS). (Capstone Certificate students do not need to do this.)

Schedule a meeting with your Certificate adviser to discuss your curriculum plan

- To get ready for your first advisement meeting, take a look at the Learn@UW site for the Certificate https://learnuw.wisc.edu/. (Look under your ‘Student’ tab.) It contains information about course and project requirements and options, enrollment procedures, forms, support resources, etc.

- Use the ‘Curriculum-Plan-and-Tracking Form’ to start planning your courses (linked on the ‘Forms’ page of the Learn@UW site for the Certificate).

- Use the list of approved electives (linked on the ‘Curriculum’ page) to identify elective courses you would like to take. You can propose qualifying courses that are not on this list to fulfill elective areas.

- Think about which of the two seminar options would be best for you.

- While meeting with your adviser, discuss your research and career interests.

- Complete the ‘Curriculum-Plan-and-Tracking Form’. Even if you are not sure about all the courses you would like to take, please go ahead and complete as much of the form as you can and send a copy to Sharon Schumacher (address on the form). You can always update the form as you learn more about your plans.

- Meet with your advisor at least once a semester.

Course work

- **POP HLTH 709—Translational and Outcomes Research in Health and Health Care** (3 credits. Fall only.)
  - It is recommended that you have taken at least one or two courses in research design and/or analysis before taking this course.
  - To enroll in POP HLTH 709, e-mail Professor Smith at maureensmith@wisc.edu. Enrollment limit is twelve students. This course is only offered in the fall.
  - Your project experience will be enhanced by taking this course before or during your project experience.
  - A description of this course is linked to the ‘Curriculum’ page on the Learn@UW site https://learnuw.wisc.edu/.
Three elective areas: Complete one approved course in each area.

- At least 50 percent of your certificate credits must be taken while enrolled at UW-Madison.
- If you are a graduate or professional student, at least one of the elective courses must be from outside your major.
- You may propose to your Certificate Adviser a pertinent course for consideration as elective credit that is not listed among approved electives, including a course that fulfills a requirement for your degree program. The criteria for a course to be considered as fulfilling a Certificate elective requirement are on the list of approved electives.
- INSTRUCTIONS for proposing an alternative: Complete the form ‘Proposal of an Alternative Course to Fulfill an Elective Requirement’. (This form is linked on the ‘Forms’ page at the Learn@UW site for the Certificate [https://learnuw.wisc.edu/].) Send the completed proposal with the course syllabus to your adviser for approval. Once approved, send a copy with the course syllabus to Sharon Schumacher. Keep a copy for yourself. (These instructions also appear on the form.)

<table>
<thead>
<tr>
<th>Elective area: Working with Communities (2–3 credits)</th>
<th>See list of approved electives.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective area: Quantitative Methods Relevant to Translational and Outcomes Research (3 credits)</td>
<td>See list of approved electives.</td>
</tr>
<tr>
<td>Elective area: Qualitative Methods Relevant to Translational and Outcomes Research (3 credits)</td>
<td>See list of approved electives.</td>
</tr>
</tbody>
</table>

Seminar (To fulfill the seminar requirement choose one seminar from the following two options. Follow the procedures for enrolling and earning course credit.)

**Option 1**

AQORN (Access, Quality, and Outcomes Research Network) Seminar (POP HLTH 990-092)

AQORN is an informal lunchtime seminar that is open to University of Wisconsin faculty, staff, and students interested in health services research. AQORN meets for 90 minutes, sometimes as frequently as twice a month. At each meeting, someone who has a research project in progress presents information about their project. Then the group discusses and exchanges information and ideas relevant to the project. Information about past AQORN topics is at http://www.aqorn.org/.

SEMINAR REQUIREMENTS FOR CERTIFICATE STUDENTS: To receive the one hour of seminar credit required for earning the Certificate, students must do the following.

- Register for AQORN credit.
- Give a presentation about your research at an AQORN meeting.
- Attend ten AQORN sessions (counting your own presentation). There will not always be ten AQORN sessions in a single semester, so you should be prepared to attend additional AQORNs outside the semester in order to complete the credit.*
- Make sure your attendance is recorded the AQORN staff person during the session.
- Participate in the discussions.
- Complete a guided summary of each of the ten sessions you attend (see guided-summary template linked to the ‘Curriculum’ page of the Learn@UW site for the Certificate).
- After you have completed ten sessions and guided summaries, send your guided summaries to Sharon Schumacher (address on the template).

* NOTE: There will not always be ten AQORN sessions in a single semester. So you should be prepared to attend additional AQORNs outside the semester in order to complete the credit. In this case an ‘Incomplete’ will be recorded as your grade until you are able to fulfill all requirements listed above.

**Option 2**

The Patient Safety Research Seminar (ISyE 961)

Since ISyE 961 is not offered on a regular basis, the alternative is for a student to sign up for one credit of independent study with Professor Pascale Carayon (carayon@ie.engr.wisc.edu). In this option, the student will be required to:

1. Watch all the videos of seminars in the Community Academic Partnership (CAP) Patient Safety series.* There are currently eleven videos, each approximately one hour long.
2. Write two one-page summaries of two seminars that are due on the last day of class.

Complete your project (2 credits)

- For helpful details, steps and suggestions for completing your project, follow the ‘Project’ link on the ‘Curriculum’ page of the Learn@UW site.
- Schedule a meeting with your certificate adviser to discuss your project ideas(s).
- Obtain approval signature from your certificate adviser on: 1) your project plan and 2) your rubric for evaluating your project. Send a copy of each to Sharon Schumacher.
- Complete your project.
- Evaluate your project using your rubric.
- Give a presentation about your project at an AQORN seminar and/or at an annual spring get together of Certificate students and faculty.
- Ask your adviser to review your project and complete the project review form. Send a copy of your approved project plan, signed project review form, completed rubric for evaluating your project, and other project material to Sharon Schumacher; scschumache2@wisc.edu; 701 Highland Ave., Madison, WI 53705; phone 608 262-1415.

Final step

Notify Sharon Schumacher that you have completed all of the Certificate requirements.
Let her know the address to send your certificate to.

Please contact Sharon Schumacher with any questions.

scschumache2@wisc.edu
(608) 262-1415
701 Highland Ave., Room 5137
Madison, WI 53705
# Enrollment

## Certificate in Clinical and Community Outcomes Research

### Enrollment activity by year

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March 28, 2016

To: Richard L. Moss  
Senior Associate Dean for Basic Research, Biotechnology and Graduate Studies  
UW School of Medicine and Public Health  
UW SMPH 2015–2016 Academic Planning Council

From: Marc K. Drezner  
Senior Associate Dean for Clinical and Translational Research  
UW School of Medicine and Public Health  
Executive Director  
Institute for Clinical and Translational Research

Subject: Letter of Support for the Certificate in Clinical and Community Outcomes Research

I am writing to express my enthusiastic support to continue offering the Certificate in Clinical and Community Outcomes Research (CCOR). This certificate program, established in 2009, provides important research training and skill development opportunities for scholars pursuing careers in health services research, and is central to the workforce development objectives of the University of Wisconsin Clinical and Translational Science Award (CTSA) from the National Institutes of Health.

The NIH/National Center for Advancing Translational Sciences supports a national consortium of more than 60 medical research institutions—including the UW Institute for Clinical and Translational Research (UW ICTR). The goals include to accelerate the process of translating laboratory discoveries into treatments for patients, train a new generation of clinical and translational researchers, and engage communities in clinical research efforts.

Moving toward these goals requires translational research that engages a diverse array of stakeholders, including community members and organizations, clinicians and researchers, as partners in the research process. This type of research requires a distinct set of skills, dedicated in large part to understanding the multiple factors that interact to influence a community or organization to: 1) participate in research; 2) implement change in practice habits; and 3) form and manage sustainable partnerships across disciplines and the workforce sector, among other things. The CCOR focuses on the development of these and other skills, enabling successful engagement in translational and community health outcomes research.
Strategically, the UW ICTR has developed two separate but complementary certificate programs to meet the needs of a diverse health research workforce. The Certificate in the Fundamentals of Clinical Research supports the training of “bench to bedside” investigators, previously referred to as Type I translational researchers. The CCOR focuses on skills needed to translate research findings from controlled clinical environments to natural community settings. Taken together, these two certificate programs facilitate the development of a workforce prepared to create, test, and disseminate new technologies and health improvement strategies.

Most certificate enrollees have no prior training in collaborating with community organizations or in research methods appropriate for community based clinical research when entering the certificate program. The flexibility of this certificate program allows students from many disciplines to tailor courses and projects to their specific needs, while ensuring that they gain knowledge and skills needed to conduct community based clinical research. In accord, the curriculum for the program is highly flexible with approved electives from more than 20 academic discipline, allowing a high level of individual tailoring of courses and experiences to accommodate the requirements of different departments and programs.

To date, there are 14 CCOR certificate graduates and 8 current students from medicine and population health, nursing, pharmacy and industrial and systems engineering. Recruitment efforts have targeted these health disciplines, as well as disciplines not commonly associated with the provision of health care, such as education, public policy, anthropology, sociology, social work, and business.

Early-stage scholars have been including this certificate program in their training plan proposals for career development awards (such as K awards from the National Institutes of Health, as well as young investigator awards from other national programs). NIH reviewers have been particularly positive about the CCOR certificate. Since the certificate program began in 2009, the number of certificate students with professional development awards has increased— from one in 2010 to four at present. Over time, we hope that these scholars will become the faculty mentors for the next generation of clinical and translational researchers.

Please feel free to contact me directly if you would like to discuss further.
This form must accompany a capstone certificate proposal. An updated form should be submitted when changes to the certificate are made and when a certificate is reviewed. It is used by administrative offices to better assist departments and programs with implementation. Questions in this form reflect guidelines in the Full Guidelines for For-Credit Certificates, http://apir.wisc.edu/certificates.htm.

**Implementation Form – Capstone Certificates**

Document Date: 8/15/16  
Name of Capstone Certificate: Certificate in Clinical and Community Health Outcomes Research  
Faculty Program Director: Barbara Bowers  
Primary Faculty/Staff Contact: Sharon Schumacher  
Home Department/Academic Unit (Name/UDDS): Institute for Clinical and Translational Research/532940  
Approval Date: 2/18/2009  
School/College: School of Medicine and Public Health  
Approval Date: 2/18/2009  
GFEC Approval Date: 4/23/2009  
UAPC Approval Date: 4/23/2009  
Implementation Term (typically the fall term after UAPC approval): Fall 2009  
Year that first program review is scheduled (usually 5 years after implementation): 2014–15

**Information to be completed by RO and APIR:**

Plan Code (assigned by the Registrar’s Office):  
CIP Code (assigned by Academic Planning and Institutional Research):  
Primary Divisional Disciplinary Assignment (assigned by APIR for analysis purposes only):  

**Curriculum (9-12cr)** - List of required and elective courses and any other program requirements:

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<th>Curriculum</th>
<th>Cr. Hrs.</th>
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<td>POP HLTH 709 Translational and Outcomes Research in Health and Health Care</td>
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<tr>
<td>Choose from elective area: Working with Communities.</td>
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<tr>
<td>Choose from elective area: Quantitative Methods Relevant to Translational and Outcomes Research</td>
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<td>Seminar</td>
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<tr>
<td>Project</td>
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<td><strong>TOTAL CREDIT HOURS</strong></td>
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Learning Goals:
List 1 to 5 certificate learning goals:

The student will demonstrate through the required certificate project an understanding of the following clinical and community outcomes research principles and methods.

1. Develop a research question about a health concern of an actual community.
2. Select an evidence-based approach to addressing the health concern.
3. Involve investigators from two or more disciplines and/or stakeholders from two or more sectors as partners in the project.
4. Demonstrate an understanding of collaboration skills for sustainable partnerships, e.g., benefits to the community partner(s) are built into the project; evidence of partner input to project design.
5. Employ data gathering and analysis methods that respect community partners’ organizational culture, values, staffing, and work flow.

Projections for annual enrollment: 2–5 new admits

Specify overlap provisions – name degree/major, minor or certificate programs that a student may have previously earned that disqualify them from being admitted to the capstone certificate program.

None

<table>
<thead>
<tr>
<th>Please answer the following:</th>
<th>Yes</th>
<th>No</th>
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<tr>
<td>Confirm that the capstone certificate is open to only non-degree seeking University Special students who hold a bachelor’s degree.</td>
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</tr>
<tr>
<td>Confirm that all credits are required to be earned in residence at UW-Madison.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Will there be limits on number of students who can enroll?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>If Yes, please explain: No more than 10-to-15 students is the best fit in relation to teaching capacity of the intro course (POP HLTH 709) and supervision of projects by faculty advisers.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Confirm that all core/required courses are approved through the school/college curriculum committee.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Confirm that courses in curriculum are offered on a regular basis and have space for students in this program.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Confirm that required courses in the curriculum are numbered 300 or above.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Confirm that courses taken as Pass/Fail or Audit are not included in the curriculum.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Are courses taken Credit/No Credit allowed?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>If yes, specify limits:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirm that special topics courses are only used if all instances count for the certificate.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Confirm that, at a minimum, C grades must be earned on all course work attempted for the capstone certificate program. (Only graduate-level work from the capstone that is earned with a grade of B or better is eligible for subsequent application to a UW-Madison graduate degree program.)</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

If other requirements, please specify:
<table>
<thead>
<tr>
<th>Question</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will exceptions to the course core requirements be allowed?</td>
<td>X</td>
</tr>
<tr>
<td>If yes, specify limits and process:</td>
<td></td>
</tr>
<tr>
<td>Confirm that the program/department has a process in place to monitor</td>
<td>X</td>
</tr>
<tr>
<td>student progress and to notify the Registrar’s Office when students</td>
<td></td>
</tr>
<tr>
<td>complete the certificate requirements.</td>
<td></td>
</tr>
<tr>
<td>Assessment plan – confirm that the proposal includes a plan that</td>
<td>X</td>
</tr>
<tr>
<td>describes how the program faculty will regularly evaluate student</td>
<td></td>
</tr>
<tr>
<td>learning.</td>
<td></td>
</tr>
<tr>
<td>Confirm that the program/department understands that international</td>
<td>X</td>
</tr>
<tr>
<td>students who must request a UW-Madison-issued I-20 (for the F-1 student</td>
<td></td>
</tr>
<tr>
<td>visa needed for legal study in the US) will only be eligible to</td>
<td></td>
</tr>
<tr>
<td>participate in the program if it is offered full-time and if the</td>
<td></td>
</tr>
<tr>
<td>program has been approved by the US government to receive such</td>
<td></td>
</tr>
<tr>
<td>international students. If the program is offered entirely online or</td>
<td></td>
</tr>
<tr>
<td>the international student is here legally on another visa (such as the</td>
<td></td>
</tr>
<tr>
<td>JS, H, etc.) and an I-20 from UW-Madison is not needed, then this</td>
<td></td>
</tr>
<tr>
<td>provision does not apply.</td>
<td></td>
</tr>
<tr>
<td>Will this capstone certificate be implemented as a Fund 131 tuition</td>
<td>X</td>
</tr>
<tr>
<td>program?</td>
<td></td>
</tr>
<tr>
<td>If yes, has a budget been developed with the Division of Continuing</td>
<td>X</td>
</tr>
<tr>
<td>Studies and the sponsoring school/college dean’s office?</td>
<td></td>
</tr>
<tr>
<td>Who is the appropriate school/college contact for questions?</td>
<td></td>
</tr>
<tr>
<td>Institute for Clinical and Translational Research/School of Medicine</td>
<td></td>
</tr>
<tr>
<td>and Public Health</td>
<td></td>
</tr>
</tbody>
</table>
Implementation Form – Graduate/Professional Certificates

This form must accompany a graduate/professional certificate proposal. An updated form should be submitted when changes to the certificate are made and when a certificate is reviewed. It is used by administrative offices to better assist departments and programs with implementation. Questions in this form reflect guidelines in the Full Guidelines for For-Credit Certificates, http://apir.wisc.edu/certificates.htm.

Document Date: 8/15/16
Name of Graduate/Professional Certificate: Certificate in Clinical and Community Outcomes Research
Faculty Program Director: Barbara Bowers
Primary Faculty/Staff Contact: Sharon Schumacher
Home Department/Academic Unit (Name/UDDS): Institute for Clinical and Translational Research/532940
Approval Date: 2/18/2009
School/College: School of Medicine and Public Health
Approval Date: 2/18/2009
GFEC Approval Date: 4/23/2009
UAPC Approval Date: 4/23/2009; rename approved 4/17/2014
Implementation Term (typically the fall term after UAPC approval): Fall 2009
Year that first program review is scheduled (usually 5 years after implementation): 2014–15

Information to be completed by RO and APIR:
Plan Code (assigned by the Registrar’s Office):
CIP Code (assigned by Academic Planning and Institutional Research):
Primary Divisional Disciplinary Assignment (assigned by APIR for analysis purposes only):

Curriculum:

<table>
<thead>
<tr>
<th>Curriculum</th>
<th>Cr. Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>POP HLTH 709 Translational and Outcomes Research in Health and Health Care</td>
<td>3</td>
</tr>
<tr>
<td>Choose from elective area: Working with Communities.</td>
<td>2-3</td>
</tr>
<tr>
<td>Choose from elective area: Quantitative Methods Relevant to Translational and Outcomes Research</td>
<td>3</td>
</tr>
<tr>
<td>Choose from elective area: Qualitative Methods Relevant to Translational and Outcomes Research</td>
<td>3</td>
</tr>
<tr>
<td>Seminar</td>
<td>1</td>
</tr>
<tr>
<td>Project</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL CREDIT HOURS</td>
<td>14-15</td>
</tr>
</tbody>
</table>

Projections for annual enrollment: 2–5 new admits
**Learning Goals:**

List 1 to 5 certificate **learning goals**:

- The student will demonstrate through the required certificate project an understanding of the following clinical and community outcomes research principles and methods.
  1. Develop a research question about a health concern of an actual community.
  2. Select an evidence-based approach to addressing the health concern.
  3. Involve investigators from two or more disciplines and/or stakeholders from two or more sectors as partners in your project.
  4. Demonstrate an understanding of collaboration skills for sustainable partnerships, e.g., benefits to the community partner(s) are built into the project; evidence of partner input to project design.
  5. Employ data gathering and analysis methods that respect community partners' organizational culture, values, staffing, and work flow.

---

**Please answer the following:**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will there be limits on enrollment?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>If Yes, please explain: No more than 10-to-15 students is the best fit in relation to teaching capacity of the intro course (POP HLTH 709) and supervision of projects by faculty advisers.</td>
<td></td>
<td></td>
</tr>
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<td>Confirm that all core/required courses are approved through the school/college curriculum committee.</td>
<td></td>
<td>X</td>
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<td>X</td>
</tr>
<tr>
<td>If yes, specify limits:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirm that special topics courses are only used if all instances count for the certificate.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Will the certificate use the typical minimum GPA requirement of 3.0 for all course work for the certificate?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>If no, specify other requirements:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Will exceptions to the course core requirements be allowed?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>If yes, specify limits and process:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirm that at least 50%/half of the credits must be earned “in residence” at UW-Madison (in residence includes distance/online courses and Study Away/Abroad on UW-Madison courses.)</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Confirm that the program/department has a process in place to report certificate enrollment to the Registrar’s Office.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Confirm that the program/department has a process in place to monitor student progress and to notify the Registrar’s Office when students complete the certificate requirements.</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Confirm that the program faculty and staff understand that a student’s graduation should not be delayed to complete the certificate. | X |

Assessment plan – confirm that the proposal includes a plan that describes how the faculty will regularly evaluate student learning. | X |

Specify overlap provisions – name degree/major, doctoral minors or certificate programs that may not be earned along with the certificate. Note that majors take priority over certificates. (Students may not earn a graduate certificate if they are also earning a post-baccalaureate major/degree or doctoral minor with the same name.)

None

What provisions have you made in the admissions process to gain consent from students’ degree/major program(s) to participate in the certificate program?

Require signature of the student’s degree program adviser on the Certificate Declaration form
Graduate Program in Clinical Investigation

DATE: Dec. 21, 2016
FROM: Faculty Executive Committee, Graduate Program in Clinical Investigation (GPCI)
       GPCI Training Director Robert F. Lemanske, Jr., MD
TO: School of Medicine and Public Health Academic Planning Council
    Care of Andrea Poehling
SUBJECT: Rationale for Continuing the Clinical and Community Outcomes Research Capstone and the
         Fundamentals of Clinical Research Capstone and Fundamentals of Clinical Research
         Graduate/Professional as Separate Certificate Programs

Dear Academic Planning Council Members:

The Executive Committee members of the Graduate Program in Clinical Investigation (GPCI) are the faculty governing body for the following academic programs housed in the Institute for Clinical and Translational Research (ICTR): (1) PhD and MS in Clinical Investigation; (2) PhD minor with a clinical and translational science (CTS) research focus, which we call PhD\textsuperscript{CTS}; (3) Capstone, Graduate and Professional Certificates in the Fundamentals of Clinical Research (FCR); and (4) Capstone, Graduate and Professional Certificates in Clinical and Community Outcomes Research (CCOR). ICTR represents five academic partners: The College of Engineering and the Schools of Medicine and Public Health, Nursing, Pharmacy, and Veterinary Medicine.

Under the University Academic Planning Council definition adopted June 16, 2016, three types of ICTR certificates were identified as being in a low award producing status: graduate/professional and Capstone completers in the FCR and Capstone completers in the CCOR programs. We are writing on behalf of both the FCR and CCOR programs to address this issue as follows. First, we will provide information that supports the unique educational value and career opportunities these programs provide to the university community and the rationale for maintaining both the FCR and CCOR programs as separate entities. Second, we will provide information that addresses why these programs have low enrollment status currently, and our planned corrective measures.

Do the programs fulfill specific academic niches unique to UW-Madison?

- The rationale for continuing both the FCR and CCOR certificate programs as separate entities includes the following. First, the programs fulfill unique academic niches within UW-Madison; second, the demonstrated student need; third, the program’s stable home, faculty commitment, and effort; fourth, the role of the certificate in graduate student recruitment, and fifth, the fact that the Certificate programs are essential to the National Institutes of Health (NIH) Clinical and Translational Science Award (CTSA)-mandated biomedical workforce development programs in ICTR.

- All four Certificate programs – FCR and CCOR Capstone, and Graduate/Professional -- are critical components of the continuum of clinical and translational research training. The Certificates were created in response to a national need for clinicians to be trained to acquire the skills to conduct research on new clinical treatments and health interventions, and to successfully translate these research findings to improvements in patient care.

- The objective of the original FCR Capstone Certificate program, and its subsequent expansion to include professional and graduate students, is to provide formalized training for health care professionals in clinical research methodologies, designs, and statistical analyses.

- In contrast, the CCOR programs are designed to train researchers at early career stages from a variety of disciplines to focus on dissemination and implementation of health and biomedical research findings and solutions to diverse patient populations and communities.

- The Capstone programs reach health professionals who otherwise would have no student relationship with the University.
• The Graduate and Professional programs reach graduate and professional students who apply clinical and translational science to their field of study; that is, the conduct of research that is designed from the start with an eye toward the patient populations that eventually would benefit.

Do the programs address student needs?

• Currently the Graduate Program in Clinical Investigation (GPCI) has 21 graduate students, 26 Certificates students, and 10 PhD recovered students (see table below). The educational programs within ICTR, both for credit and non-credit, provide a purposeful array of options for a variety of students interested in advancing their education in various aspects of the clinical and translational continuum. The Certificate programs play a critical role in contributing to this continuum and their loss would introduce a gap that cannot be filled through other courses. Indeed, the curriculum of the FCR certificate program constitutes the didactic foundation required of all students enrolled through the NIH CTSA-funded TL1 predoctoral (existing) and postdoctoral (new and projected to begin in July 2017) programs.

<table>
<thead>
<tr>
<th>DEGREE</th>
<th>CURRENT STUDENTS</th>
<th>GRADUATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD CI</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>MS CI</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>PhD recovered</td>
<td>10</td>
<td>26</td>
</tr>
<tr>
<td>FCR Certificate</td>
<td>16 (13 Capstone, 3 Grad/Prof')</td>
<td>22</td>
</tr>
<tr>
<td>CCOR Certificate</td>
<td>10 (5 Capstone, 5 Grad/Prof')</td>
<td>16</td>
</tr>
</tbody>
</table>

• Based on new initiatives created in the recent CTSA renewal request for applications (RFA), we feel confident that the low enrollment status of the Graduate/Professional FCR program will be corrected. Importantly, NIH funding of ICTR for the five-year renewal starting in mid-2017 hinges on providing the didactic foundation (the FCR Certificate) for TL1 program predoctoral (PhD CI and PhD recovered) and postdoctoral trainees. The newly created postdoctoral training program will increase the pool of students who will complete the FCR Certificate 13-15 credit requirement by approximately 3-4 students/year.

• For the Capstone FCR program we are addressing the low enrollment status in three ways. First, through personal and widespread (six ICTR academic partners) faculty recruitment of potential scholars among Wisconsin working health professionals, with future funding allowing expansion to out of state. Second, by increasing visibility on our recently revised and updated ICTR website. Third, through direct marketing in person and promotional materials to fellowship programs in academic partner schools and colleges.

• Regarding low enrollment status in the Capstone CCOR program, we are working on a number of factors that we consider relevant to this problem. Most Capstone students are engaged in clinical practices that make it difficult for them to attend timetable courses. To make it easier for this group to enroll in the methods courses required for the certificate, we’re exploring the feasibility of packaging online lectures, readings, and assignments into asynchronous, online, credit-bearing courses on 1) qualitative research methods for health services research and 2) dissemination and implementation research methods. This alternative course access approach is in response to feedback from current and past Capstone certificate enrollees.

• The certificates are crucial for recruitment of Clinical Investigation Program graduate students. Among all alumni and current students, 62% of MS students and 24% of PhD students in Clinical Investigation started as Certificate students. When students move from the certificate to the graduate program, they become “non-completers.” The ability of the Certificate Programs to serve as an initial step towards the subsequent pursuit of advanced graduate degrees should be considered as one of their assets and not as criteria for their discontinuation.
- We did not realize at the inception of the GPCI how valuable the Certificates would become for graduate program recruitment. Indeed, clinical Investigation MS and PhD students tend to begin the GPCI as potential Capstone Certificate earners. Prospective students know they are interested in more training about clinical research, but they do not yet know whether they will pursue formal or even further training. Since many of our scholars are working health professionals and/or junior faculty, they are unsure of the practicality of coursework with other responsibilities. These students are not required to notify the program to enroll in a course as a Special Student, and they can complete these courses before declaring either Certificate.

- In addition, in order to allow health professionals time to see whether taking a course fits into their professional and personal lives, the bar for admission to a Certificate program is lower than that for Graduate Schools; the online application is shorter, and there are fewer letters of recommendation. This ability to explore the courses is eminently helpful for working health professionals for whom the programs are designed.

- Certificate students go on to earn other graduate degrees at UW-Madison. Among students who are counted as Certificate non-completers, three went on to earn other degrees: the MPH, MS in Educational Leadership and Policy Analysis, and Kinesiology. An FCR non-completer is pursuing the PharmD; another completed the FCR and went on to earn an MS in Population Health Sciences.

- All of these factors indicate that the certificate programs can serve multiple purposes for workforce development along the clinical and translational spectrum and graduate education in general. As such, they should be given more time to flourish.

**What is the program’s academic home and faculty commitment?**

- The ICTR is committed to hosting the Certificate programs. Faculty from the ICTR partner schools and college are committed to the students, as demonstrated by their active service as primary mentors, degree committee members, program governing committee members, and lead course faculty and/or lecturers in required courses. Some 142 faculty members were involved in these varied activities from 2009 through 2014 (source: Executive Committee review of GPCI faculty)

- Leaders of many fellowship training programs now recommend certificate level training at a minimum, for health care professional fellows and trainees.

- Capstone Certificate program participants include junior and mid-level faculty, fellows, research assistants and research program managers, and scientists. The range of interest among graduate students in the certificate and graduate programs indicates a growing awareness of the value of clinical research training.

**What costs are incurred by the program?**

As detailed in the five-year self-reviews, the estimated annual dollar cost for the four Certificate programs is $87,143, as follows:

- The FCR Certificates budget includes $23,542 for salary and fringe benefits for administration and student services, and $41,383 for instructor and TA salaries and fringe benefits. These TA costs are not exclusively directed to the Certificates. The courses form the didactic foundation for the MS, PhD in Clinical Investigation, PhD<sub>CTS</sub>, and the future postdoctoral training program and therefore serve a larger constituency. Certificate student enrollment in the courses is a small part of total enrollment.

- The CCOR Certificates budget is $11,218 for administration, and approximately $11,000 for TA costs for one course that also is open to all UW-Madison graduate students with instructor consent.

- In addition, the GPCI recognizes that the certificate programs also incur costs for the School of Medicine and Public Health, the Registrar’s Office, the Graduate School, the Office of the Provost, and others.
Why is merger or discontinuation not productive options?

- The FCR program started in the Biostatistics Department and moved to ICTR in 2007 as a Capstone program. The programs were approved for enrollment of graduate and professional students as well in 2011. Providing a quantitative-based didactic foundation, the FCR program is the predecessor to the whole GPCI (see five-year self-review report, Capstone Certificate in the Fundamentals of Clinical Investigation).

- Meanwhile, the CCOR program started in 2009 for Capstone, graduate, and professional students. Its genesis was a joint venture of several departments focused on qualitative research including health equity research. (see five-year self-review report, Clinical and Community Outcomes Research).

- Merger of the FCR and CCOR certificate programs would be inappropriate, given the differing research needs of the students of the FCR and CCOR programs and the curriculum content of each that addresses different aspects of clinical and translational research and community engagement. Even though the students are engaged in some aspect of the translational research spectrum, the didactic foundations they acquire by completing the certificates are unique and provide them with distinct career opportunities.

- Despite low numbers for Capstone and Graduate/Professional student completers of the FCR and Capstone completers of the CCOR, outcomes for participating students are quite positive, including 197 publications and $5.5 million in external and internal awards.

- Multiple schools and colleges benefit from the FCR and CCOR Certificate programs (source: 2015 report to NIH External Advisory Committee) as demonstrated in the following table:

<table>
<thead>
<tr>
<th>CCOR Student Academic Homes</th>
<th>FCR Student Academic Homes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMPH</td>
<td>14</td>
</tr>
<tr>
<td>SON</td>
<td>12</td>
</tr>
<tr>
<td>SOP</td>
<td>3</td>
</tr>
<tr>
<td>COE</td>
<td>3</td>
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<td></td>
<td></td>
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<td></td>
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</tbody>
</table>

As summarized in our response to the five-year review, we are committed to promoting the Certificate programs for all types of students as a key part of marketing training opportunities within the GPCI and ICTR. Our current priorities are:

- Personal and widespread (six ICTR academic partners) faculty recruitment of potential scholars among Wisconsin working health professionals, with future funding allowing expansion to out of state

- Increased visibility on ICTR revised website

- Direct marketing in person and promotional materials to fellowship programs in academic partner schools and colleges.

In summary, program faculty and staff are committed to Certificate students in the continuum of training; the programs are proving to be an invaluable pipeline to graduate program recruitment; and the programs increasingly attract students who otherwise would have no other training program available. The certificate programs in totality are a critical part of ICTR’s requirements for successful and continued funding via the NCATS Clinical and Translational Services Award.

Do not hesitate to contact us if you have questions.

Sincerely,

Robert F. Lemanske, Jr., MD, Training Director, and
Executive Committee Members of the Graduate Program in Clinical Investigation:

Barbara J. Bowers, PhD, RN, Associate Dean, Professor Nursing SON

KyungMann Kim, PhD (Chair) Professor, Biostatistics and Medical Informatics SMPH

Robert Thorne, PhD (Vice-Chair) Assistant Professor, Pharmaceutical Sciences SOP

Christopher L. Brace, PhD Associate Professor, Biomedical Engineering COE and Radiology SMPH

Murray H. Brilliant, PhD Director, Human Genetics Center, Marshfield Clinic Research Foundation

Ronald Gangnon, PhD Professor, Population Health Sciences SMPH

Karen E. Hansen, MD, MS Associate Professor, Medicine-Rheumatology SMPH

Eneida Mendonça, MD, PhD Associate Professor, Biostatistics and Medical Informatics SMPH

David Rabago, PhD Associate Professor, Family Medicine and Community Health SMPH

Marulasidappa Suresh, DVM, PhD (Invited) Professor, Pathobiological Sciences SVM