Translational and Outcomes Research in Health and Health Care
PHS 709

Fall 2018
Mondays, 4 p.m. - 6:30 p.m. (3 credits)
Room 210-05 University Bay Office Building (800 University Bay Dr., Madison WI)
University of Wisconsin-Madison

Course Organizer: Maureen Smith, MD, PhD
Office address: Rm. 210-05 UBOB (800 University Bay Dr., Madison, WI)
Office phone: 608-262-4802
Email: maureensmith@wisc.edu
Office hours: Generally available following class, or by appointment
Prerequisites: No formal prerequisites
Instructors: Maureen Smith, MD, PhD and Andrew Quanbeck, PhD
Facilitator: Tola Ewers, MS, PhD lemewers@wisc.edu (402-613-7589 cell/text)

Course Learning Outcomes

At the end of the semester, students will be able to:

1) Understand and communicate the conceptualization of translational and outcomes research in health and health care.
2) Illustrate basic concepts and methods in translational and outcomes research as applied to current issues in health and health care through creating a proposed study.
3) Demonstrate an understanding of the diverse perspectives on health and health care that can be used to inform translational and outcomes research in different organizations, including those within community settings.

Course Administration and Readings

The instructors will be responsible for all administrative issues and grading. A course Canvas website is set up on the Learn@UW system. This is the electronic course home. The main purpose of this website is its function as a repository of downloadable copies of the course readings and for assignment resources. The readings will be organized by weekly reading assignments. Staying current with assigned readings and participation in class discussions is expected and will be reflected in the individual student component of the mid-semester and final faculty evaluations. Readings listed as “optional” are not required, but do provide supplemental information that may be helpful. Where appropriate, copies of presentation slides will also be uploaded to Canvas, although not all presentations will have slides, so good
note taking will be important. Students may audio record lectures for their own personal use (i.e., not for distribution) with permission of the lecturer. In the event a student expects to be absent, prior arrangements may allow for a digital recording of the class conversation to be made and then posted in Canvas.

This is a 3-credit course. The credit standard for this course is met by an expectation of a total of 135 hours of student engagement with the course learning activities (at least 45 hours per credit), which include regularly scheduled instructor:student meeting times [Mondays, 4:00 p.m. to 6:30 p.m.], reading, worksheet completion, and other student work as described in the syllabus.

**Course Environment and Academic Integrity/Misconduct**

**Collaborative Environment and Academic Misconduct:** This course is designed to facilitate collaborative relationships, and as such, based on responses to the student survey questions submitted at the start of the semester, class members are placed into teams for the two team projects that are carried out over the course of the semester.

Based on the survey answers, efforts are made to pair students who: (1) share a common interest, (2) bring different training/professional/academic backgrounds to the group, (3) possess complementary skill sets/knowledge, and (4) represent various levels of academic development. While these are the ideal team composition guidelines, the variety of students who enroll in this class may preclude the process from meeting all of them.

Effective communication is an invaluable asset for collaborative relationships, and this class will facilitate the development of students’ communication skills. As noted below in the Course Requirements and Evaluation Section, students will be receiving a peer evaluation as a part of their grade; thus, it is recommended that team members decide the criteria they will be using to assess the efforts of team members at the start of the semester. Establishing mutual expectations among members is one strategy for a successful, collaborative relationship. While it is anticipated that there will be a range of academic development levels among students, each member is expected to actively engage in the team projects and weekly class discussions about the project, to the best of their ability, and to not rely on the merit of the participation of other team member(s).

Please refer to this campus [website](#) if you have questions about student misconduct.

**Non-discrimination Policy:** The UW-Madison is committed to creating a dynamic, diverse and welcoming learning environment for all students and has a non-discrimination policy that reflects this philosophy. Disrespectful behaviors or comments addressed towards any group or individual, regardless of race/ethnicity, sexuality, gender, religion, ability, or any other difference is deemed unacceptable in this class.

**Special Needs or Disabilities:** We wish to fully include persons with special needs or disabilities in this course. Please let Dr. Smith know if you need any special accommodations in the curriculum, instruction, or assessments of this course to enable you to fully participate.

**Civility Policy:** Members of the University of Wisconsin-Madison community are expected to deal with each other with respect and consideration. The civility policy for this course promotes mutual respect, civility and orderly conduct among the faculty, teaching assistants, and students. We do not intend this policy to deprive any person of his or her right to freedom of expression. Rather, we seek to maintain a safe, harassment-free work-place for the students, faculty, and teaching assistants. Positive communication is encouraged and volatile, hostile, or aggressive actions and language will not be tolerated. If the civility policy for this course is violated, then the individual is subject to removal from the class and possibly the course altogether. In addition, the proper authorities at the UW Departmental, School, and University levels will be notified of such behavior accordingly and further action may be taken if necessary.

Revised – 09-21-2018
Prerequisites: Students must obtain instructor’s permission to enroll in the class.

Student Evaluation: The grading of this course is based on two elements:

Mid-Semester Team Presentation (300 possible points)

- Teams will be determined by the faculty instructor at the beginning of the course based on survey responses. Teams are requested to exchange phone numbers and e-mail addresses and to schedule meeting times.

- For your team project, you must select a published randomized clinical trial that attempts to determine whether an intervention has a direct effect on physical or mental health. Note that these interventions are not limited to drugs, devices, or procedures but can also include activities such as exercise, weight loss, or meditation. Interventions are excluded that focus on improving health by identifying opportunities for motivating behavior/system change or strategies to encourage behavior/system change.

- At the course midpoint, each team will give a short presentation on the challenges in applying their clinical trial results to improve healthcare delivery and health outcomes. Specifically, it involves identifying the gaps in knowing how to apply the results and describing additional effectiveness and implementation research needed. Each team will have approximately 20 minutes (depending on the number of groups): 15 minutes for the presentation and 5 minutes for questions.

- The final reporting of the grade is a simple total of three components (faculty evaluation of the presentation, peer evaluation, and faculty evaluation of the individual student). Only the total grade is reported. Since the peer evaluation is anonymous, we cannot reveal any of the grades for the three components. Students strongly support this policy.

  ✓ Faculty evaluation of the presentation: The instructors will evaluate the total presentation for the purpose of assigning a team grade. The presentation will be graded on a basis of 0-100 points (with 100 being highest). The team grade for the presentation is awarded to each student on the team. An example of the evaluation form is found in the Canvas Presentation Materials folder.

  ✓ Peer evaluation: Each student is required to evaluate every other member of his/her team. This peer evaluation is worth 100 points. Each student must apportion a fixed number of points to her/his peers. It is the students' responsibility to determine what criterion to use in this apportioning of points. Some of the criteria students may use could be time spent, useful discussion, work on research, work on presentation development, and general organizational skills. The peer evaluation form is posted in the Canvas Presentation Materials folder. The form must be completed and returned at the time of your presentation.

  ✓ Faculty evaluation of individual student: Each student must present a component of the overall presentation. The instructors will evaluate the student on a basis of 0-100. This component of the evaluation will be based on the presentation as well as the student’s previous participation during the course.

- Each student presents their completed evaluation of fellow team members as a “ticket” to the presentation. The evaluation form must be completed and returned prior to the presentation.
Final Team Presentation (300 possible points)

- During the final class, the team project is presented and defended.
- The final team presentation should be a complete analysis of the challenges in applying the results of their chosen clinical trial to improve healthcare delivery and health outcomes. Additional details will be provided after the first presentation. The types of information that will likely be included in the final presentation are:
  - Description of an effectiveness, implementation, and/or policy research project that fills a significant gap identified in the mid-semester presentation.
  - Description of which participants should be involved in the research and how (patients, organizations, consumers, clinicians).
  - Identification and justification of appropriate methods to conduct the research.
  - Identification of possible human subjects or HIPAA concerns.
  - Description of issues in presenting results.
  - Identification of possible barriers to implementation of the results of the proposed research.

- The final reporting of the grade is a simple total of three components (faculty evaluation of the presentation, peer evaluation, and faculty evaluation of the individual student). Again, only total grade is reported. Since the peer evaluation is anonymous, we cannot reveal any of the grades for the three components. Students strongly support this policy.
  - Faculty evaluation of the presentation: The instructors will evaluate the total presentation for the purpose of assigning a team grade. The presentation will be graded on a basis of 0-100 points (with 100 being highest). The group grade for the presentation is awarded to each student on the team. An example of the evaluation form is found in the Canvas Presentation Materials folder.
  - Peer evaluation: Each student is required to evaluate every other member of his/her team. This peer evaluation is worth 100 points. Each student must apportion a fixed number of points to her/his peers. It is the students' responsibility to determine what criterion to use in this apportioning of points. Some of the criteria students may use could be time spent, useful discussion, work on research, work on presentation development, and general organizational skills. The peer evaluation form is posted in the Canvas Presentation Materials folder. The form must be completed and returned at the time of your presentation.
  - Faculty evaluation of individual student: Each student must present a component of the overall presentation. The instructors will evaluate the student on a basis of 0-100. This component of the evaluation will be based on the presentation as well as the student’s previous participation during the course.

- Each student presents their completed evaluation of fellow team members as a ticket to the presentation. The evaluation form must be completed and returned at the time of your presentation.
Course Timeline Overview

Sun., Sept 9  Upload the Student Survey (available on Canvas) by 5 p.m. Please include your last name at the start of the file name.

Mon., Sept 10 First class meeting. Teams for presentations announced. Students should exchange contact information and schedule meeting times.

Wed., Sept 12 Each team uploads a PDF of their article for Worksheet 1 as well as answers to Worksheet 1 Questions 1 to 5 to Canvas by 9 p.m.

Fri., Sept 14 Instructor approval of article or request for different article given; resubmit answers to Questions 1 to 5 for new article, if needed.

Wed., Oct 17 Worksheet 1 to be uploaded to Canvas by 9 p.m.

Fri., Oct 19 Instructors provide feedback on Worksheet 1.

Mon., Oct 22 **Worksheet 1 presentations during class**
Please use the PowerPoint template provided on Canvas as the starting point for your presentation. You may change the titles of the slides, change the slide layout, add graphics, etc. to meet your team’s needs, but the basic points addressed in the template must be included in your presentation. Upload PowerPoint to Canvas by 3:30 p.m.

Wed., Nov 28 Questions 1-4 of Worksheet 2 to be uploaded to Canvas by 9 p.m.

Mon., Dec. 3 Instructors provide feedback on Worksheet 2, Questions 1-4 during class.

Wed., Dec 5 Worksheet 2 to be uploaded to Canvas by 9 p.m.

Fri., Dec 7 Instructors provide feedback on Worksheet 2.

Mon., Dec 10 **Final presentations during class**
Please use the PowerPoint template provided on Canvas as the starting point for your presentation. You may change the titles of the slides, change the slide layout, add graphics, etc. to meet your team’s needs, but the basic points addressed in the template must be included in your presentation. Upload PowerPoint to Canvas by 3:30 p.m.

Sample Group Project Topics

Below are examples of clinical trials. The references below are given only as a starting point for your research. You may use any references of your choosing to identify an appropriate clinical trial.


- Switching to another SSRI or to venlafaxine with or without cognitive behavioral therapy for adolescents with SSRI-resistant depression: the TORDIA randomized controlled trial. Brent D, Emslie G, Clarke G, Wagner KD, Asarnow JR, Keller M, et al. [Find It]

Revised – 09-21-2018
**Introduction**

**Week 1 - Mon, Sept 10 – Introduction to Translational Research**


**Week 1 - Mon, Sept 10 – Clinical and Community Outcomes Research – How?**


Proctor et al. (2012). Writing implementation research grant proposals: ten key ingredients. *Implementation Science.* 7:96. [FindIt] [PubMed]

**Developing the Research Question**

**Week 2 - Mon, Sept 17 – Setting Priorities**


**Week 2 - Mon, Sept 17 – Policy Relevance**


Effectiveness Research

Week 3 - Mon, Sept 24 – Using Informatics to Do High-quality Research
(Guest Speaker – Dr. Beth Burnside @ 4 p.m.)

Elizabeth Burnside is a professor of radiology in the University of Wisconsin School of Medicine and Public Health. She also serves as Associate Dean of Team Science and Interdisciplinary Research for the UW School of Medicine and Public Health and Deputy Executive Director of the Institute for Clinical and Translational Research, funded by the NIH CTSA program, at the University of Wisconsin. Her degrees include an M.D. combined with a master’s in Public Health as well as a master’s degree in Medical Informatics. As a result, her research investigates the use of computational methods to improve decision-making in the domain of breast imaging in the pursuit of improving the population based screening and diagnosis of breast cancer. She has affiliate appointments in the UW Departments of Industrial Engineering, Biostatistics and Medical Informatics, and Population Health Science. Dr. Burnside has published over 90 peer review articles. Her research has secured continuous NIH funding since 2006 garnering a total of $4.6 million in extramural funding. She served as a charter member on the Biomedical Imaging Technology (BMIT) Study Section at the NIH.

Week 3 - Mon, Sept 24 – Effectiveness Research


Week 4 - Mon, Oct 1 – Stakeholder Engagement in Comparative Effectiveness and Patient-Centered Outcomes Research
(Guest Speaker – Dr. Elizabeth Cox @ 4 p.m.)

Dr. Elizabeth Cox is an Associate Professor in the Department of Pediatrics. Her research leverages the voices of children and families to deliver safer, higher quality pediatric care. Her AHRQ-funded trial successfully redesigned family-centered rounds in children’s hospitals to increase patient safety and family engagement. More recently, her PCORI-funded study has engaged children with type 1 diabetes and their parents to tailor diabetes self-management resources to the unique needs of each child and family. Cox is a practicing pediatrician at University Station Clinic and also serves on the Patient-Centered Outcomes Research Institute’s Improving Healthcare Systems Advisory Panel.

Week 4 - Mon, Oct 1 – Comparative Effectiveness Research and Patient-Centered Outcomes Research

Fiallo-Scharer et al. (2017) Design and Baseline Data from a PCORI-Funded Randomized Controlled Trial of Family-Centered Tailoring of Diabetes Self-Management Resources. Contemp Clin Trials, 58:58-65. [Find It]

Patient-Centered Outcome Research Institute (PCORI). [Find it]


OPTIONAL - Chewning et al. (2016) Sustaining Engagement of Blended Stakeholder Boards Across the Research Trajectory Toolkit. UW Health Innovation Program. [Find It]


---

**Implementation Research**

**Week 5 - Mon, Oct 8 – Implementation Research with Healthcare Systems and Providers (lecture by Dr. Andrew Quanbeck)**

Dr. Andrew Quanbeck is a systems engineer and health services researcher in the University of Wisconsin School of Medicine and Public Health Department of Family Medicine and Community Health, where he an assistant professor and the principal investigator on two NIH-funded grants. Dr. Quanbeck earned a PhD in health systems engineering from University of Wisconsin in Madison, WI in 2012. After completing his education, he held an appointment with the University of Wisconsin Center of Health Enhancement Systems Studies (CHESS) as an Associate Scientist. Dr. Quanbeck’s specific professional interests revolve around the topic of implementation science. His current research is focused on implementation of evidence-based practices for the prevention and treatment of addiction in primary care settings. Prior to shifting his emphasis to implementation science, he gained significant research experience on quality improvement in health care.


**Week 6 - Mon, Oct 15 – Implementation Research with Patients**

Damschroder et al. (2009). Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation science*, 4(1), 50. [FindIt] [PubMed]


**Week 6 - Mon, Oct 15 – Implementation Research in Community Settings**  
(Guest Speaker – Dr. Jane Mahoney @ 5:15 p.m.)

Dr. Jane Mahoney is Professor of Medicine, Division of Geriatrics and Gerontology in the School of Medicine and Public Health. She is Executive Director of Wisconsin Institute for Healthy Aging (WIHA), which disseminates evidence-based programs for older adults. Since its founding 4 years ago, the Institute has disseminated proven community-based self management programs across Wisconsin and nationally, focusing on chronic disease, falls prevention, and caregiver well-being. Dr. Mahoney is also Director of the Community-Academic Aging Research Network, a partnership involving WIHA, Wisconsin's aging services network, and University of Wisconsin faculty in community-based participatory research to help develop and test new evidence-based programs for the future. Dr. Mahoney also directs ICTR's D&I Research Resources Core as part of ICTR-CAP. She has conducted randomized trials and currently conducts dissemination research on community-based interventions to decrease falls.


### Week 7 - Mon, Oct 22 – Worksheet 1 Presentations

20-minute presentation with 5 minutes for Q&A; complete peer evaluation forms.

### Research Methods

**Week 8 - Mon, Oct 29 – Community-based Participatory Research**  
(Guest Speaker – Dr. Eva Vivian @ 4 p.m.)

Dr. Vivian is Professor at the University of Wisconsin School of Pharmacy. She received her doctor of pharmacy degree from the University of Illinois College of Pharmacy and a Master of Science from the University of Wisconsin School of Medicine and Public Health. She is certified in diabetes education and advanced diabetes management. She maintains a clinical practice at Access Community Health Centers. Dr. Vivian's research interest focus on identifying disparities in the treatment of hypertension, diabetes, and other chronic diseases among ethnic minorities, particularly African American and Latino American patients and developing and implementing strategies to reduce and eliminate them. Recently, her research has sharpened its focus in response to heightened awareness of the great numbers of children and adolescents who are at special risk of diabetes.

Wallerstein & Duran. (2010). Community-Based Participatory Research Contributions to Intervention Research: The Intersection of Science and Practice to Improve Health Equity. *American Journal of Public Health*, 100(S1), S40-S46. [Find It]


Week 8 - Mon, Oct 29 – Methods for Community Intervention Trials

Week 9 - Mon, Nov 5 – Methods for Experimental and Quasi-experimental Designs/Complex Case Management (Lecture by Dr. Maureen Smith)

Week 10 - Mon, Nov 12 – Methods for Qualitative Data Collection
(Guest Speaker – Dr. Barbara King @ 4 p.m.)
Barbara King, PhD, RN, is an assistant professor at the University of Wisconsin Madison School of Nursing and a former fellow at the William S. Middleton Memorial Veterans Hospital Geriatric Research, Education, and Clinical Center (GRECC) in Madison. Her research examines the functional decline and loss of independent ambulation in older adults during hospitalization. Building on her research findings, her goal is to increase the frequency and duration of older patients’ ambulation while in the hospital through nursing- and system-based approaches to care. Her second line of research focuses on elderly patients’ transitional care from hospital to nursing home, making that shift seamless within continuum of care framework.

Week 10 - Mon, Nov 12 – Methods for Qualitative Data Analysis

Communicating the Results

Week 11 - Mon, Nov 19 – Communicating with Researchers

OPTIONAL - International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals: Writing and editing for biomedical publication. Guidelines on authorship. [Find It]


Week 11 – Mon, Nov 19 – Communicating with Practitioners and Partners (Guest Speaker – Dr. Jennifer Weiss @ 4 p.m.)

Dr. Jennifer Weiss, MD MS, is an Assistant Professor in the Department of Medicine and Gastroenterology. Her research focuses on colorectal cancer screening for both average-risk and high-risk populations. Her research has involved a survey of primary care providers to further understand potential sources of variation in colorectal cancer screening rates. She has worked with the UW Health Colon Cancer Prevention Initiative to develop and implement system-wide colorectal cancer screening interventions. She is interested in identifying patient, provider, and system barriers to colorectal cancer screening and determining if interventions targeted at these barriers are more successful and sustained over time compared to the current approach of broad implementation of interventions. Dr. Weiss is also interested in screening in high-risk patients with hereditary colon cancer syndromes such as Lynch Syndrome and Familial Adenomatous Polyposis.


---

**Partnering to Implement Change**

Week 12 - Mon, Nov 26 – Action Research


[Note: additional information about CBPR can be obtained from a great University of Washington web site and from an AHRQ Evidence Report (#99; Contract No. 290-02-0016) prepared in 2004.]

Kilbourne et al. (2007). Implementing evidence-based interventions in health care: application of the replicating effective programs framework. Implementation Science, 2(1), 42. [Find It]

Proctor et al. (2013). Implementation strategies: recommendations for specifying and reporting. Implementation Science, 8(1), 139. [Find It] [PubMed]

Familiarize yourselves with the 6 steps of intervention mapping outlined on this website.


---

Week 12 - Mon, Nov 26 – Quality Improvement Research


OPTIONAL - Academy of Post Graduate Health Care Education HISC. Healthcare Improvement Skills Center.  [http://www.improvementskills.org](http://www.improvementskills.org)

OPTIONAL - Agency for Healthcare Research and Quality (AHRQ). Researching Implementation and Change While Improving Quality (R18).  [Find It](#)

Review the SQUIRE criteria at this website.

Submit Worksheet 2 Questions 1-4 to Canvas by 9 p.m.

---

### Research Regulations

**Week 13 - Mon, Dec 3 – Human Subjects Research**


OPTIONAL - Collaborative Institutional Training Initiative (CITI) training:  [Find It](#)

**Week 13 - Mon, Dec 3 – HIPAA Regulations**

OPTIONAL - National Institutes of Health (2005). Health Services Research and the HIPAA Privacy Rule.  [Find It](#)

---

### Week 14 - Mon, Dec 10 – Final Presentations

20-minute presentation with 5 minutes for Q&A; complete peer evaluation forms.