**CATALYST Clinical Scholars Program (CCSP)**

**Category 4 Workforce Certificate Proposal**

1. **PROGRAM OVERVIEW**
2. **Program Rationale:** This certificate program targets developing clinician researchers who want to learn and apply skills related to conducting health services research (HSR). In developing the CATALYST Clinical Scholars Program (CCSP), we found that while there are quite a few clinician researchers seeking more education, there is considerable variability in both the time they have available and the desired outcomes of their training. In particular, there is a group of clinician researchers who want to develop the skills needed to succeed in HSR but do not have the time, desire, nor requirement to pursue another degree. While options exist for those who want to pursue additional degrees, there are very few options for those who do not.

In some cases, the most important skills needed to become an effective health services researcher in a specific area of interest do not require completion of 30 credit hours of coursework. The CCSP allows interested learners to complete a streamlined, purposeful training while being provided with the support necessary to begin to develop a research program. Our desire to establish this CCSP certificate program is in response to the increasing demand from clinical fellows and early career faculty members. We aim to establish a non-credit training program option targeted primarily toward professionals seeking to earn a workforce development Certificate of Completion with the completion of continuing education training in HSR through participation in all the core components of the CCSP.

1. **Program Goals:** The goal of the CATALYST Clinical Scholars Program (CCSP) is to prepare, develop, and mentor clinician researchers to engage in robust health services and implementation science research. Clinical Scholars complete the core training curriculum and receive the necessary support to begin to develop their own research programs. In the CCSP, participants receive close mentoring from experienced Health Services and Implementation Science faculty researchers. Participants also complete a core training curriculum for HSR that leads to the development of a research proposal at the conclusion of the program.
2. **Evidence of Demand:** There is a growing interest in continuing education options in this specific niche as evidenced by CCSP enrollment interest. For the first year of this program, we successfully recruited 8 participants and established the core curriculum. Now in year two, we have 8 new cohort members participating in the CCSP curriculum. By the end of November 2023, with limited recruitment efforts for a year three cohort, we had already received interest from 6 potential candidates. As of April 2024, we have interviewed 12 potential candidates and expect to have a full group of 8 trainees joining for the 2024-2025 cohort. We anticipate that we will continue to have no difficulty recruiting an adequate number of participants, as this engagement has occurred without having a certificate option tied to the program. Our ability to present a workforce certificate option to interested learners will likely increase the appeal of additional training for those considering furthering their education.
3. **Anticipated Enrollment:** We anticipate offering this certificate option to all CCSP participants (currently 6-8 learners per cohort). The CATALYST Health Services Research *Type 4 Workforce Development Certificate* (non-credit track) will be aimed towards those learners who both value the opportunity to learn and grow with a diverse group of learner peers and desire to have a tangible product demonstrating their newly developed competency in HSR-related skills upon completion of their training. Based on current and previous pathways selected by participants, overall enrollment for the *Type 4 Workforce Development Certificate* participants is expected to be 3-5 learners per cohort, with a new cohort beginning each academic year.
4. **Overview of the Curriculum:** The training curriculum for a *CATALYST Health Services Research Type 4 Workforce Development Certificate* has three main components. It is anticipated that this program will take one and a half to two years for a participant to complete.
5. **Seminar in Health Services Research.** This seminar takes place weekly fromAugust through May of the academic year. Following the fall and spring academic calendar, this is a weekly seminar open only to a small group of HSR trainees to facilitate conversation about successful HSR careers, methodologic skills, and essential HSR concepts. The module is designed to expose learners to the entire breadth of health services research. Weekly seminars are given by highly successful HSR faculty from across campus and Nationwide Children’s Hospital and are focused on topics such as the faculty member’s research, career path, and/or a general overview of different areas of HSR. Additionally, scholars participate in workshops spread throughout the year which focus on developing research ideas and specific skills. Seminar sessions also include discussion of the strength of the evidence base underlying conclusions, methodological reproducibility, and responsible conduct of research. The wide variety of invited faculty help trainees develop connections both across campus and across disciplines. Faculty are selected to ensure both methodological and content variety. The small group format facilitates group conversation and the ability for scholars to ask practical questions about how to develop their research careers.
6. **Survey of Quantitative Methods in Health Services Research**. This training module follows the academic calendar and takes place weekly starting in January and ending in May. This semester-length module is designed to enable learners to develop a conceptual understanding of a wide variety of quantitative methods in HSR research and an understanding of how to deal with common study limitations in HSR. Practical techniques for working with data and implementing methods are emphasized in an accompanying weekly lab. This training is offered in the spring, after scholars have learned the basics of statistical inference and regression methods. Specific topics covered include data management and data security fundamentals, reliable data management workflows, core concepts of reproducibility for complex quantitative analyses, multi-level modeling, quasi-experimental methods, methods for causal inference and basics of decision and cost-effectiveness analysis.
7. **Health Services Research Practica.** This takes place over the course of the program and functions much like a supervised research independent study. Over the course of their time in the program, learners are expected to identify and execute three tangible research program-relevant products, such as a grant-writing capstone project. Given that trainees bring different prior experiences to the program, the process will be individualized for each trainee. For all trainees, this will occur in parallel with regular mentor-mentee meetings and/or meetings with mentee training groups.

Examples of tangible products include:

* **Systematic Literature Review**.
* **Data Management and Quantitative Analysis**. In parallel with the Survey of Quantitative Methods module, trainees will be tasked with identifying a dataset that is amenable to answering a research question of interest, and then designing an analytic protocol, cleaning the data, and executing the analysis.
* **Grant-Writing Capstone Project.** The capstone project for each trainee will typically be to write a grant proposal targeting either federal (e.g., K-award) or foundation funding. Given that trainees will bring different prior experiences to the program, the process will be individualized for each trainee.

Minimum requirements for program completion require the learner to attend the sessions for the two core modules (Seminar in Health Services Research and Survey of Quantitative Methods in Health Services Research), completing the required assignments as outlined in the assessment plan (section I), and to successfully complete all three of the practica projects. Flexibility in the program is per mentor discretion. Given that trainees will bring different prior experiences to the program, the process will be individualized for each trainee.

1. **Sample Program Timeline**

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| --- | --- | --- | --- |
| **Year** | **Fall** | **Spring** | **Summer** |
| **1** | * Seminar in Health Services Research | * Seminar in Health Services Research * Survey of Quantitative Methods in Health Services Research | * Practica |
| **2** | * Research Leadership and Team Development for Team Science * Practica | * Practica | * Practica |

1. **Student learning outcomes consistent with level of certificate**

The overall expected outcomes for learners seeking this certificate are:

* + - An understanding of the major core content areas of Health Services Research.
    - A conceptual understanding of basic methodological approaches to conducting Health Services Research.
    - The ability to analyze, discuss and understand professional and ethical norms in Health Services Research.
    - Connections with faculty and students across the campus involved in Health Services Research that foster research collaborations.
    - Practical experience conducting HSR through hands-on workshops (e.g., developing research ideas, designing study protocols, drafting manuscripts, grant development, etc.).
    - General quantitative reasoning skills and understanding of the basics of statistical inference.
    - Ability to use basic statistical software programming in Python or Stata developed through hands-on laboratories.
    - Familiarity with a wide variety of analytic techniques commonly used in HSR.
    - Completion of a research grant proposal.

1. **Admissions Criteria**

Given that this is a non-credit track program and will yield a *Type 4 Workforce Development Certificate*, it does not require graduate admissions. Rather, admission is determined through an application process. **A prerequisite for this program is a** Clinical (e.g., MD, DPT, PharmD) or research (PhD) doctoral degree.

To apply for the program, interested candidates will be required to (1) complete an application through the link on the CATALYST website; (2) submit a CV; and (3) submit a letter describing their career goals, their specific research goals, and their proposed mentorship plan. All applicants will be invited to interview and will be selected based on their qualifications and fit with the program. Applicants who have been selected and are not seeking a concomitant degree will be given the option to pursue the *CATALYST HSR Type 4 Workforce Development Certificate*.

1. **Assessment Plan and Exit Criteria**

A certificate of completion will be provided to enrolled participants after satisfactory completion of the three key components of the program identified above. To satisfy the requirements of the certificate, enrolled participants must complete all course training and the practica with 75% or greater proficiency on tasks assigned in training.

**Seminar in Health Services Research:** Learners will be expected to demonstrate knowledge and understanding of module material by actively participating in module discussions, presenting results of and bringing questions relevant to current research projects, and from discussion of scientific papers during the module. Learners are evaluated based on quality of module participation (70%) and on quality of workshop products (30%).

**Survey of Quantitative Methods for Health Services Research:** Weekly workshops include hands-on assignments based on each week’s workshop and will consist of a lab session that introduces the statistical code necessary to execute a given task and includes the completion of short problem sets. The module will be evaluated based on quality of class participation (50%) and on quality of workshop products (50%).

**Health Services Research Practica:** Learners will be evaluated on their product. Successful completion requires effective completion of projects as determined by research mentors and program leaders. Generally, completion of a project will involve completion of a manuscript draft or a grant application draft.

1. **Anticipated Enrollment:** We anticipate offering this certificate option to all CCSP participants (currently 6-8 learners per cohort). The CATALYST Health Services Research *Type 4 Workforce Development Certificate* (non-credit track) will be aimed towards those learners who both value the opportunity to learn and grow with a diverse group of learner peers and desire to have a tangible product demonstrating their newly developed competency in HSR-related skills upon completion of their training. Based on current and previous pathways selected by participants, overall enrollment for the *Type 4 Workforce Development Certificate* participants is expected to be 3-5 learners per cohort, with a new cohort beginning each academic year.
2. **Adequate Enrollment:**
   1. **Projected enrollment:** We anticipate offering this certificate option to all CCSP participants (currently 6-8 learners per cohort). The CATALYST Health Services Research *Type 4 Workforce Development Certificate* (non-credit track) will be aimed towards those learners who both value the opportunity to learn and grow with a diverse group of learner peers and desire to have a tangible product demonstrating their newly developed competency in HSR-related skills upon completion of their training. Based on current and previous pathways selected by participants, overall enrollment for the *Type 4 Workforce Development Certificate* participants is expected to be 3-5 learners per cohort, with a new cohort beginning each academic year
   2. **Goals of enrollees:** Complete the CATALYST Clinical Scholars Program (CCSP) in order to receive the preparation, development, and mentorship needed to engage in robust health services and implementation science research as well as receive a *Type 4 Workforce Development Certificate* to have a tangible product signifying and describing their training.
   3. **Opportunities for graduates**: Have the opportunity to obtain this unique workforce certificate that gives trainees an opportunity to have a tangible product in recognition of their training. This will not only help provide evidence of this training for tenure and promotion, but can help bolster their applications for HSR-related grant funding.
   4. **Minimum requirements to undertake program of study and admissions policy:** Given that this is a non-credit track program and will yield a *Type 4 Workforce Development Certificate*, it does not require graduate admissions. Rather, admission is determined through an application process. A prerequisite for this program is a Clinical (e.g., MD, DPT, PharmD) or research (PhD) doctoral degree.

To apply for the program, interested candidates will be required to (1) complete an application through the link on the CATALYST website; (2) submit a CV; and (3) submit a letter describing their career goals, their specific research goals, and their proposed mentorship plan. All applicants will be invited to interview and will be selected based on their qualifications and fit with the program. Applicants who have been selected and are not seeking a concomitant degree will be given the option to pursue the *CATALYST HSR Type 4 Workforce Development Certificate*.

1. **Sufficient Resources:**
   1. Adequacy and availability of facilities and staff: CATALYST has allotted space and facilities. This certificate program would be able to use the already acquired facilities and staff.
   2. Projected resource needs and plans to meet those needs: there are no projected additional resource needs.
2. **Justifiable Expenses:**
   1. Additional faculty: no additional faculty are needed to operationalize this certificate of study as the program operates with or without a certificate program.
   2. Course addition or deletions: there are no course additions or deletions needed to operationalize this certificate of study.
   3. Necessary budget adjustments: there are no budget adjustments needed to operationalize this certificate of study.
   4. Available and anticipated funding: the CCSP is funded by through CATALYST and through COM and we will continue to use that funding to offer all the core elements.
3. **Adequate Demand**
   1. As mentioned above, there is a growing interest in continuing education options in this specific niche as evidenced by CCSP enrollment interest and feedback from faculty as we have shared information about the program. We anticipate that we will continue to have no difficulty recruiting an adequate number of participants, as this engagement has occurred without having a certificate option tied to the program. Our ability to present a workforce certificate option to interested learners will likely increase the appeal of additional training for those considering furthering their education.
   2. As HSR is a growing field, we expect the demand to be long term.
   3. CCSP is its own unique program within COM, as such other programs could not meet the demand for this specific workforce certificate.
4. **Competitiveness with other institutions**
   1. While there is a degree granting program with a HSR track (Master of Medical Science), there is not a standalone workforce certificate within the COM. Additionally, the CCSP is a program outside of all other programs within the COM. In that way, there is no overlap with other programs or departments with a specific clinician scholar program focused on HSR within the COM.
   2. This is not a duplication of effort by other areas in the university as it is specific to the College of Medicine CATALYST Clinical Scholars Program.
   3. Other renowned universities across the country have programs designed to support and develop health services researchers. One example is the National Clinician Scholars Program at University of Michigan; completion of this program yields a master’s level degree. Another example is the UCLA Robert Wood Johnson Foundation Clinical Scholars Program which offers their trainees the option of enrolling in a formal master’s degree. Both programs are considered successful and have national level recognition within the field of HSR.
5. **Other Considerations:**
6. We propose this program become effective August 2024, with first certificates to be awarded Spring 2025.
7. There have been no previous submittals of this program.