



Palliative & Advanced Illness Research (PAIR) Center

UNIVERSITY *of* PENNSYLVANIA



Report 2022–2024



Our Mission

We generate high-quality evidence to advance healthcare policies and practices with the goals of improving the lives of all people affected by serious illness and removing the barriers to health equity that seriously ill patients commonly face.

- i.** We design and evaluate interventions that help patients with serious illnesses and their loved ones spend more of their time pursuing their life goals outside of healthcare settings;
- ii.** We produce real-world research that enables health system leaders and clinicians to set policies and implement practices that improve patient outcomes and maximize health equity;
- iii.** Our work guides payers and policy makers in promoting health care services that optimize the quality and equity of care delivery for seriously ill patients.

Contents

Letter from the Director 4

Highlights 5

Research 7

Care Delivery & Outcomes 8

Communication & Decision Making 11

Research Methods & Ethics 14

Training 17

Learning Health System Scientists 18

Postdoctoral Fellows 19

Undergraduate & Medical Students 20

Equity & Belonging 22

Patient, Caregiver, & Community
Voices in Our Research 23

Joint Research Practices
Working Group 26

PAIR Center in the Community 27

Our People 29

Our Core Faculty 30

Our Advisors 32

Our Sponsors 34



Letter from the Director



The calendar turning to 2025 provides a natural time for reflection, and for me, many of my thoughts relate to the accomplishments of the PAIR Center during the past three years. Having emerged from what is likely the most significant pandemic of our lifetimes, the sixth, seventh, and eighth years of the PAIR Center have been marked by continued growth in our portfolio and refinement of our approaches to rigorous, patient-centered research.

During this time, our Center has conducted and published more impactful studies than one might expect for an organization of our size, hired and retained more talented team members than I could have thought possible, and witnessed our early-career faculty

blossom into internationally recognized thought leaders. While I could not possibly list all of our accomplishments, publication of the Randomized Evaluation of Default Access to Palliative Services (or REDAPS) trial—the largest-ever study of palliative care—is among those of which I am most proud. REDAPS encapsulates my hopes for the work of our Center: collaboration with a large health system, sustained contributions from so many members of our team, and the testing of interventions that can be scaled readily to improve the well-being of millions of Americans. Most importantly, the lessons we learned in conducting this flagship study have enabled us to propose and pursue a multitude of even more ambitious projects in health systems across the nation.

Here on campus, we established Penn PORTAL, through which we have brought together more than a dozen centers and departments to accelerate Penn's progress in becoming a true Learning Health System (LHS) in which all patient encounters generate knowledge to improve the care of future patients. In addition to integrating Penn Medicine's research and operations missions, Penn PORTAL is training the next generation of LHS scholars whose

research will improve the health of all patients.

Indeed, this commitment to mentorship has always been at the PAIR Center's core. As our faculty and staff have grown, so too have our abilities to develop undergraduate and medical students, post-doctoral fellows, and newly minted faculty. Watching these remarkable individuals grow, succeed, and impact others is perhaps my greatest privilege. Further, our team has created and sustained a culture of belonging that organizations around campus and the country seek to emulate.

Finally, it is my pleasure to share the launch of the PAIR Center's new web presence at pair.upenn.edu! Curating this online experience has given us the opportunity to reflect and think critically about how we communicate our work, and particularly how we showcase the humans and humanity at the core of all that we do. We are excited to use this new platform to publicize and disseminate our research, forge new partnerships, and create real-world impact in serious illness care through 2025 and beyond.

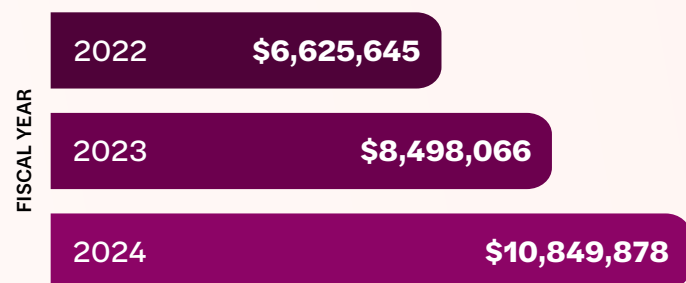

Scott Halpern, MD, PhD

Highlights

Year Founded

2017

Annual Grant Portfolio (total costs)



Core Faculty

10

Affiliated Faculty

42

Trainees

15

Staff

45

Staff Awards



Brian Bayes

Models of Excellence Award, '23
University of Pennsylvania



Vanessa Madden

Leading Edge Award, '22
Perelman School of Medicine
(pictured right)

High-Impact Publications

THE LANCET, SEPTEMBER '24

[Bayesian statistics for clinical research](#)

Michael Harhay

JAMA, JANUARY '24

[Default palliative care consultation for seriously ill hospitalized patients: A pragmatic cluster randomized trial](#)

Kate Courtright, Michael Harhay, Scott Halpern

JAMA NETWORK OPEN, NOVEMBER '23

[Accuracy of expected symptoms and subsequent quality of life measures among adults with COPD](#)

Joanna Hart, Michael Harhay, Scott Halpern

JAMA, AUGUST '23

[Guiding risk adjustment models toward machine learning methods](#)

Gary Weissman

NEW ENGLAND JOURNAL OF MEDICINE, APRIL '23

[Why diverse clinical trial participation matters](#)

Scott Halpern

JAMA INTERNAL MEDICINE, APRIL '22

[How traditional advance directives undermine advance care planning: If you have it in writing, you do not have to worry about it](#)

Catherine Auriemma, Scott Halpern



The PAIR Center Series

The PAIR Center Series features clinicians, scholars, as well as health system and thought leaders at the forefront of serious illness care.

From 2022–2024, the PAIR Center hosted 13 researchers as part of the Series and an additional nine special events with visiting professors and panelists.



Palliative & Advanced Illness
Research (PAIR) Center

Save the Date!

The PAIR Center Series

2024–2025

SPEAKERS



10/1/2024 @ 8:00–9:00 AM

Roy Hamilton, MD

University of Pennsylvania



11/19/2024 @ 8:00–9:00 AM

Tamara Cadet, PhD

University of Pennsylvania



12/3/2024 @ 8:00–9:00 AM

Ruth Masterson Creber, PhD

Columbia University



4/22/2025 @ 8:00–9:00 AM

Eldrin F. Lewis, MD

Stanford University



5/6/2025 @ 8:00–9:00 AM

Carolyn S. Calfee, MD

University of California, San Francisco



6/10/2025 @ 8:00–9:00 AM

Carey Candrian, PhD

University of Colorado

Austrian Auditorium
Clinical Research Building

Zoom ID: 913 6835 2907
Passcode: 573084



Research

Cornerstones of the PAIR Center Approach

At the PAIR Center, we focus on research with practical applications at the patient, healthcare system, and national levels. The cornerstones of our approach include:

- i. Robust real-world evidence*
- ii. Innovative, inclusive methods*
- iii. Scalable interventions*
- iv. Stakeholder engagement*

Using this approach, our research improves clinical practice and healthcare policy within three distinct but interconnected areas.

RESEARCH

Care Delivery & Outcomes

Improving serious illness care delivery and developing patient-centered outcome measures.

PAIR Center investigators explore how patients experiencing serious illnesses—and the sudden medical crises that often complicate such illnesses—can best achieve the outcomes they care about. We seek to improve the responsiveness of health care delivery to the multiple and often nuanced goals of seriously ill patients and to ensure that health care resources are delivered equitably and efficiently.

Read more about our projects in
Care Delivery & Outcomes
on our website.

Expanding access to inpatient palliative care through simple and acceptable clinician nudges

Although inpatient palliative care (PC) consultative services are valued by patients, care partners, and clinicians, evidence has been limited regarding how receipt of PC impacts patient outcomes and what interventions might be deployed to increase the chances that patients receive PC. The REDAPS trial—the largest-ever study of inpatient palliative care—compared a usual care approach to inpatient PC consultations (clinicians must actively request a consult) with a default approach (consults are automatically ordered for eligible patients via the electronic health record unless clinicians cancel the consult order) among 24,065 patients admitted to 11 hospitals across eight states. Default orders tripled PC consult rates, reduced time to consult by more than a day, reduced length of stay among patients who received PC, and increased rates of hospice use and changes in code status without affecting risk

PROJECT

Randomized Evaluation of Default Access to Palliative Services (REDAPS)

PRINCIPAL INVESTIGATOR

Scott Halpern

CO-INVESTIGATOR

Kate Courtright

HEALTH SYSTEM PARTNER

Ascension

of in-hospital death. Interviews with hospitalists from seven hospitals revealed broad acceptance of these default PC consult orders, particularly for patients with dementia.

Read the [full results](#).

Listen to Drs. Halpern and Courtright discuss the trial on the [GeriPal podcast](#) & [CureTalks](#).

“



One of the biggest challenges to improving palliative care delivery is clinicians' difficulty identifying patients most in need of it. The systematic approach we used in REDAPS and have refined in our current trials identifies patients for clinicians and promotes timely palliative care to optimize opportunities for benefit. These low-cost, scalable approaches are easy for health systems to implement and well-accepted among clinicians.

Dr. Kate Courtright

Increasing the odds that critically ill patients receive evidence-based mechanical ventilation

Over one million Americans undergo invasive mechanical ventilation (MV) each year. Setting low tidal volumes—the amount of air per breath delivered by the ventilator—can minimize the risk of injury from MV and even lower the risk of death, specifically for patients with acute respiratory distress syndrome. Despite this evidence and the possible benefit for other mechanically ventilated patients, providers do not regularly set low tidal volumes. In the INPUT trial, Dr. Meeta Kerlin is testing strategies based in the electronic health record (EHR) to guide providers to prescribe low tidal volumes at 12 intensive care units (ICUs) across Penn Medicine. The strategies, or “nudges,” are designed to make low tidal volume settings the easier choice for providers, without restricting their autonomy. The study will report on utilization of low tidal

PROJECT

Implementing Nudges to Promote Utilization of Low Tidal Volume Ventilation (INPUT)

PRINCIPAL INVESTIGATOR

Meeta Kerlin

CO-INVESTIGATORS

Scott Halpern, Michael Harhay

HEALTH SYSTEM PARTNERS

Penn Medicine

volume ventilation, clinical outcomes, and providers’ perspectives on these strategies to inform future trials of EHR-based strategies to increase low tidal volume utilization.

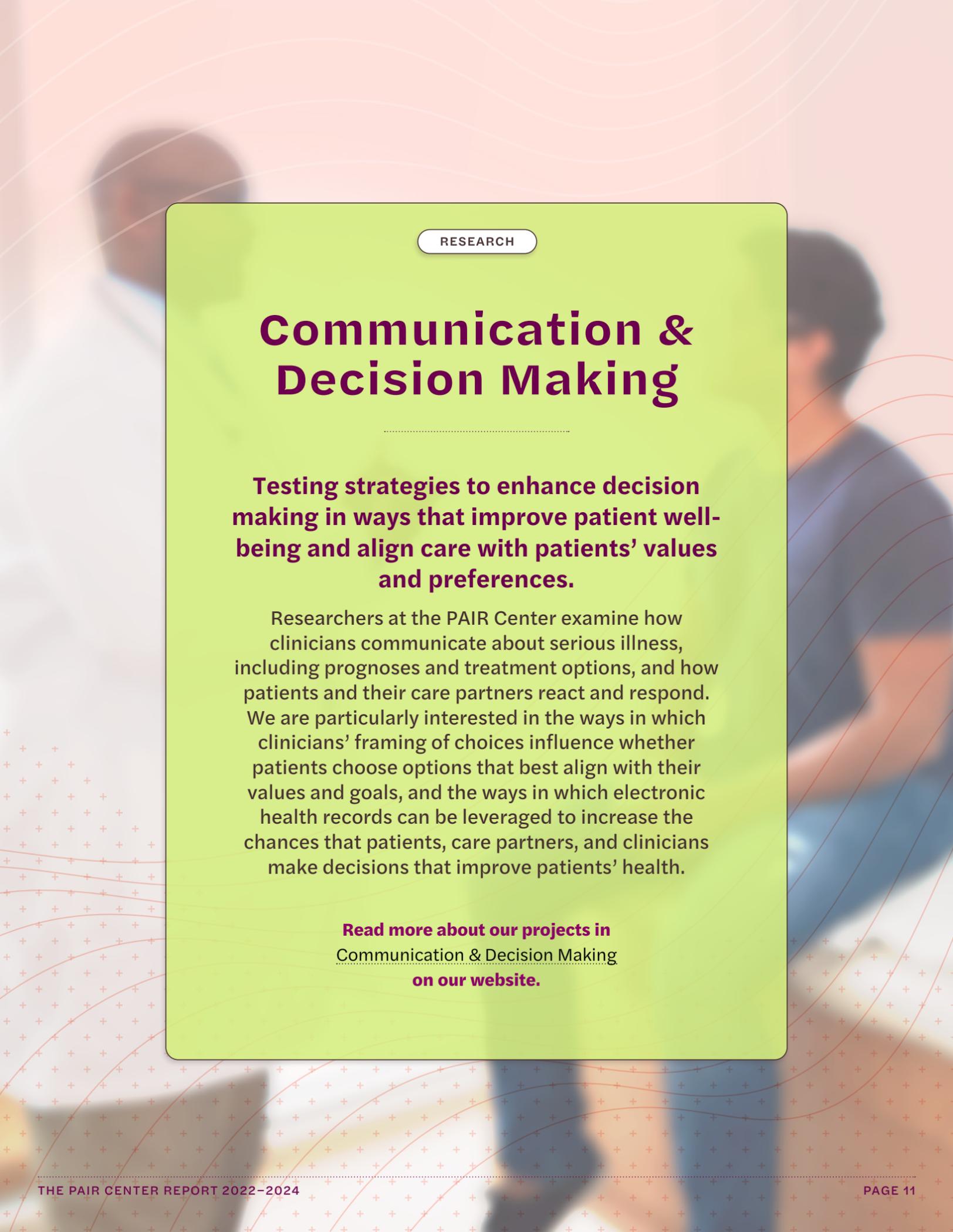
Learn more about [INPUT](#) or read the [study protocol](#).

“



The study was designed to test strategies that are simple, broadly acceptable, and likely to be sustainable at low cost. We obtained input from bedside clinicians to design the nudges, and then sought feedback from clinicians in each ICU as we rolled out the study to add information about feasibility and acceptability to our study results. We hope that this work will help close the gap between the evidence and real-world practice for the inexpensive and potentially life-saving therapy of low tidal volume ventilation.

Dr. Meeta Kerlin



RESEARCH

Communication & Decision Making

Testing strategies to enhance decision making in ways that improve patient well-being and align care with patients' values and preferences.

Researchers at the PAIR Center examine how clinicians communicate about serious illness, including prognoses and treatment options, and how patients and their care partners react and respond. We are particularly interested in the ways in which clinicians' framing of choices influence whether patients choose options that best align with their values and goals, and the ways in which electronic health records can be leveraged to increase the chances that patients, care partners, and clinicians make decisions that improve patients' health.

Read more about our projects in
[Communication & Decision Making](#)
on our website.

Improving well-being by helping patients form more accurate expectations of their future health

In the prior OASIS study, our team demonstrated that patients with chronic obstructive pulmonary disease (COPD) often form unrealistic expectations about their future health and that inaccurate expectations are associated with lower quality of life. Building from this novel set of insights, OASIS 2.0 aims to identify characteristics of 420 patients with severe COPD and their family caregivers that are associated with inaccurate health expectations and to determine how these expectations are influenced by clinicians' communication styles. By following these patients and their caregivers for 15 months using surveys and audio-recorded pulmonary clinic visits, we will identify targets for interventions that help patients manage their expectations and hopefully receive care that aligns with their goals.

Take a look at our [prior work on this topic](#).

PROJECT

Outlook, Actions, and Symptoms among Individuals with Smoking Associated Lung Disease 2.0 (OASIS 2.0)

PRINCIPAL INVESTIGATOR

Joanna Hart

CO-INVESTIGATORS

Scott Halpern, Michael Harhay

HEALTH SYSTEM PARTNERS

Wake Forest Baptist Health, Geisinger Health System, Penn Medicine

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Our work departs from the existing status quo by applying decision theory and family interdependence theories to serious illness, providing the necessary foundation to design interventions that will increase the delivery of goal-concordant care. Our mixed-methods approach enables us to capture actual conversations between patients and clinicians, allowing for new insights into clinical communication and shared decision making.

Dr. Joanna Hart

Enhancing treatment recommendations for seriously ill patients using artificial intelligence

Sepsis and acute respiratory distress syndrome (ARDS) are common serious illnesses that often require invasive mechanical ventilation (IMV), which can be complex and demanding for providers to manage. Artificial intelligence (AI)-based clinical decision support systems (CDSS) offer a promising approach to enhancing IMV management, but need to be evaluated for safety, effectiveness, and usability. Using data from Penn Medicine, Dr. Gary Weissman's team will train and validate an AI-based CDSS to generate treatment recommendations for ventilated patients with sepsis and ARDS. Then, the team will survey critical care clinicians on a series of patient vignettes and treatment strategies that were generated by either the AI-based CDSS or a human clinician. This survey will determine if the AI-based CDSS recommendations are safe, appropriate, and comparable to those of human clinicians.

Read our other work on [regulating AI](#) for clinical decision support.

PROJECT

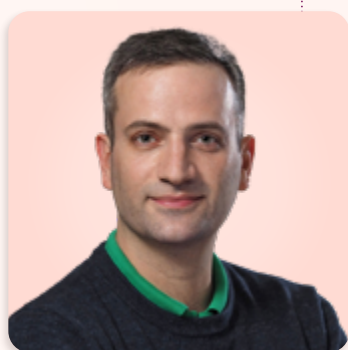
Improving Sepsis Care with AI-Based Clinical Decision Support

PRINCIPAL INVESTIGATOR

Gary Weissman

HEALTH SYSTEM PARTNERS

Penn Medicine



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There is little evidence that AI systems improve clinical decisions or patient outcomes. Despite significant and growing data that AI is likely to exacerbate health disparities, there is even less evidence about the direct effects of AI on people from marginalized groups who are often the most vulnerable to errors. Both high-quality research and a stronger regulatory environment are needed to ensure that AI is safe, effective, and equitable for everyone.

Dr. Gary Weissman

RESEARCH

Research Methods & Ethics

Developing novel trial design and analytic approaches and examining key ethical issues to elevate the rigor and innovation of serious illness research.

We seek—above all—to produce results that can be trusted. We are constantly developing and testing new research designs and state-of-the-art methods that push the boundaries of what is scientifically possible without ever compromising the rights, safety, and well-being of patients, care partners, or clinicians.

**Read more about our projects in
Research Methods & Ethics
on our website.**

Promoting trust, fairness, and representativeness in clinical trials

Most randomized clinical trials (RCTs) fail to enroll and retain patients that reflect the diversity of those with a given disease or risk factor, threatening participant trust, equity of opportunity, and generalizability of the results. The BETTER Center team seeks to understand and measure these trial shortcomings and to develop and test behavioral economic strategies to address them. Within the BETTER Center, Dr. Rachel Kohn co-leads Project LEARN to uncover the barriers and facilitators to enrolling underrepresented groups in RCTs. Projects ITERATE and EMBED will build on the findings of Project LEARN to test promising strategies in real cardiovascular studies to improve representativeness.

Read our work on [measurement](#) and [reporting of representativeness in clinical trials](#).

CENTER

Behavioral Economics to Transform Trial Enrollment Representativeness Center



DIRECTOR

Scott Halpern

BIostatistician

Alisa Stephens-Shields

PROJECT LEARN CO-PRINCIPAL INVESTIGATORS

Rachel Kohn, Meghan-Lane Fall

PROJECT ITERATE CO-PRINCIPAL INVESTIGATORS

Alex Fanaroff, Kevin Volpp

HEALTH SYSTEM PARTNERS

Emory University, Grady Health, MedStar Health



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While a number of methods have been recommended to engage and sustain participation in research, these methods have not been rigorously studied among underrepresented populations. The BETTER Center is pushing the needle forward by specifically evaluating the effects of behavioral economic strategies among underrepresented groups, including people who identify as Black, Hispanic or Latinx, women, or living in rural areas. Our objective is to identify and implement recruitment, communication, and incentive approaches that resonate with these populations, to promote their fair representation in trials.

Dr. Rachel Kohn

Changing the way trials are analyzed to maximize their impact on clinical care

Most randomized clinical trials fail to find statistically significant differences between treatments or management strategies when using a conventional p-value of 0.05. However, declaring that an intervention does or does not work based on this standard dramatically reduces the ability of a trial to change practice. Dr. Michael Harhay has been among the vanguard developing Bayesian methods as an alternative for the design and analysis of clinical research. These methods portray results by showing the probability that an intervention provides one or more benefits of a certain size. Presenting results in this way aligns with how humans draw conclusions around new information and makes it easier for patients, clinicians, health system leaders, and payers to interpret trial outcomes and ultimately influence clinical care.

Read the [full review](#).

PROJECT

Bayesian Statistics for Clinical Research

PRINCIPAL INVESTIGATOR

Michael Harhay



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Use of the well-known 0.05 p-value threshold is deeply rooted in medical research, in part because it is thought to minimize the risk of falsely concluding that an intervention works by some fixed amount. However, even small benefits of interventions are often important, particularly when the interventions are devoid of important harms. This draws into question the underlying statistical framework through which we judge interventions, and our work is enabling investigators at The PAIR Center and elsewhere to produce results that are more likely to improve clinical care.

Dr. Michael Harhay



Training

Training the Next Generation of Serious Illness Care Scholars

The PAIR Center is committed to growing the pipeline of talented serious illness care researchers and offers several unique opportunities for training—from mentoring undergraduate and medical students with burgeoning research interests through formative training of post-doctoral fellows, and building new skills and connections among established investigators.

Learning Health System Scientists

Accelerating learning through Penn PORTAL

In 2024, Scott Halpern and other PAIR Center Core and Affiliate Faculty were awarded a \$5 million federal grant to establish 1 of 16 Centers of Excellence in the U.S. working to accelerate progress toward an integrated Learning Health System (LHS)—that is, a health system in which learnings from each patient encounter are systematically harnessed to improve similar encounters in the future.

Penn PORTAL provides novel curricula, salary support, and research infrastructure to transform physicians, other clinicians, and non-clinician social scientists into leading LHS Scholars. With support from mentors in clinical content areas and those with operational expertise, alongside consultants in equity, community engagement, ethics, and data analysis, these Scholars complete research or quality improvement projects that improve care delivery across Penn Medicine and the greater Philadelphia region.

Want to stay up to date on all things Penn PORTAL? Subscribe to our quarterly newsletter.

CENTER

Penn Patient-Oriented Research and Training to Accelerate Learning



PRINCIPAL INVESTIGATORS

Scott Halpern, Meeta Kerlin, and Mucio (Kit) Delgado

CO-INVESTIGATORS

Rachel Werner, Jennifer Myers, Michael Harhay, Kevin Johnson, and Jaya Aysola

PARTNERS

Penn Medicine Nudge Unit, Penn Center for Health Equity Advancement, Center for Healthcare Improvement and Patient Safety, Leonard Davis Institute of Health Economics, Penn Implementation Science Center

We are pleased to share our first cohort!



Renée Betancourt, MD

Primary Care Identification and Management of CKD Stage 3 to Improve Health Equity at the Level of the Provider



Eric Bressman, MD, MSHP

Mobility-Informed Dynamic Risk Monitoring to Guide Transitional Care Support for Older Adults



Kyra O'Brien, MD

Supporting Cognitive Evaluations in Primary Care



Denise Xu, MD

Improving Inpatient Sleep Outcomes

Postdoctoral Fellows

Training the next generation of critical care health policy investigators

The PAIR Center engages postdoctoral scholars with broad research interests. Most notably, we have sustained the T32 Postdoctoral Training Grant in Critical Care Health Policy Research for 15 years, and the program has been renewed for another five!

This grant, led by Drs. Scott Halpern, Meeta Kerlin, and colleagues, trains physician- and nurse-scientists to have successful academic careers as independent researchers improving the quality, safety, equity, and costs of acute care medicine. To date, we have had **42 trainees** in the program, including four in our most recent (15th) cohort. More than 85% of program graduates remain at leading academic medical centers, and 75% continue to have research-oriented careers. **More than three-fifths of our trainees have been women**, despite critical care being an historically male-dominated field, and one-quarter have been from backgrounds underrepresented in medicine.

PROGRAM DIRECTOR

Scott Halpern

DIRECTORS

Meeta Kerlin, David Asch, Mucio (Kit) Delgado, Meghan Lane-Fall, and Scott Lorch

PARTNERS

Perelman School of Medicine, Penn Nursing, The Wharton School, Children's Hospital of Philadelphia (CHOP)

Selected Trainee Accomplishments in 2024



Edouard Coupet, MD, MSHP '18

Featured as an expert in Silence in the Streets, a documentary examining racial and ethnic disparities in opioid use disorder



Jessica Lee, MD, MHS, MSHP '20

Appointed Chief Medical Officer of the Center for Medicaid and CHIP Services in the Centers for Medicare & Medicaid Services



Jennifer Ginestra, MD, MSHP '21

Awarded an NIH KO1 Grant and appointed Assistant Professor of Medicine and Biomedical Informatics at the University of Colorado



Deepa Ramadurai, MD, MSHP '23

Appointed Assistant Professor in the Section of Pulmonary and Critical Care at the University of Chicago

Undergraduate & Medical Students

Paving student pathways to careers in medicine and research

At the PAIR Center, we are particularly interested in supporting programs that make careers in research and the health professions accessible to all students. We cannot fully realize our vision of achieving and sustaining health equity without mentoring scholars who bring unique insights—informed by their personal backgrounds and experiences—to the work at hand.

For 13 years, the PAIR Center has mentored 31 scholars through a number of training programs. While these programs are hosted by Penn Medicine and the University of Pennsylvania broadly, our Center provides a unique, well-rounded research experience for the student mentees. Our sustainable approach includes a student orientation, methods workshops, a curated speaker series, shadowing opportunities, service events, and off-campus excursions.



Berkman Summer Internship in Palliative Care

An eight-week clinical and research fellowship for medical students that provides early exposure to hospice and palliative medicine. [Learn more.](#)

6

Berkman Fellows



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Sometimes it takes a gentle nudge—a shift of only a few degrees—to set you on a path you never imagined. These early, subtle moments can steer your course, leading you somewhere entirely new, far from where you thought you’d be. That’s precisely what the Berkman Scholars Program did for me.

Ivan Gonzalez Corral, Berkman Fellow (Summer ‘24)

Penn Access Summer Scholars (PASS) Program

A pre-medical enrichment program, sunset in 2024, that provided mentored research opportunities and linkage admission to the Perelman School of Medicine for students from 10 partnering institutions, including five Historically Black Colleges and Universities.

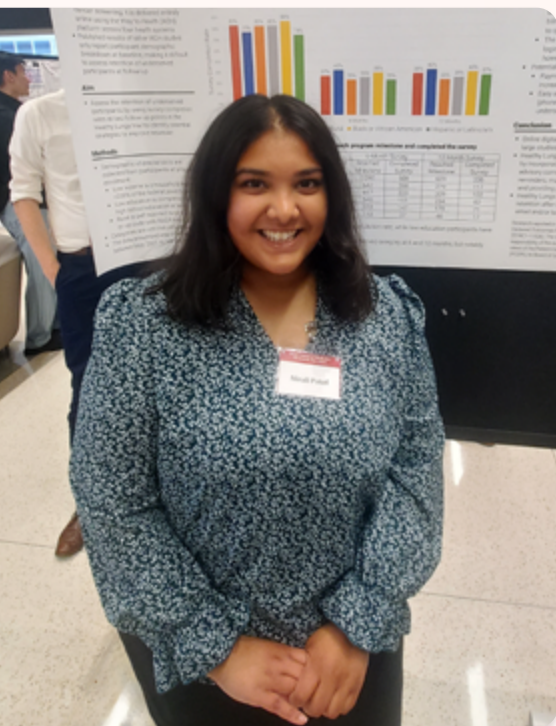
5

PASS
Scholars



You all welcomed me with open arms and helped me to blossom into a researcher, which I will forever be grateful for. I have been able to meaningfully contribute to work that hits home for me, and that I know is continuing to positively impact communities in need.

Danielle Johnson, PASS Scholar
(Summers '21 & '22)



Summer Undergraduate Mentored Research (SUMR) Program

A 12-week summer research internship that introduces undergraduate students to the fields of health services, population health, and clinical epidemiology. [Learn more.](#)

Get Experience in Aging Research Undergraduate Program (GEAR UP)

A 15-month sustained fellowship program for undergraduates interested in a career in aging research, funded by the National Institute on Aging. [Learn more.](#)

21

SUMR &
GEAR UP
Scholars



Equity & Belonging

The PAIR Center Approach

At the PAIR Center, we incorporate the voices of patients, caregivers, and other stakeholders into our research design, implementation, and dissemination; promote research practices that are accessible and inclusive of the communities we serve; and cultivate a spirit of belonging and service in our workplace.



Patient, Caregiver, & Community Voices in Our Research

Our work at the PAIR Center is greatly enhanced through active engagement of and partnership with stakeholders whose lived experiences as patients and caregivers and context expertise as community organizers, health system leaders, and payers complement our team's expertise in rigorous research methods.

Engaging leaders in tobacco cessation & longtime smokers to help older patients from underserved backgrounds quit smoking



Though the health tolls of smoking are greatest among patients who are Black, Hispanic, from

rural residences, and/or are less educated or have lower incomes, few large-scale trials have examined which cessation strategies work best among these historically underserved groups. The Healthy Lungs pragmatic clinical trial enrolled 3,228 older adults

“

The highlight of the SAC summit was meeting other people who were also successful in quitting smoking while in the program. Having our success acknowledged and rewarded is a great incentive to carry on!

Patient Partner [edited for clarity]



PROJECT

Comparing Smoking Cessation Interventions among Underserved Patients Referred for Lung Cancer Screening (Healthy Lungs)

PRINCIPAL INVESTIGATOR

Scott Halpern

CO-INVESTIGATOR / ENGAGEMENT LEAD

Joanna Hart

HEALTH SYSTEM PARTNERS

Penn Medicine, Penn Medicine – Lancaster General Health, Geisinger, Henry Ford Health System, Kaiser Permanente Southern California

from these demographic groups to determine which smoking-cessation strategy best helps them kick the habit.

From the get-go in 2019, we engaged a **Stakeholder Advisory Committee** (SAC) of patient advisors and representatives from health system and city tobacco treatment programs, community organizations, and payers. The SAC has recommended numerous strategies for making the study more patient-centered and applicable to real-world settings; shared their expertise by presenting on topics that influence smoking cessation treatment, such as health literacy, COVID, stress, menthol, and cannabis; and most recently assisted us in interpreting the trial's results.

Partnering with patients, caregivers, clinicians, & healthcare leaders to improve the equity & effectiveness of palliative care delivery



Palliative care (PC) may be delivered by specialty-trained clinicians (specialist PC) or by any other clinician as part of their routine care of patients with serious illness (generalist PC). Specialist PC is likely



superior for a given individual at very high risk of death, whereas generalist PC holds great potential for reaching more seriously ill patients. It is thus unknown which strategy is a better investment for health systems trying to improve care for large populations of patients. In COMPASS-PC, we will randomly assign 49 hospitals across 17 states to implement one or more nudges in the

Want to read more about our impact? Check out these links:

[“It’s Nonjudgmental Support”](#) | Patient-Centered Outcomes Research Institute (PCORI) Stories article featuring a Healthy Lungs participant.

[“Use of Tobacco During COVID-19: A Qualitative Study among Medically Underserved Individuals”](#) | Findings from the study interviews, published in collaboration with an SAC member.

[Rural Health Briefing](#) | Scott Halpern and Joanna Hart present on the trial at PCORI Congressional Rural Health Briefing.

COMPASS-PC

PROJECT

Comparing Optimized Models of Primary And Specialist Services for Palliative Care (COMPASS-PC)

PRINCIPAL INVESTIGATORS

Scott Halpern, Kate Courtright

ENGAGEMENT LEADS

Bethany Sewell, Rebecca Kirch

HEALTH SYSTEM PARTNERS

Trinity Health, Kaiser Permanente Southern California (KPSC)

PARTNERING ORGANIZATIONS

Duke Clinical Research Institute (DCRI), Center to Advance Palliative Care (CAPC), National Patient Advocate Foundation (NPAF)

electronic health record designed to improve the delivery of specialist or generalist PC for more than 53,000 patients.

COMPASS-PC engages 14 patients and caregivers and 13 other stakeholders on two advisory committees, co-led by **Rebecca Kirch** of the National Patient Advocate Foundation (NPAF) and **Bethany Sewell** of the PAIR Center. The **Patient and Caregiver Advisory Committee** (PCAC) includes individuals with lived experience of serious illness and a participant's perspective on research studies, a number of whom we were able to connect with through NPAF. Many PCAC members also bring career experience in public health, social work, nursing, pharmaceuticals, hospitality, and patient advocacy. Similarly, the **Stakeholder Advisory Committee** (SAC) includes clinicians, health system leaders, payers, and patient advocates from 13 institutions. This spring, we hosted our first in-person summit, bringing both committees together on Penn's campus for sessions on serious illness communication and measuring what matters in palliative care. PCAC and SAC feedback at this meeting ultimately informed the decision around which surveys to include in the study feasibility phase.

Hear from our committee members about what this work means to them:

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As PI of several CBPR-based studies, the meeting was a unique opportunity for me to be on the 'other side' of the partnership. The feeling of being heard is one that I hope all our community advisory board members on all our studies feel.

Committee Member [edited for clarity]

I truly feel that all of our suggestions will make a difference, and we are heard and seen.

Committee Member [edited for clarity]

COMPASS will change the palliative care world.

Committee Member



Joint Research Practices Working Group

In 2021, the PAIR Center partnered with the Center for Health Incentives and Behavioral Economics (CHIBE) to charter the Joint Research Practices Working Group (JRP) to promote research conduct that builds trust, promotes fairness, and respects the experiences and contributions of all patients.

Practicing research in this way is challenging—it demands resources, humility, thoughtfulness, and often there is no clear road map. Our team was charged with developing and disseminating guidelines around how to do this work in key domains, such as recruitment and retention, participant incentives, inclusive terminology, community engagement, and dissemination.

The JRP has grown from nine founding volunteers to 17 current members across the PAIR Center, CHIBE, and affiliated groups. In 2023, the JRP was recognized with an Honorable Mention for one of Penn Medicine's highest honors for service to the community.

Our accomplishments include:

1 manuscript published in the *Journal of General Internal Medicine*. [Read it here.](#)

7 resource guides published to the PAIR Center website on inclusive language, readability and plain language, participant-centeredness, language access, and paying research participants.

28 presentations including workshops and poster presentations.



42 consultations conducted with research teams across the School of Medicine, a service we call Practicing Equitable Research and Knowledge Sharing (PERKS).

300+ colleagues reached at Penn and beyond via email newsletters that amplify our resources.

Explore all that the JRP has to offer [at our website.](#)

PAIR Center in the Community

The PAIR Center boasts a workplace that fosters a sense of belonging and a team culture committed to continuous learning and community service.

From 2022–2024, the PAIR Center has hosted:

- » Workshops and panel discussions to promote learning with internal and external experts on health equity
- » Day of Service events at local community-based organizations
- » Museum tours to learn from exhibits that align with the PAIR Center's mission
- » Outings in the Philadelphia area to promote a sense of belonging among our team
- » Toy and food drives to benefit our local Philadelphia community
- » CPR training to increase awareness and reduce disparities in who receives CPR



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When I first joined the PAIR Center in 2022, one of my priorities was to understand the shared values of the people of the PAIR Center. Together, we developed a road map of action that would ensure that we would be held accountable to honor our commitment to each other. Our programmatic activities are designed to be meaningful to the members of the PAIR Center because they are deeply informed by the values that we have all agreed upon.

Adina Lieberman, Managing Director of the BETTER Center

Program Highlights

SEPTEMBER 2024 (RIGHT)

The PAIR Center volunteered at the Cambodian Association of Greater Philadelphia to prepare the center for reopening and create “calming care kits” for their Violence Intervention and Prevention Project.

JUNE 2024

In celebration of Asian American, Native Hawaiian, and Pacific Islander Heritage Month, the PAIR Center visited the Fabric Workshop & Museum to see the Risa Puno: Group Hug exhibit, an immersive experience that spotlights the moral imperative of caregiving.

OCTOBER 2023

In partnership with artists Ivonne Pinto García and Erika Guadalupe Núñez, members of the PAIR Center helped to prepare different components of the ofrenda (altar) for Día de los Muertos (Day of the Dead) at the Fleisher Art Memorial in Philadelphia.



JULY 2023

To honor LGBTQ Pride Month, members of the PAIR Center volunteered at the Covenant House PA crisis center in Philadelphia, playing games, tie-dyeing t-shirts, and enjoying water ice with the youth residents.

MARCH 2023 (PREVIOUS PAGE)

Members of the PAIR Center volunteered at the Mastery Charter School-Shoemaker Campus to assist with organizing the space used to store school supplies. Mastery partners with Dr. Joanna Hart, on her caregiving youth research projects.

DECEMBER 2022 (LEFT)

Members of the PAIR Center visited the Black Healthcare Studies exhibition at the African American Museum in Philadelphia (AAMP).

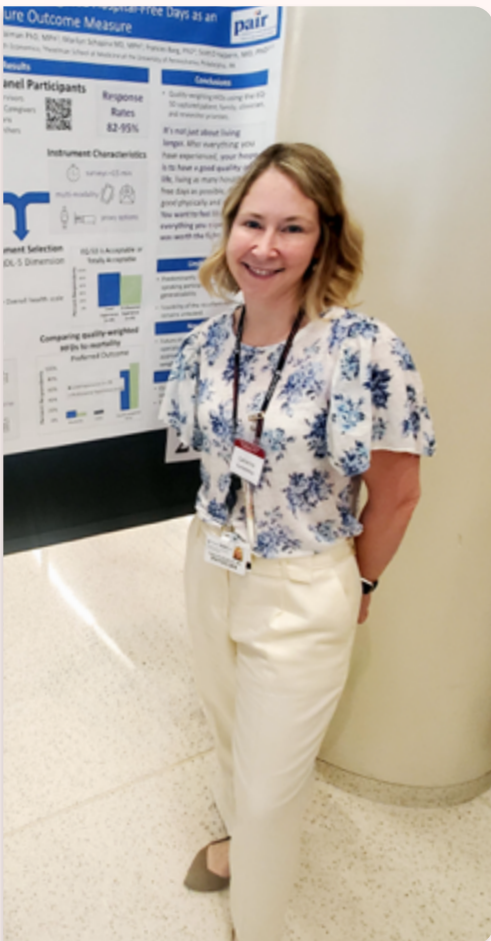




Our People

The PAIR Center boasts a growing collective of mission-driven faculty, each supported by a team of talented trainees and staff, and guided by our expert board of advisors.

Our Core Faculty



George Anesi, MD, MSCE, FCCM

Appointed Assistant Professor of Medicine in the Perelman School of Medicine '22

My NIH-funded research program uses health services research and clinical epidemiology methods to study hospital preparedness and the evaluation of critical care and acute care resources during times of strain to the system, including situations of dynamic strain (i.e., random variation in demand, seasonal trends, epidemics, and disasters) and fixed strain (i.e., critical illness in resource-limited settings domestically and globally).



Catherine Auriemma, MD, MSHP

Appointed Assistant Professor of Medicine in the Perelman School of Medicine '23

My mission as a clinician and researcher is to ensure that the care we deliver aligns with the goals and values of patients and their families. My research focuses on improving communication around goals, and developing and validating novel patient- and family-centered outcomes for studies of critically and seriously ill populations. I am passionate about the importance of stakeholder engagement through all stages of research.



Christopher Chesley, MD, MSCE

Appointed Assistant Professor of Medicine in the Perelman School of Medicine '24

My research agenda centers on developing a detailed understanding of the mechanisms that give rise to racial and ethnic disparities related to severe acute and critical illnesses. A major focus is on understanding how hospital-level factors combine with socioeconomic disadvantage to drive adverse disparities for historically underserved populations. The goal is to uncover these relationships in the context of patients with acute respiratory failure and sepsis, with an additional major objective to develop a testable health system-wide intervention that will mitigate these disparities.

Recent Awards & Recognition

Kate Courtright, MD, MSHP

Holmes Early Stage Faculty Award
for Clinical Research, Perelman
School of Medicine '22

Early Career Investigator Award,
American Academy of Hospice and
Palliative Medicine '22

Scott Halpern, MD, PhD

Elected to the National Academy
of Medicine '24

Roundtable on Quality Care
for People with Serious Illness,
National Academy of Medicine '22

Michael Harhay, PhD, MPH

Marjorie A. Bowman New
Investigator Research Award,
Perelman School of Medicine '24

Early Career Epidemiologist
Award, American College of
Epidemiology '23

Honorary Research Fellow,
University College London '23

Joanna Hart, MD, MSHP

Radhika Srinivasan Award for
Humanism and Professionalism
in Medicine, Perelman School
of Medicine '24

Mid-Career Achievement Award,
Assembly on Behavioral Science
and Health Services Research of
the American Thoracic Society '24

Meeta Kerlin, MD, MSCE

Vice Chair for Faculty
Development, Department of
Medicine at the Perelman School
of Medicine '23

Rachel Kohn, MD, MSCE

Behavioral Science and
Health Services Research
(BSHSR) Program Committee
Member, American Thoracic
Society '20–'23

Editorial Board Member, *Critical
Care Medicine* '22–PRESENT

Gary Weissman, MD, MSHP

Scholars in Diagnostic
Excellence, National Academy of
Medicine '24–'25



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Medicine Physician, Mettle Health

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PAIR
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