Prevention Research Center at UMass Chan Medical School

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2023 Annual Report

FOSTERING PARTNERSHIPS

Leading the way in health promotion research

Stephenie C. Lemon, PhD

Milagros C. Rosal, PhD

Prevention Research Center at UMass Chan Medical School

2023 Annual Report

We are pleased to share the 2023 Annual Report of the Prevention Research Center at UMass Chan Medical School. This year we continued our ongoing projects, engaged in new activities, and celebrated many successes in our center! In this annual report, we share updates on our Core Research Project called BP Control, the PAPREN (Physical Activity Policy, Research and Evaluation Network), and an overview of the BRACE (Building Resilience Against Climate Change Effects). We also share updates on affiliated research and evaluation projects, including research briefs.

Thank you for your continuous support.

Stephenie & Milagros
Directors

2023 Annual Report
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Who we are:
Community Advisory Board, Faculty, Staff

Located in Worcester, Massachusetts, the PRC at UMass Chan (PRC) is one of 26 Prevention Research Centers supported by the Centers or Disease Control and Prevention (CDC). Through academic-community partnerships, we conduct research and provide technical assistance to initiatives that promote the health and well-being of communities. We use a community-engaged approach to partner with people, organizations, health care agencies, departments of public health, and other groups to address real-world public health issues. Our vision and mission guide this collaborative work. Examples of our populations of focus include groups facing health disparities, patients with uncontrolled hypertension at federally qualified community health centers, and youth and families.

Our Vision

To strive towards the optimal health of communities, families, and individuals.

Our Mission

To prevent disease, promote health and advance health equity through the integration of community -engaged research, practice, policy, and education.

The PRC at UMass Chan is a fundamental partner in the collaborative public health ecosystem in Greater Worcester and is a national model for research that connects academia, public health, community, and health care systems. The center is guided by an active Community Advisory Board (CAB). Our CAB is comprised of representatives from various community organizations across the city of Worcester that provide vital community-level information and guidance to ground our work in the local environment and context.

The CAB provides: 1) guidance for our projects; 2) community perspectives on emerging public health trends, priority populations and research ideas; 3) feedback on community-engaged research training programs; 4) assistance for dissemination of products and findings 5) input on identifying and establishing specific collaborators on emerging project ideas; and 6) input for evaluations for the national PRC program office.

We thank our CAB members for their participation and input to inform our projects, generate potential solutions to challenges, and guide our PRC's Translation and Research agenda.

Community Advisory Board

Louis Brady, MBA
President/CEO
Family Healthy Center of Worcester

Casey Burns, MA
Director
Coalition for a Heathy Greater Worcester

Joanne Calista, MSW and Martha Benitez
Center for Health Impact

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REACH Program Manager
Worcester Division of Public Health

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Director of Community Impact
Boys & Girls Club of Worcester

Paul Matthews
Executive Director
The Worcester Regional Research Bureau

Jean G. McMurray
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Worcester County Food Bank

Nikki Nixon, MS
Chief of Research
Worcester Division of Public Health

Directors, Faculty and Staff

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Professor and Chief
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Principal Investigator, BP Control
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Junior Faculty

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Population and Quantitative Health Sciences

Michelle Trivedi, MD
Assistant Professor
Pediatrics

Next Steps for BP Control

BP Control, the Core Research Project of the PRC at UMass Chan, is addressing uncontrolled hypertension, which is a modifiable risk factor for heart disease, stroke, and other devastating conditions. This project is evaluating the health and economic outcomes of implementing an evidence-based intervention to improve adherence to anti-hypertensive medications at two community health centers in central Mass: the Edward M. Kennedy Community Health Center and Family Health Center of Worcester. Our team of PRC and health center leadership and staff adapted an effective approach for identifying patients with uncontrolled hypertension who are not taking their anti-hypertensive medications as prescribed, referring them to a community health worker (CHW) for coaching to improve their adherence to these medications, and facilitating communication among the CHW and other members of the clinical care teams.

In December 2022, we presented a poster titled Electronic Health Record-Assisted Community Health Worker Coaching for Medication Adherence: Adaptation of an Evidence-Based Intervention at the 15th Annual Conference on the Science of Dissemination and Implementation in Health in Washington, DC.

Our team has been planning our final analyses. We will compare data of the two health centers where BP Control is being implemented to the collective data of five other federally qualified community health centers in Massachusetts. The participating health centers are members of the Community Care Cooperative (C3) Accountable Care Organization. We will be looking to see:

- Does BP Control reduce health care costs? What is the return on investment?
- Does the intervention improve blood pressure control among all patients equally? For example, does it help patients of different ages, those who are English- vs. non-English-speaking, and patients with different types of insurance?
- What can we learn about strategies to adopt, implement, and sustain the implementation of this approach in the future?

This study has the potential to make the economic argument that this approach is a cost-effective quality improvement initiative that is effective in increasing equity in hypertension control. It has the potential to address health disparities and improve population health.

Prevention Research Center at UMass Chan Medical School Team

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Project Director

Christine Frisard, MS
Statistician

Core Project

Pilot of Walk Audit Academy Training with Worcester REACH

Walk Audit Academy executes a new cohort-based training program!

Walk audits are a tool for getting community input about walking conditions based on observation and lived experience. This firsthand information can add important detail to more technical information. Walk audit information can be used in several ways: when the city or state asks for public input; to submit a complaint; to connect with other community groups about changing policy or practice; or to test a short-term demonstration of a proposed improvement. Walk audits are often led by outside experts. Learning to plan, conduct, and report on walk audits on their own is a valuable skill for organizations and the community. They become the experts.

The Walk Audit Academy (WAA) is an implementation strategy that supports the translation of our evidence-based framework, Capabilities for Public Health Agency Involvement in Land Use and Transportation Decision Making to Increase Active Transportation Opportunity. WAA is a community capacity-building tool that helps learners move from knowing what they want – a community where people can safely and comfortably walk and roll where they need to go – to knowing how to get there. Grounding planning and implementation efforts in their local context is key to achieving sustainable change. WAA supports local health department and community members' work implementing evidence-based policies that promote physical activity through community design. The Walk Audit Academy consists of a web-based curriculum grounded in experiential learning theory that guides learners in (1) discovering and documenting their local transportation and land use decision-making context; (2) learning walk auditing basics; (3) developing an action plan to leverage or change an existing policy or practice; and (4) implementing and evaluating the action plan.

The PRC at UMass Chan collaborated with WalkMassachusetts, the pedestrian advocacy organization and a founding member of America Walks, and the City of Worcester's CDC-funded REACH (Racial and Ethnic Approaches to Community Health) grant to increase the community's collective ability to improve walking opportunity. Through this collaboration, we developed and pilot-tested a cohort-based walk audit training program that tested the usability of WAA materials and platform. The goal of the program was to enhance community capacity for input on transportation infrastructure change in Worcester based on walk audits. Our training program used the 8-module embedded video series produced by WalkMassachusetts for the larger Walk Audit Academy that guides users in planning, conducting, and reporting on a walk audit. Pilot results indicated high degrees of feasibility, acceptability, and appropriateness of the implementation strategy.

We developed a 4-month, "flipped classroom" program with three virtual 1-hour group sessions interspersed with independent work utilizing the videos, optional Zoom "office hours" for individualized assistance, and a community report-out where teams could showcase their work for officials and community members. The PRC recruited five teams based on community ties. The pilot cohort teams were:

- Worcester REACH - staff and promotoras de salud
- Worcester Division of Youth Opportunities - Bike Safety staff, youth
- Green Hill Neighborhood Association - resident/volunteers
- Main South Community Development Corporation - staff, block leaders
- Central Mass Regional Planning Commission - staff

The Walk Audit Academy held a community report-out event on 1/26/2023 where each team presented their final product. Teams had flexibility in format, such as slide show or video. The event was attended by over 50 people including City of Worcester officials, who connected th e program with their ongoing efforts to improve active transportation in Worcester. We conducted exit interviews with each of the five teams and prepared the final report. We presented the program to the Massachusetts Bicycle and Pedestrian Advisory Board in January 2023, the WalkMassachusetts network in February 2023, and the Active Living Conference and the Central Massachusetts Metropolitan Planning Organization Advisory Committee in March 2023.

Report out of the Walk Audit Academy

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Project Director

Updates from the Physical Activity Policy Research and Evaluation Network (PAPREN)

The PRC at UMass Chan, together with the PRC at the University of Illinois Chicago, is the Coordinating Center for the Physical Activity Policy Research and Evaluation Network (PAPREN), funded by the Centers for Disease Control and Prevention. Currently in its fifth year, PAPREN is a collaborative space for researchers, planners, engineers, policy makers, green space managers, advocates, health professionals and others interested in evaluation research that addresses key evidence gaps and implementation research. They are interested in identifying evidence-based strategies that improve practitioner capabilities and translation to practice. With approximately 1000 members, half of whom are from the practice and government sectors, the Network offers ongoing opportunities for learning and collaboration. PAPREN is the research partner of the Active People, Healthy Nation^{SM} initiative of the CDC.

Recent highlights include:

- Grand Rounds presentations: innovative physical activity surveillance; whole community approaches to increasing physical activity among children and youth; PAPREN work group projects; and physical activity, climate justice and planetary health.
- Network meetings featuring an introduction to implementation science and the technical assistance available through Active People, Healthy Nation^{SM} partners to help communities access federal infrastructure funding.
- Products of Work Groups and collaborations with Active People, Healthy Nation^{SM} Partners included 21 manuscripts; 9 research briefs and infographics; 1 report for a Partner; 35 completed conference presentations.
- Through our leadership of PAPREN, Dr. Lemon participates in monthly Active People Health Nation^{SM} partners meetings and the annual meeting of the CDC's Division of Nutrition, Physical Activity and Obesity partners. This has allowed our PRC to strengthen our connection with organizations such as the American Heart Association, America Walks and the League of American Bicyclists. Their input has informed two research projects led by the PRC.

PAPREN leadership is spearheading a team that will use an Expert Panel process in 2024 to rank implementation strategies public health stakeholders can use to advance policy, systems, and environmental approaches to increase physical activity.

Prevention Research Center at UMass Chan Medical School Team

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Building Resilience Against Climate Effects (BRACE) Framework

PRC at UMass Chan launches revision of CDC framework that health departments use for climate mitigation and adaption planning

The PRC at UMass Chan is leading a process to revise the BRACE framework developed by the Climate and Health Program (CHP) in the Division of Environmental Health Science and Practice at the Centers for Disease Control and Prevention. Health departments (local, state, and other jurisdictions such as tribes) and their partners use the framework to plan for climate change adaptation and mitigation.

In 2022 the Climate and Health Program decided to revise its original framework to meet three goals: reflect updates in climate science and add mitigation; better meet the needs of diverse communities by integrating justice, equity, diversity, and inclusion principles; and create tools to support BRACE implementation by health departments with varying resources. The project is midway through the two-year revision process.

The BRACE revision is led by a multi-disciplinary partnership of CHP, the PRC at UMass Chan, Climate Equity Policy Center, Health Resources in Action, University of New Hampshire, Public Health Institute, American Public Health Association, and the George Washington University. Funding is provided through the Special Interest Project (SIP) mechanism of the CDC's Prevention Research Centers program. Stephenie C. Lemon, PhD and Karin Valentine Goins are leading our PRC's effort for this work.

The revision process includes engagement of a 32-member Expert Panel that represents health departments with CDC's Climate-Ready States and Cities Initiative (CRSCI) funding, departments without CRSCI funding who have active climate and health programs, frontline climate justice organizations, and climate and health experts. Project deliverables will be the revised framework, an implementation guide for health departments, and ancillary materials for use by partners. One manuscript has already been published, and the PRC participated in a panel about the revision at the 2023 annual meeting of the American Public Health Association.

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A Look into Pediatric High Blood Pressure Guideline Implementation

Melissa Goulding, PhD, MS

Melissa Goulding is a PhD graduate of the Morningside Graduate School of Biomedical Sciences Clinical and Population Health Research Program. Melissa's research interests include chronic disease prevention and health promotion in children with an emphasis on health equity.

An estimated 1 in 30 children in the United States have hypertension, and an additional 1 in 12 children have elevated blood pressure. Together these conditions can be referred to as high blood pressure. High blood pressure in childhood is related to adverse outcomes in child and adulthood including adult cardiovascular disease. Additionally, children who are overweight or obese, or who are of Hispanic or Black race and ethnicity are more likely to have high blood pressure. Therefore, early identification and management of high blood pressure in childhood is a critical public health and health equity issue.

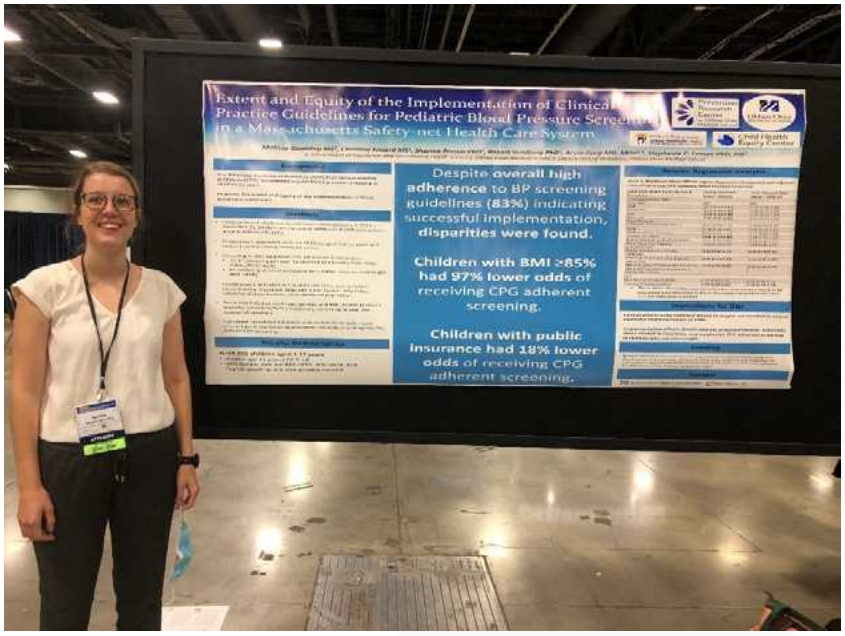
In 2017, The American Academy of Pediatrics (AAP) released updated clinical practice guidelines for pediatric blood pressure screening. These guidelines recommend yearly blood pressure screening for all children and more frequent screening (at every healthcare visit) for children at increased risk for high blood pressure due to conditions such as obesity. The guidelines also recommend follow-up blood pressure measurement after a high blood pressure is detected.

Melissa received a three-year grant from the National Heart, Lung, and Blood Institute to fund her dissertation research which investigated how these guidelines were being followed locally. The first two aims of her recently defended dissertation describe adherence to clinical practice guidelines for blood pressure screening and follow-up within the UMass Memorial Health system, the largest not-for profit health care system in Central Massachusetts.

Melissa's dissertation research found a high level of adherence to the 2017 AAP guidelines, indicating that most children received the recommended blood pressure screening. However, there were observed disparities in receipt of blood pressure screening related to body mass index (BMI) status and factors related to social vulnerability. Melissa's work also found a general lack of follow-up that is recommended by the guidelines.

It is important that clinical practice guidelines are properly implemented to improve patient outcomes and help tackle health disparities. Melissa's research calls to attention important differences in blood pressure screening at the child and clinic levels related to social factors.
It also highlights that efforts are needed to increase follow- up after a high blood pressure screening and that system-level interventions to support clinics' ability to conduct follow-up may best address this need.

Melissa's long-term goal is to equitably improve disease prevention in childhood. Her postdoctoral work will continue to focus on developing interventions to overcome barriers to disease prevention.



Melissa Goulding presenting her work with pediatric blood pressure screening at the 15th Annual Conference on the Science of Dissemination and Implementation (December 2022).

Two of Melissa's research papers on pediatric blood pressure guidelines are featured below:

M., Ryan, G., Frisard, C., Stevens, E., Person, S., Goldberg, R., Garg, A., & Lemon, S. C. (2023). Pediatric High Blood Pressure Follow-Up Guideline Adherence in a Massachusetts Health Care System. Academic pediatrics, S1876-2859(23)00271-1. Advance online publication. https://doi. org/10.1016/ j.acap.2023.07.006

Goulding, M., Ryan, G., Frisard, C., Stevens, E. M., Person, S., Goldberg, R., Garg, A., & Lemon, S. C. (2023). Disparities in Receipt of Guideline–adherent Blood Pressure Screening: An Observational Examination of Electronic Health Record Data from a Massachusetts Healthcare System. The Journal of pediatrics, 261, 113592. Advance online publication. https://doi.org/10.1016/j.jpeds.2023.113592

Prevention Research Center at UMass Chan Medical School Team

Stephenie C. Lemon, PhD
Principal Investigator

Melissa Goulding, PhD, MS
Post-Doctoral Fellow

Seeking to Understand Food Insecurity in Worcester, Massachusetts

Who is experiencing food insecurity? What impacts the ability to access food?

The Worcester community has a long-standing commitment to making sure that everyone in Worcester has enough healthy food to eat. According to the Greater Worcester COVID-19 Survey, the Massachusetts COVID-19 Community Impact Survey, and the COVID-19 Focus Group project, Worcester residents experienced substantial challenges to food access during the pandemic. More than 1 in 5 respondents reported experiencing food insecurity, with rates being greater among Latinx, African American Black and Asian respondents, non-English speakers, and people under age 50.

During the pandemic, Worcester partners coordinated food access for residents facing challenges accessing food for themselves and their families. The group formalized itself as the Worcester Food Insecurity Task Force, housed in the new Center on Food Equity at the Worcester County Food Bank. In early 2023, this task force launched the Worcester Community Food Assessment. Centered on understanding the experiences of people who face food insecurity, the assessment is surveying and conducting community conversations with Worcester residents experiencing food insecurity.

The PRC at UMass Chan is contributing scientific input to the assessment, such as developing and analyzing a survey and Community Conversations with people who face food insecurity. Graduate and medical students are also gaining real-world experiences. PRC Research Coordinator Princilla Minkah is contributing to this project as a part of her Master's in Public Health Capstone for the University of Massachusetts Amherst. Medical students Claire Branley led community conversations with specific populations to assess food insecurity based on shopping patterns and access to food pantries, and Elizabeth Schwartz conducted observations of summer food programs.

Our team is also providing expertise in qualitative and quantitative data analysis through leading rapid qualitative assessment methods to code, analyze, and synthesize the acquired data. The overarching goal of using rapid qualitative methods is to translate data into actionable results to impact practice. The PRC's Dr. Grace W. Ryan, PhD MPH and Dr. Melissa Goulding, PhD, MS held rapid qualitative methods training sessions for the community and UMass Chan staff and students partnering to analyze community conversations.

The report is expected to be released by early Spring, 2024.

Center on Food Equity

Purpose of the Worcester Community Food Assessment is

"To identify opportunities and gaps in the local food system to facilitate decision-making about areas for (big) investments to address food insecurity most effectively in the highest priority areas."

Prevention Research Center at UMass Chan Medical School Team

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Statistician

Princilla Minkah, BA
Research Coordinator

Melissa Goulding, PhD, MS
Post-Doctoral Fellow

Grace W. Ryan, PhD, MPH
Junior Faculty

Accomplishments of the Worcester Racial and Ethnic Approaches to Community Health (REACH) Project

Members of the Latino community in Worcester face many challenges to optimal health. According to the US Census American Community Survey, approximately 21% of Worcester residents identify as Hispanic/Latino, 36% of whom live below the poverty line. As a group, the Latino community faces higher rates of chronic diseases such as high blood pressure and type 2 diabetes.

Funded by US Centers for Disease Control and Prevention, from 2019-2023, the Worcester Racial and Ethnic Approaches to Community Health (REACH) project collaborated with many local partners to create changes in local systems to promote health for Latinos in Worcester, Massachusetts to be healthier. Worcester REACH focused on: 1) improving access to healthy foods; 2) promoting breastfeeding; 3) improving physical activity opportunities by improving parks and making roads and sidewalks safer for walking, biking, and rolling; and 4) increasing referrals to health and preventive programs in the community.

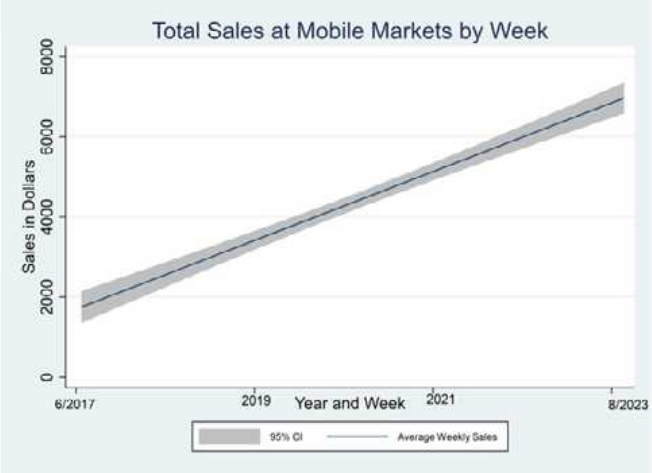
Photo: Canva

The PRC at UMass Chan served as the independent evaluation partner for Worcester REACH.

REACH evaluation results

Increasing sales of fruits and vegetables at mobile farmers markets

Recognizing the importance of making fruits and vegetables affordable and accessible, Worcester REACH partnered with the Regional Environmental Council, Inc. (REC) of Worcester, Massachusetts to help promote mobile farmers markets to deliver produce to under-resourced neighborhoods. Residents accessed this fresh produce in a variety of ways, including with federal Supplemental Nutrition Assistance program (SNAP) benefits and the additional Healthy Incentives Program (HIP). REC held 24 mobile markets from October 2018 – February 2023, selling almost a million dollars ($950,000) of fresh produce, including purchases made with SNAP and HIP. Before the promotion period, sales averaged $2748 per week and almost doubled to $4746 per week after initiation of promotions. This meaningful increase shows that our target population is purchasing more fresh fruits and vegetables at these markets.



REC leveraged funding from multiple sources to bring produce into these neighborhoods. Through established partners and funders, REC will continue to create innovative ways to bring affordable fresh fruits and vegetables to these communities.

Developing a Network to Support Breastfeeding

Photo: Canva

Worcester public health and clinical partners used a data-driven approach to strengthen a network of services to support breastfeeding in Worcester, Massachusetts. From 2018-2023, they collaborated to utilize local data and evidence-based practices to develop and strengthen English and Spanish breastfeeding support services to over 4,000 families, including over 1,700 Latino families. Partners created a network of bilingual, bicultural breastfeeding education and support programs for Latino families at Family Health Center of Worcester (Family Health) and UMass Memorial Health with multiple funding sources. Family Health hired bilingual staff for its Centering Pregnancy prenatal education program, Baby Café breastfeeding support group, and Women, Infant and Children (WIC) program. They offered virtual Baby Café breastfeeding support groups to better accommodate varying family needs. The UMass Memorial Maternal and Fetal Medicine Department offered bilingual lactation support services, hired a bilingual Community Health Worker (CHW) to refer families to community services, and created a special lactation support group for mothers of infants with a cleft lip or palate. The partnership also placed Spanish language ads on local buses to promote breastfeeding. In addition to continuing the current programs, the partnership trained more people to be Certified Lactation Consultants and childbirth support doulas. These efforts strengthened the breastfeeding support services available to Latino families.

Prevention Research Center at UMass Chan Medical School Team

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Faculty and Student Transitions

Dr. Melissa Goulding, PhD, MS

Graduation

Congratulations to Melissa Goulding, PhD, MS who has taken a position as postdoctoral fellow at UMass Chan Medical School. She has earned a spot on the NIH T32 Training Grant, Prevention and Control of Cancer: Training for Change in Individuals and Systems!

Melissa will continue to be mentored by Dr. Stephenie Lemon PhD, MS.

Faculty

Congratulations to postdoctoral fellow, Dr. Grace Ryan, PhD, MPH who has been promoted to Junior Faculty! Grace continues with UMass Chan as an Assistant Professor for the Division of Preventive and Behavioral Medicine, in the Department of Population and Quantitative Health Sciences.

Dr. Grace Ryan, PhD, MPH

Dr. Lori Pbert, PhD

Retirement

Congratulations to Dr. Lori Pbert, PhD, MA on her retirement from UMass Chan.

Lori has been with the university for 35 years and with the PRC for 14 years. Thank you for your dedicated service, Lori!

We wish you well in retirement.

Summer Intern Spotlight

Minerva Adom

This past July 2023, we had the pleasure of hosting Minerva Adom as an intern. Minerva is part of the Eureka program with Girls Inc. of Worcester and participated in their summer externship program. Eureka is a year-round, five-year STEM intensive program that engages and empowers 8th-12th grade girls as they develop confidence and discover leadership and academic opportunities in STEM fields. Minerva is a rising senior at North High School with an interest in Social and Behavioral health and Clinical Health. During her time with the PRC at UMass Chan, Minerva contributed to various projects including the Worcester Community Food Assessment survey, bringing valuable insight and personal experience to the development of the survey. She got the opportunity to network with other interns and took a tour of the iCELs healthcare simulation center to learn more about other things UMass Chan Medical School has to offer. Thanks for spending your summer with us, Minerva!

UMass Chan MEDICAL SCHOOL

Our mission is to prevent disease, promote health and advance health equity through the integration of community engaged research, practice, policy and education.

For more information, visit: www.umassmed.edu/prc

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Research Brief

Empowering Youth Vaccine Ambassadors to Promote COVID-19 Vaccination in Local Communities: A 7-Step Approach

Prevention Research Center at UMass Chan Medical School

Overview

Despite the availability of COVID-19 vaccines for youth since 2021, uptake remains low, particularly among Latinx and African American youth. Addressing vaccine hesitancy remains critical to prevent unnecessary morbidity and mortality from COVID-19 infection.

Researchers wanted to know

- Can youth serve as public health vaccine ambassadors?
- What is the experience of youth serving as vaccine ambassadors?
- How can community organizations support the public health vaccine ambassador approach?

Study

We used a 7-step approach to develop, implement, and evaluate a youth-led ambassador campaign to promote COVID-19 vaccine uptake in communities experiencing COVID-19 vaccine rate disparities in Worcester, MA. The 7-steps included: (1) engaging with key partners; (2) determining a community of focus; (3) identifying trusted sources; (4) determining campaign components; (5) training the vaccine ambassadors; (6) disseminating the campaign; and (7) evaluating the campaign. We trained nine youth as vaccine ambassadors. Ambassadors were guided through self-reflection activities of motivations for COVID-19 vaccination. The resulting personal narratives became the campaign messaging.

Bottom Line

This 7-step model uses personal narratives as the key communication strategy. This model can guide public health campaigns to be grounded in local context and community engagement to best address emergent public health issues beyond COVID-19 vaccination.

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Source
Minkah, P.A., Borg, A., Ryan, G.W., et al. (2023). Empowering Youth Vaccine Ambassadors to Promote COVID-19 Vaccination in Local Communities: A 7-Step Approach. Health Promotion Practice. 0(0). doi:10.1177/15248399231178542

Funding
This publication is a product of a Prevention Research Center and was supported by the Vaccine Confidence Network as part of a cooperative agreement (#6U48DP006381-03-01) from the Centers for Disease Control and Prevention.

Seven-step model for creating a public health ambassador campaign

Poster from the Youth Vaccine Ambassador Campaign

Spotlight on Results

Lessons Learned:

1. **Youth trained on communicating personal narratives can successfully serve as vaccine ambassadors.**
2. **Youth reported that it was a positive experience to serve as vaccine ambassadors.**
3. **Collaborations with community organizations greatly aided the recruitment of ambassadors and broadened the reach of public health materials.**

Call for Action

Training youth as ambassadors to develop and share personal vaccination motivations is a feasible messaging approach. These public health campaigns hold promise for promoting COVID-19 vaccination.

UMass Chan MEDICAL SCHOOL

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For more information, visit: www.umassmed.edu/prc

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Research Brief

Pediatric Guideline Recommended Blood Pressure Screening: Health Record Data from a Massachusetts Healthcare System

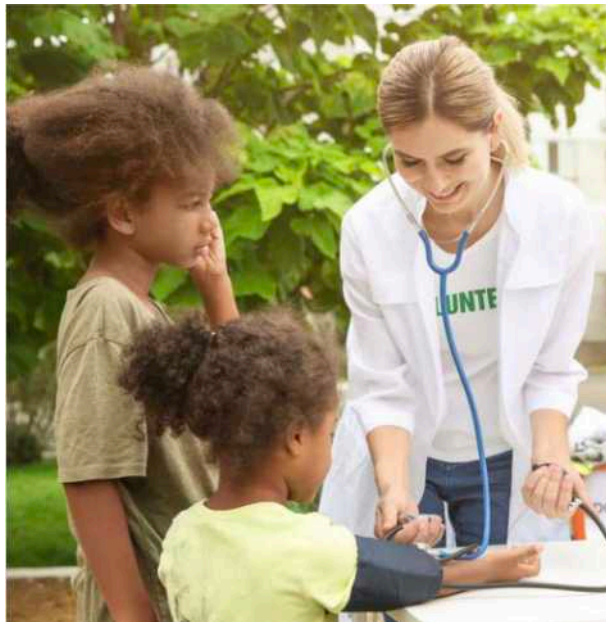
Prevention Research Center at UMass Chan Medical School

Overview

Childhood high blood pressure (BP) is associated with adult cardiovascular disease, and therefore is increasingly seen as a critical public health issue. An estimated 10% of US children ages 8-17 years high BP (BP in the elevated or hypertensive range) and children who are Black or Hispanic are more likely to experience this condition. The American Academy of Pediatrics (AAP) issued clinical practice guidelines in 2017 recommending regular blood pressure (BP) screening in children and more frequent screenings for children at increased risk due to conditions such as obesity. Although in general these BP screening guidelines were followed, important differences were found at both the child and clinic levels related to social factors.

Researchers wanted to know

- How well are these screening guidelines followed in clinical practice?
- How do social factors influence adherence to blood pressure screening guidelines?



Study

This study measured how often blood pressure screening was in line with the 2017 guidelines from the American Academy of Pediatrics which recommend ≥1 BP screening for children with a BMI <95th percentile and BP screening at every healthcare visit for children with a BMI ≥95th percentile. The sample consisted of 19,695 children aged 3-17 years who had been to a healthcare visit at 1 of the 27 pediatric or family medicine outpatient practices within the UMass Memorial Health system between January 1, 2018, and December 31, 2018. The researchers believed that the guidelines would be followed more often than in prior years but there would still be room for improvement. The researchers also suspected that those who experience higher social venerability may be less likely to receive the recommended screening. The study also found a high level of adherence to the 2017 AAP screening guidelines, indicating that most children received the recommended BP screenings. However, there were observed disparities in receiving BP screening which were related to BMI status and social vulnerability factors.

Bottom Line

Prevention and early detection of high bp in children is important. This work highlights the role of guideline adherence in addressing disparities in child hypertension. Improved prevention and management of BP in childhood may positively impact health equity.

Spotlight on Results:

- **89% of children received BP screening at the frequency recommended by the guidelines**
- **The more frequent screening recommendation for children with high BMIs was only received by 57%of such children.**
- **Children with a BMI ≥95th percentile, those with public insurance, and those attending clinics with higher Medicaid populations and larger patient groups were less likely to undergo BP screening that followed guidelines.**

Call for Action

Clinical practice guidelines must be properly implemented because they can improve patient outcomes and help tackle health disparities. Addressing provider time limitations and implementing systems-level interventions is crucial to support adherence. An equity focused approach is also necessary to address social differences that can influence children's health.

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Source
Goulding, M., Ryan, G., Frisard, C., Stevens, E. M., Person, S., Goldberg, R., Garg, A., & Lemon, S. C. (2023). Disparities in Receipt of Guideline-adherent Blood Pressure Screening: An Observational Examination of Electronic Health Record Data from a Massachusetts Healthcare System. The Journal of pediatrics, 261, 113592. Advance online publication. https://doi.org/10.1016/j.jpeds.2023.113592

Funding
This work was supported by the National Heart, Lung, and Blood Institute of the National Institutes of Health under Award Number F31HL164126 (M.G.) and NCI Grant #T32 CA172009 (G.R.). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. The funders did not play a role in the (1) study design, (2) collection, analysis, and interpretation of data, (3) writing of the report, or (4) decision to submit the manuscript for publication.

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Research Brief

Pediatric Guideline Recommended Blood Pressure Follow-up: Health Record Data from a Massachusetts Healthcare System

Prevention Research Center at UMass Chan Medical School

Overview

An estimated 1 in 30 children in the United States have hypertension (high blood pressure), and 1 in 12 children in the US are affected by elevated blood pressure. Children who are overweight or obese, or who are of Hispanic or Black race and ethnicity are more likely to have hypertension or elevated blood pressure. These conditions put children at increased risk for developing hypertension and cardiovascular disease as adults. Therefore, it is important for providers to identify and manage these conditions in children. Diagnosis of elevated blood pressure and hypertension is based on high readings at 3 time points, therefore following up after the first high reading is important. In 2017, the American Academy of Pediatrics (AAP) issued guidelines for clinicians recommending regular blood pressure screening and follow-up, the extent to which these guidelines are followed in clinical practice was unknown.

Researchers wanted to know

- How many children with elevated or hypertensive blood pressure readings received the follow-up care recommended by the AAP guidelines?
- What child characteristics are related to receiving guideline recommended follow-up?
- What clinic characteristics are related to receiving guideline recommended follow-up?

Study

This study analyzed data from UMass Memorial Health (UMMH), the largest not-for profit health care system in Central Massachusetts. The child-level data was from the electronic medical records (EHR) and clinical-level data from the Office of Clinical Integration. The study identified 19,111 children of ages 3 to 17 years who had visited one of 27 pediatric or family medicine clinics in the UMMH system during the first year after the AAP guidelines were released (from January 1, 2018 to December 31, 2018). A total of 4,563 of these children had an elevated or hypertensive blood pressure reading during 2018, requiring a follow-up according to AAP screening guidelines. The first visit when their blood pressure was high was considered their starting point, and we examined data on their visits for one year after that.

Bottom Line

Early recognition of elevated blood pressure and hypertension is important to decrease the risk of cardiovascular conditions in children and improve their overall health. However, fewer than 20% of children in need of follow-up visits to monitor elevated or hypertensive blood pressure readings, received this care. Clinic factors were found to be associated with follow-up visits.

Spotlight on Results:

- **Less than one fifth (17%) of children received a follow-up BP in the timing recommended by the AAP guidelines. Of those whose first blood pressure reading was elevated, more than a quarter (27.4%) had a guideline recommended follow-up, while only 5.4% of those whose first screening was hypertensive had guideline recommended follow-up.**
- **There was an average number of 264 days ± 152 (almost 9 months) between children's first high blood pressure and their first follow-up reading.**
- **Children who were patients at clinics with fewer providers, larger patient panels, and larger Medicaid populations were less likely to receive guideline recommended BP screenings follow-ups. More factors related to clinics, as opposed to the child, were related to receiving blood pressure follow-up.**

Call for Action

Efforts are needed to increased follow-up after an elevated or high blood pressure screening. System-level interventions to support clinics' ability to conduct follow-up may best address this need.

Contact

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Goulding, M., Ryan, G., Frisard, C., Stevens, E., Person, S., Goldberg, R., Garg, A., & Lemon, S. C. (2023). Pediatric High Blood Pressure Follow-Up Guideline Adherence in a Massachusetts Health Care System. Academic pediatrics, S1876-2859(23)00271-1. Advance online publication. https://doi.org/10.1016/j.acap.2023.07.006

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Current Projects

Core Research Project

BP Control: Economic Analysis of the Implementation of a Community Health Worker – Delivered Intervention to Enhance Antihypertensive Medication Adherence in Accountable Care Organizations
As the Core Research Project of the PRC at UMass Chan, BP Control is studying costs, return-on-investment, and blood pressure control among sub-groups of people associated with implementing an effective intervention for promoting adherence to anti-hypertensive medications among patients with uncontrolled hypertension. The intervention will be implemented as standard of care for all patients with uncontrolled hypertension.
PRC Investigators: Milagros C. Rosal, PhD, Stephenie C. Lemon PhD
Partners: Edward M. Kennedy Community Health Center, Family Health Center of Worcester, Inc.
Funder: US Centers for Disease Control and Prevention (CDC) (PI: Rosal)
Dates: 2019-2024

Special Interest Projects (SIPs)

BRACE 3.0: Building capacity of health departments and their partners to address climate and health
This project utilizes community engaged, rapid implementation science methods to develop, field test and disseminate a revised version of the CDC's Building Resilience Against Climate Effects (BRACE) framework (BRACE 3.0). BRACE 3.0 is an evidence-informed approach designed to assist public health officials and their community partners in preparing for the negative health effects of climate change in their communities that aligns with Public Health 3.0.
PRCInvestigator: Stephenie C. Lemon, PhD
Funder: US Centers for Disease Control and Prevention
Dates: 2022-2024

Physical Activity Policy and Evaluation Research Network (PAPREN
This project is the facilitation of a PRC network with three overarching aims: 1) establishing and building capacity among a network of researchers and practitioners who conduct physical activity policy research, 2) providing technical assistance in built environment-related policy activities among recipients of CDC SPAN, REACH and HOP grants, and 3) conducting an applied evaluation research project to understand the long-term influence of master plans on physical activity and associated outcomes and to identify model policies.
PRCInvestigator: Stephenie C. Lemon, PhD
Funder: US Centers for Disease Control and Prevention (PIs: Lemon, Chriqui)
Dates: 2019-2024

Coordinating community-clinical linkages with community health workers to improve health and social outcomes for adults with epilepsy

This project is relevant to public health because because it has the potential to provide a sustainable and transferable model of epilepsy care that could be utilized at: epilepsy centers across the country, community neurology practices, and primary care practices in rural and underserved areas. Such unique models may offer epilepsy patients better disease management, improved quality of life, and a greater ability to reduce upstream health determinants, thereby improving overall health and well-being.

PRC Investigators: Stephenie C. Lemon, PhD (PI of record)

Funder: US Centers for Disease Control and Prevention (CDC) (PI: Chu)

Dates: 2021-2022

Perinatal Psychiatry Access Programs: Evaluating Patient-, Provider-, and Program-level Outcomes Across the US

This project will develop an approach for assessing a model for delivering mental healthcare to pregnant and postpartum individuals being implemented across the United States, Perinatal Psychiatry Access Programs. Findings will be shared with Perinatal Psychiatry Access Programs and key partners to 1) improve Access Programs' programming and evaluation, and 2) to inform policy and funding.

PRC Investigators: Stephenie C. Lemon, PhD (PI of record)

Funder: US Centers for Disease Control and Prevention (CDC) (PI: Byatt)

Dates: 2021-2024

Affiliated Research Projects

PR-OUTLOOK: PR Young Adults Stress, Contextual, Behavioral & Cardiometabolic Risk

This study fills knowledge gaps regarding t he prevalence of cardiovascular disease (CVD) behavioral and cardiometabolic risk factors and overall cardiovascular health (CVH) among young adults in Puerto Rico, by assessing their psychosocial (individual and neighborhood-level) and sociodemographic determinants. It establishes an island-wide cohort of 3,000 young adults (18-29 years old) using a multi-stage sampling of probabilistic plus community approaches; conduct comprehensive assessments (survey, anthropometric, physiological), and establishing a biorepository (blood, hair, saliva, urine) for future longitudinal studies of CVD risk, CVH, and mechanism.

PRC Investigator: Milagros C. Rosal, PhD

Funder: National Institutes of Health (PIs: Rosal, Perez)

Dates: 2019-2024

Translating Research into Practice: A Regional Collaboration to Reduce Disparities in Breast Cancer Care

Translating Research into Practice (TRIP) draws upon the principles of community-engaged implementation science to facilitate deployment and utilization of: (a) regional patient registries; (b) systematic screening for social barriers to care with a referral plan; and (c) patient navigation services into one integrated model of care to improve the quality and effectiveness of care delivery for African American women with breast cancer.

PRC Investigator: Stephenie C. Lemon, PhD

Funder: National Institutes of Health, National Cancer Institute (NCI) (PIs: Battaglia, Freund, Haas, Lemon)

Dates: 2017-2023

Bridging the evidence-to-practice gap: Evaluating practice facilitation as a strategy to accelerate translation of a systems-level adherence intervention into safety net practices

This study tests whether a refined practice facilitation strategy improves fidelity to the implementation of ALMA, an evidence-based intervention targeting adherence to antihypertensive medication among Latino patients with uncontrolled hypertension; and whether the practice facilitation strategy results in improved blood pressure control.

PRC Investigator: Milagros C. Rosal, PhD

Funder: National Institutes of Health, New York University School of Medicine (PI: Schoenthaler)

Dates: 2019-2024

Preventing Childhood Obesity Through Youth Empowerment: A Cluster RCT of the H2GO! Program

This study is a partnership with Boys and Girls Clubs in Massachusetts. It involves testing the effectiveness of a narrative-based youth empowerment intervention for reducing sugar sweetened beverage consumption and obesity.

PRC Investigators: Milagros C. Rosal, PhD, Stephenie C. Lemon, PhD

Partner: Boys and Girls Clubs in MA

Funder: National Institutes of Health, National Institute of Diabetes & Digestive & Kidney Diseases (NIDDK), Boston University-Prime (PI: M. Wang)

Dates:2020-2025

Vaper to Vaper: A Multimodal Mobile Peer Driven Intervention to Support Adolescents in Quitting Vaping

Vaper-to-Vaper (V2V) is a group of mobile tools, such as texting, which are designed for adolescents to help their peers manage their tobacco cravings and quit vaping. The tools building from prior tobacco intervention work.

PRC Investigator: Lori Pbert, PhD

Funder: National Institutes of Health, National Institute on Drug Abuse (NIDA)

Dates: 2021-2023

Public Health Practice

Central Massachusetts Technical Assistance Provider for the MDPH Covid-19 Community Impact Survey
The PRC at UMass Chan is conducting analyses and disseminating data from the COVID Community Impact Survey (CCIS) in Central Massachusetts to describe disparities and/or challenges that were identified for each population of focus in this survey. CCIS is a statewide survey with over-sampling of populations that experienced COVID-19 disparities. The survey documents experiences with the social determinants of health during the pandemic and was designed for communities to use in strategic planning and other efforts.
PRC Investigators: Stephenie C. Lemon, PhD
Funder: Massachusetts Department of Public Health (contract)
Dates: 2021-2023

COVID-19 Case and Vaccination Counting in Central Massachusetts
The PRC at UMass Chan is working with the Worcester Division of Public Health to make daily counts of COVID-19 cases and vaccinations.
PRC Investigator: Stephenie C. Lemon, PhD
Funder: City of Worcester Division of Public Health (Contract)
Dates: 2021-2023

Evaluation of the Worcester Division of Public Health REACH(Racial and Ethnic Approaches to Community Health Project
This sub-contract to the Worcester Division of Public Health's REACH project provides an in-depth evaluation of the REACH program. Evaluation focuses on the implementation of evidence-based policy, systems and environmental strategies to promote health among Latino residents.
PRC Investigator: Stephenie C. Lemon, PhD, Milagros C. Rosal, PhD
Funder: City of Worcester Division of Public Health, US Centers for Disease Control and Prevention (CDC) (PI: Bolen) (Contract)
Dates: 2019-2024

Greater Worcester Regional Youth Health Survey
The survey is administered to middle and high school students in the Greater Worcester Area. It asks about health risk behaviors such as bullying, smoking, alcohol and drug use, food security and others.
PRC Investigator: Stephenie C. Lemon, PhD
Funder: Worcester Division of Public Health (PI: Lemon) (Contract)
Dates:2016-2023

Training Grants

Prevention and Control of Cancer: Training for Change in Individuals and Systems

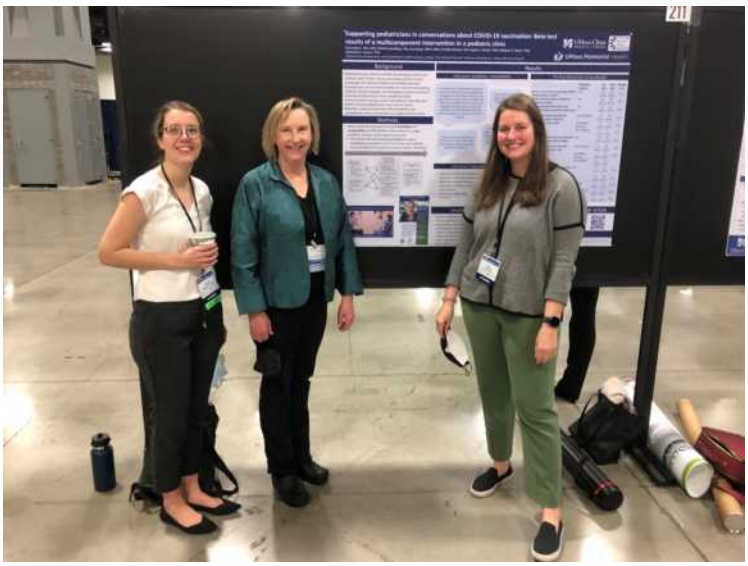
This project continues funding for the PRACCTIS (Prevention and Control of Cancer: Training for Change in Individuals and Systems), a pre- and post-doctoral training program located at the UMass Chan Medical School in partnership with its affiliates: UMass Boston, Baystate Health, Worcester Polytechnic Institute and the Center for Healthcare Outcomes and Implementation Research at the Veteran's Health Administration. The project trains the next generation of scientists to conduct pragmatic research that seeks to promote evidence-based practice along the cancer continuum.

PRC Investigator Stephenie C. Lemon, PhD

Funder: National Institutes of Health, National Cancer Institute (NCI) (PIs: Lemon, Ockene)

Dates: 2019-2024

Grace Ryan, PhD, Melissa Goulding, PhD, Amy Borg, Princilla Minkah, Matilde Castiel, MD, and Domenica Perrone at the 2022 American Public Health Association Conference.



Melissa Goulding, PhD, Amy Borg and Grace Ryan, PhD at the 25th Annual Dissemination and Implementation Conference

Prevention Research Center at UMass Chan Medical School

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This publication is a product of a Health Promotion and Disease Prevention Research Center supported by Cooperative Agreement Number U48DP006381 from the Centers for Disease Control and Prevention. The findings and conclusions in this report are those of the author(s) and do not necessarily represent the official position of the Centers for Disease Control and Prevention.