

BENNETT PIERCE PREVENTION RESEARCH CENTER STRATEGIC PLAN 2015

The Bennett Pierce Prevention Research Center's mission is to conduct cross-cutting research, provide training, disseminate knowledge and provide technical assistance to policy makers and communities on the prevention of human problems (behavioral, academic, mental health, and physical health) and the promotion of positive development in children, adolescents, families and communities.

I. Introduction

The Bennett Pierce Prevention Research Center for the Promotion of Human Development (PRC) at Penn State is one of the pre-eminent centers of prevention research in the United States. Our prominence is based on our:

- commitment to engaging in research that examines a wide breadth of domains, outcomes and target populations, as well as the continuum from the biobehavioral health level (genetics and neuroscience) to the community and population levels;
- continuing emphasis on both longitudinal, developmental research and clinical trials to address both risk and resiliency influences and outcomes;
- research portfolio, which consists of foundational research, program development, and intervention/implementation studies funded by federal (e.g., National Institutes of Health, Institute for Education Sciences), state, and foundation sources;
- signature, interdisciplinary research studies and labs;
- focus on underserved, vulnerable, and disadvantaged populations and disparities;
- work with these and other populations in international contexts;
- expertise in community engagement and the dissemination and scaling-up of evidence-based practices (EBPs);
- close association with PA state government and our service to many PA communities and school districts, notably through the work of the EPISCenter and Penn State's Land-grant Cooperative Extension System;
- collaborative culture that facilitates integration and cross-disciplinary work, and enables us to recruit and maintain top-level research scientists; and
- commitment to the development of the next generation of prevention scientists through participation in training grants, mentoring of graduate and post-doctoral students, and involvement of undergraduates in our research and outreach activities.

In an ever-evolving global context of both prevention needs and scientific discoveries, it will be necessary to continue to conduct state-of-the-art research (both basic and translational) and outreach/engagement to maintain our international reputation as a leading-edge center for prevention research. In this next strategic plan period, our overall goal is to exert an impact on the phenomena we study by (a) sustaining and enriching our leadership role in the prevention field; (b) incorporating a new generation of disciplines relevant to prevention science and practice; and (c) extending our reach into international settings.

A. Societal Trends Influencing Our Center's Mission

Our work is responsive to recent scientific discoveries and societal trends that influence center priorities. These include:

- Growing socioeconomic disparities in the U.S. and internationally that continue to affect children's success at school and in life. We will continue to focus on the most vulnerable populations, recognizing the many ecological systems that impact health and development.

- In addition to our long-standing focus on preventing school failure, substance use and other risk behaviors, and promoting family and child well-being, we now focus on preventing obesity and related poor physical and mental health outcomes as they are influenced by similar conditions. Ultimately, our work seeks to promote all aspects of family and child well-being.
- We will incorporate a new generation of neuroscience and epigenetics that has direct import for the development of preventive interventions and prevention-minded public policies that are more directly targeted to the underlying biobehavioral generators of mental, emotional and behavioral problems.
- We will increasingly turn our attention to emerging adulthood given that this is the developmental period during which the confluence of social and neurobiological factors exerts a measurable impact on health and behavioral risk outcomes. This is also the period when behavioral trajectories become entrenched (e.g., transitions from drug abuse to addiction), and when longitudinal intervention studies have potential to identify specific sustainable effects.
- Our continued emphasis on promoting empathy and compassion is driven by the need to create greater personal well-being and social contribution in a world of increasing population diversity and globalization.
- Implementation science has become, in recent years, a rigorous discipline unto itself. Given the criticality of implementation in producing effective interventions, we will increasingly support its inclusion in our research and new recruits.
- In a context of growing globalization and diversity, we are increasing our focus on the cultural relevance and policy implications of our prevention and intervention efforts.
- As governments become increasingly aware of “evidence-based policy,” we focus on the need to work closely with governments and communities to translate current information on best practices and support their capacity to implement and sustain strategies informed by the most current research to improve the public’s health. To facilitate this priority we will also support and increase our capacity to conduct research on economic analysis of prevention practices and policies.
- Finally, recognizing the rapidly-evolving and increasingly sophisticated nature of prevention science and methodology, we invest in the education and training of the next generations of prevention scientists, as well as coordinating prevention training and research activities within the College of Health and Human Development, with other colleges and research units/consortia and with prevention practitioners and policy makers.

Importantly, in addition to being responsive to prevailing research and societal trends, we also intend to influence social and governmental priorities by highlighting and disseminating knowledge regarding the effects of mutable environmental conditions and experiences on child development and family functioning. The recent explosion of scientific findings compels us to recognize and address social factors that directly impact multiple domains of child development (e.g., brain, cognition, affective regulation, social functioning). Proactively influencing the focus of public and private entities based on emerging scientific findings will generate new opportunities for funding and partnerships designed to alleviate conditions that universally contribute to poor outcomes.

B. The Bennett Pierce Prevention Research Center Today

During our first fifteen years, the Bennett Pierce Prevention Research Center has become a national and international locus of research, knowledge, technical assistance, and program development in prevention science and beyond. The Center remains strong in 2015, with several large and continuing grants, in addition to new grants, totaling \$17,720,000 in this fiscal

year; many proposals have been submitted by both veteran and first-time principal investigators, totaling as of May 2015, \$64,536,541 (44 pending).

C. Potential Opportunities and Directions in Next Five to Ten Years

To remain at the forefront of prevention science we need to maintain our high research standards while also being innovative and cognizant of changing social priorities, needs, and new opportunities. Emerging needs and discoveries will continue to inform our work in an effort to exert an impact of prevailing forces that underlie public health. Our expertise in the prevention of problem outcomes for vulnerable children, youth, and families (e.g., substance use, poor social-emotional competence, competent parenting)—and our complementary focus on promoting their well-being—will remain our mission. We plan to further expand upon our mission by disseminating and communicating scientific discoveries to proactively instigate social and health policy reform movements; e.g., contributing to a prioritization of education in high poverty neighborhoods, revising juvenile justice policies to reflect the current state of knowledge about adolescent brain development, and influencing the media to more aptly portray the impact of trauma on child development. We will continue to seek to influence social priorities and trends, setting the bar higher for the care of our children and scaffolding of families through our research.

The strategic plan priorities described below are intended to address the goals and opportunities described above, while accelerating the prevention research cycle and optimizing the sustainability and impact of our work. This overarching theme is broken down into six strategic aims that address different components of the Center's activities.

Research

1. Encourage basic science work that seeks to identify underlying mechanisms (social, behavioral and neurobiological) of behavioral change in response to environmental inputs and intervention to identify novel targets for more effective intervention approaches.
2. Expand intervention program development efforts focused on innovation and entrepreneurship in a digital age, including both new program development and re-engineering existing programs.
3. Expand the PRC's portfolio of research on the facilitators and barriers to the dissemination, implementation, impact and sustainability of evidence-based programs and associated policies, including the development and testing of intermediary infrastructure and other models to support these goals.
4. Extend our intervention efforts to include a focus on emerging adulthood and midlife adult development.

Outreach and Policy

5. Facilitate the transfer of scientific knowledge to public and private sectors by promoting community engagement and outreach with policymakers to ensure our research is timely, relevant, and impactful and to guide policy reform.

Training

6. Develop a more formal and structured role for prevention science in the education of students and post-graduate fellows at Penn State that: (i) leverages university-wide cross-cutting capabilities to foster transdisciplinary skills; (ii) encourages engagement with community stakeholders; and (iii) increases diversity.

These directions will involve a focus on sustainability of programs and policies to benefit children, families, and communities; continued commitments to serving those with the highest needs and to working with diverse populations; and continued commitments to ethical, high-quality scholarship, training, policy, and outreach.

II. New Directions

A. Research

1. Encourage basic science work that seeks to identify underlying mechanisms (social, behavioral and neurobiological) of behavioral change in response to environmental conditions and interventions to identify novel targets for more effective approaches.

The PRC will encourage and incentivize research that attempts to address the question of “What works best, for whom, why and under what circumstances.” This tact requires a reanalysis of existing data and collection of pilot data to support new proposals. Charting change in these conditions can further elucidate mechanisms that mediate proximal and distal behavioral improvements in response to innovative and more targeted programming.

Relatedly, we will also promote research that incorporates recent advances in neuroscience and epigenetics on brain development given its plasticity and “experience-dependence,” as well as their role in subsequent behavioral outcomes. Both approaches afford an unprecedented opportunity to translate findings to real-world settings and alter developmental trajectories. The Program for Translational Research on Neurodevelopment, Adversity and Substance abuse (P-TRANS) will lead this effort by stimulating ideas and interest in faculty and students in the PRC and beyond, developing new collaborations, and providing new cutting-edge capabilities. This novel approach, which requires transdisciplinary teams with a translational purpose, will lead to the refinement of existing interventions and development of novel programs and policies that reinforce adaptive and more normative phenotypes.

2. Expand intervention development efforts focused on entrepreneurship and innovation in a digital age by establishing a Prevention Innovation Laboratory (PIL).

The PIL will focus on the development and testing of new prevention science products, services, and distribution channels. This PIL will provide learning opportunities in innovation and *entrepreneurship* for undergraduate and graduate students, as well as prevention scientists at other institutions and community practitioners. Collaborating with other units within the University will provide important opportunities for us to (1) more rapidly expand our work in innovation, (2) apply innovative methods in intervention design and implementation, (3) embed prevention principles within initiatives in other fields, and (4) cross-train undergraduate and graduate students in prevention and innovation/entrepreneurship.

Over the next five years, the PRC will use the PIL to strategically focus on innovative design with the goal of optimizing interventions by re-engineering or re-designing methods of intervention and intervention delivery to make programs more efficient and cost-effective as well as achieving greater reach and accessibility by target populations in most need. There are multiple points of potential optimization: increasing intervention effect size/potency, developing adaptive interventions, addressing system science/syndemics/aggregated risk, or increasing uptake, reach, cost-effectiveness. This strategic focus will also include optimizing the very process of the production, diffusion and use of prevention discoveries—accelerating the prevention research cycle.

3. Expand the PRC’s portfolio of research to focus on facilitators and barriers to the implementation, dissemination, impact and sustainability of EBPs and associated policies, including the development and testing of intermediary infrastructure and other models to support these goals.

Our work has achieved considerable success in influencing state-level policy to support and scale the use of EBPs, and in doing so has created a unique translational research test-bed for studying dissemination, implementation and sustainability of EBPs and the organizations, communities, and systems in which they operate. In addition the EPISCenter has become an internationally-recognized model for how intermediary

organizations can improve the reach, implementation, quality and sustainability of prevention efforts informed by science. These efforts have established the PRC as a leader in translating research into practice and policy. We want to expand our translation research and practice beyond PA to other states as well as the federal government and internationally, to both focus on improving the health of individuals and communities and more effectively using evidence-based programs and policies. This will require forming new research collaborations across the country, increasing our focus on rigorous implementation to optimize implementation outcomes, and identifying new sources of funding to support replications of our PA successes in other regions.

4. Extend our intervention efforts to include a focus on emerging adulthood and midlife adult development.

To expand our work in this area, we will establish substantial new collaborative projects with the Center for Healthy Aging that would utilize our experience in the design and evaluation of prevention programs and CHA expertise in workplace interventions and processes of daily stress and wellbeing in midlife. Resultant interventions could be implemented in work, household, or community settings and potentially involve intergenerational research.

B. Outreach and Policy

5. Facilitate the transfer of scientific knowledge to public and private sectors by promoting community engagement and outreach with policymakers to ensure our research is timely, relevant, and impactful and to guide policy reform.

During its first fifteen years, the PRC has been at the forefront of translational research involving the dissemination of EBPs throughout PA, and has heavily influenced statewide policy and funding priorities designed to support university-community partnerships and the use of EBPs. Looking forward, we will expand its partnerships with PA agencies through the EPISCenter. We will continue work with Head Start centers, PROSPER dissemination efforts, and explore other partnerships for the delivery, evaluation, and sustainability of EBPs (e.g., Boy & Girls Clubs of America). We also now will incorporate the National Prevention Science Coalition to Improve Lives (NPSC) our reach in terms transfer of information from science to practice and policy and capitalizing on the connections it has with community organizations and policy-makers to increase impact.

C. Training

6. Develop a more formal and structured role for prevention science in the education of all students and post-graduate fellows at Penn State that: (i) leverages university-wide cross-cutting capabilities to foster transdisciplinary skills; (ii) encourages engagement with community stakeholders; and (iii) increases diversity.

The research conducted in the Bennett Pierce Prevention Research Center, and the services we provide, pose outstanding opportunities for students and the professional and educational experiences of post-doctoral fellows. We are in a unique position—given tentacles extending from PRC to other entities across the University—to concertedly focus on increasing transdisciplinary research skills in our students and fellows. We can also provide students with a much-needed opportunity to gain practical experiences through community engagement. We will make a special effort to increase diversity in our student body and that of our faculty.

The PRC could also play an important role if HDFS decides to pursue an Applied Master's degree. Community engagement could be catalyzed through the EPISCenter's activities and resources, and could include: having EPISCenter staff teach HDFS classes and connecting undergraduate and graduate students to community coalitions and program implementations through the EPISCenter.

Facilitators of the Plan

Achieving many of these strategic goals will be accomplished in part by expanding upon collaborative, interdisciplinary research partnerships with other research units at Penn State, other institutions, and internationally, including:

- The Methodology Center in both research and training initiatives.
- The Cooperative Extension System.
- The Clearinghouse for Military Family Readiness
- Public health-oriented faculty in the PSU College of Medicine through the Clinical Translational Science Institute, Cancer Center, and other initiatives
- The Hershey Medical School
- The neuroimaging facility on campus.

In addition, a part-time “New Initiatives Development Manager” will facilitate development of each element of our strategic plan. This position will be focused on identifying transdisciplinary and translational opportunities to build these areas in the PRC. This person will conduct business development analyses, track market trends, establish relationships with potential partners, identify solicitations and requests for applications/proposals, and to make contact with funding agency representatives. Across most funding agencies and many foundations, transdisciplinary teams and translational approaches are increasingly required to boost the practical significance of the research. The federal government is concerned with the public conception that research is “wasteful” if it is not directly applicable to a real world problem. Currently, there are scores of funding opportunities of this nature, including those pertaining to prevention.

PHILANTHROPIC PRIORITIES

The Bennett Pierce Prevention Research Center’s philanthropic priorities complement the significant scientific work conducted with federal and state support. Philanthropic assets, including funding, expertise, and relationships, will extend the Center’s ability to become the preeminent thought leader in prevention science by allowing researchers to (1) increase the breadth of their professional skills and professional networks, (2) engage in early stage innovative, transdisciplinary projects, and (3) use new methods to communicate with critical stakeholders including policy makers, other scientists, consumers and providers of prevention services. Specific priorities are:

1. In order to encourage faculty and students to explore this new direction and offer opportunities to develop new skills and capacities, we request philanthropic support for occasional Professional Development Awards (PDAs), small pilot grants, and Research and Development (R&D) support to students, fellows, and faculty. These funds will be used to incentivize this “mechanism” work and collaborations with P-TRANS investigators, increasing the “win potential” of subsequent collaborative applications, and developing new independent scientists.
2. Fully establishing the Prevention Innovation Laboratory (PIL) will seek support for a PRC researcher to lead this initiative. In addition we seek funding to create internal 2-year research training awards in Innovation and Entrepreneurship; develop a college-wide graduate-level course in prevention innovation; and lead a prevention-focused minor as part of the Intercollege Entrepreneurship and Innovation (ENTI) Minor initiative. The PIL will seek funding from foundations and other private sector organizations to support innovative collaborative efforts that expand the reach of preventive interventions, policies, and

practices. We are excited that the PIL will focus on the cutting edge of both research and graduate and undergraduate education related to engagement and innovation.

3. Seeking philanthropic support for PRC-based fellowships to study and promote dissemination & implementation in the context of researcher-practitioner partnerships, similar to those currently supported by RWJ, WTG, NIJ, IES and others. These fellowships could be at all levels, from undergraduate to research faculty. Securing this financial support through philanthropic fellowships for pre/post-doctoral fellowships would encourage collaboration with the academic departments to share and co-mentor the students and create stronger connections between classroom and community-engaged study. We would also like to recruit an implementation scientist given the criticality of this process for intervention success, replication, acceptance, and scaling. Such hires could also provide critical training to current staff members (e.g., EPISCenter) and thus multiply the PRC's capacity in these areas. The overall goal is to conduct translational research on dissemination, implementation and sustainability, including research to better understand the implementation contexts of communities, service systems, and provider organizations. Also, the development of infrastructure support to encourage PRC research faculty is needed to include dissemination and translation efforts (including D&I research) in their research projects and proposals.
4. Purchase of a portion of a PRC researcher's time will help to maintain external collaborations both in and outside of Pennsylvania, to include universities, foundations, and other public and private partnerships. Faculty, post-doc, and/or graduate fellowships will be focused on strengthening research/policy partnerships, increasing our understanding of the policy-making environment and informing timely and relevant prevention research. Resources will be needed to support assistance of PRC research faculty in communicating their research to key stakeholder audiences (e.g., the development of brief videos and the use of social media).
5. NPSC will work closely with the PRC and the EPISCenter in particular to obtain foundation grants to support the transfer of scientific knowledge to practice and policy.