



2021 LEAD Capstone Poster Session

Research Education and Training program for
Behavior Change Interventions and
Prevention Studies

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Abstract

Background: Many prevention studies aim to promote positive lifestyle behavior changes, such as increased physical activity and healthy food consumption, through small/large behavior change intervention trials to reduce lifetime risk of cancers and related chronic diseases. The effectiveness of various behavioral interventions has been studied and assessed in terms of short-/long-term and maintained positive behavior changes.

Problem: Due to the complexities of the behavioral interventions, design, development, and evaluation of interventions often require proper research designs and evaluation/analysis approaches that account for the multi-dimensionality and the dynamic nature of interrelated behaviors across the various subgroups of targeted population. Many times, it turns out to be major challenges in this research area, as inappropriate design and process/methods lead to invalid findings/results. Very few intervention development and evaluation frameworks acknowledge or incorporate complexity, and this issue is related to the lack of transdisciplinary and team-science approaches that can best be addressed through integration of biomedical science, health promotion & behavioral sciences and statistical methodology, which is achieved by the formation of strategic partnerships between researchers in these disciplines.

Solution: The proposed project is both innovative and significant because we will accomplish the following: 1) create a paradigm shift in research practice by providing investigators with appropriate way and approach for behavior change intervention from the beginning to the end; and 2) enhance the potential to address the disproportionate burden of chronic diseases by effectively developing/implementing behavioral intervention, properly evaluating its effectiveness, and developing innovative statistical methods/approaches.

Expected results: Together, these features of the proposed project provide significant impact on prevention studies and public health programs.



Objectives

To promote the bridging of basic and applied behavioral research and provide systematic and unified approaches to designing and testing behavior change interventions and prevention studies



Background Information

- Many prevention studies aim to promote positive lifestyle behavior changes, such as increased physical activity and healthy food consumption, through small/large behavior change intervention trials to reduce lifetime risk of cancers and related chronic diseases. The effectiveness of various behavioral interventions has been studied and assessed in terms of short-/long-term and maintained positive behavior changes.
- Research-to-practice gaps in this area have always existed and progress in this subject has been slow.[1] Factors that contribute to this issue include lapses in communication between researchers, and intervention delivery issues such as lack of public awareness, poor financing and a non-supportive political atmosphere. Scientific publications of research on intervention effectiveness do not provide information useful for wide scale public health dissemination.[2] Additional issues include lack of design/evaluation approaches that account for the heterogeneity in populations and effectively target special needs/priorities and help maintain positive lifestyle behavior changes. Once established, prevention programs must be sustained with adequate infrastructure and long-term intensity, requiring substantial resource investment.[3]
- Currently department of Population & Data Sciences is growing, and Research Core has played an important role for various population science projects, however, there is a lack of experts who know how to deal with heterogeneity and multidimensionality of the behavioral measurements and their associations with disease outcome/risk and how to design/evaluate interventions properly. The proposed project will bring compelling opportunities and contribute to addressing these gaps.



Specific Aims

- **Aim 1. Develop course and training programs** To promote the bridging of basic and applied behavioral research and provide systematic and unified approach to designing and testing behavior change interventions and prevention studies
- **Aim 2. Consulting service** To establish procedures for design, data collection/management, data quality assurance, data security, data sharing, documentation, preparation of reports, statistical analysis, dissemination and translational of the findings from behavioral interventions and prevention studies
- **Aim 3. Research** To develop and support innovative methods and approaches for behavioral research



Project Plan

There will be equal focus on training and research while we establish a team of the designated people who will

- design, develop and teach the courses
- create and conduct education/training program design, development and delivery
- provide consulting services on research design, data collection & data management, implementation, evaluation of the intervention effects, and dissemination of the findings
- lead a development of new methodologies for design and evaluation of behavior change interventions
- develop/support grant applications for the related research and training
- produce and provide diverse research workforce, and promote bridging the multidisciplinary investigators
- identify gaps between research and practice in the application of behavioral interventions and prevention studies



Application of What You Learned at LEAD

- Create opportunities for shared benefit
- Learn to say “no” to requests that may delay or compromise your goal
- Understand sources of revenue and resources required to support research



Proposed Budget

- Team will consist of
 - 2 Data Analysts (master level)– 50% FTE each, \$100K
 - 1 Junior Faculty – 10% FTE, \$85K
 - Team Leader – 10% FTE
- Possible sources
 - consulting fee (\$120/hour)
 - grants



Innovation and Significance

The proposed project is both *innovative* and *significant* because we will accomplish the following:

- create a paradigm shift in research and practice by providing investigators with systematic and unified approach to designing and testing behavior change interventions from the beginning to the end; and
- enhance the potential to address the disproportionate burden of cancers and chronic diseases by properly designing and evaluating behavior change interventions and developing innovative methods and approaches for behavioral research.



References

- [1] Mallonee S, Fowler C, Istre GR. Bridging the gap between research and practice: a continuing challenge. *Inj Prev*. 2006; 12(6): 357–359.
- [2] Ginexi EM, Hilton TF. What's next for translation research? *Eval Health Prof* 2006; 29: 334–347.
- [3] Nilsen P. The theory of community based health and safety programs: a critical examination. *Inj Prev* 2006; 12: 140–145