IMPACT REPORT

PC3I AT A GLANCE

Our Mission
We make cancer care better for patients, clinicians, and communities.

Our Approach
We work at the nexus of research and practice to create, test, and scale solutions to:

- Improve health, health care, and health equity
- Enhance the patient and clinician experience
- Increase efficiency and value

Our Team

14
Innovation Faculty

9
Innovation Fellows

130+
Leadership and faculty affiliates, staff, and trainees

Our Laboratory
Embedded across the world-class clinical and research environment of Penn Medicine

19,000
New Cancer Patients a Year

3
States

6
Hospitals

12
Oncology Clinics

HIGHLIGHT: Our Solutions

We **create**, **test**, and **scale** solutions to address the most intractable cancer care problems.
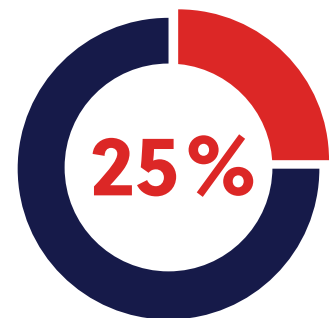
CREATE

Electronic health record (EHR) nudges

Patients with colorectal cancer receiving genetic screening:

63%
OF PATIENTS <40 YEARS OLD

26%
OF PATIENTS 40-49 YEARS OLD

In pilot data, only 26% of patients with colorectal cancer aged 40-49 were referred for germline risk evaluations. A pilot study will create EHR nudges to increase equitable genetic screening.

BRCA1/2 carriers getting recommended breast MRI imaging:

25%

Despite guidelines, cancer risk management in *BRCA1/2* carriers is suboptimal. A new EHR-based clinical decision support tool will improve this management.

JCO® Precision Oncology

From Race-Based to Precision Oncology: Leveraging Behavioral Economics and the Electronic Health Record to Advance Health Equity in Cancer Care
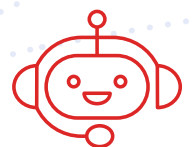Lau-Min et al., 2021.

MEDPAGETODAY®

Op-Ed: Race Has No Place in Precision Oncology: This is one source of racial disparity that we can control
Lau-Min et al., 2021.

TEST

Chatbot
Chatbot "Penny" uses behavioral economics and text messaging to improve symptom monitoring and medication adherence in lung cancer patients, now being tested in a randomized controlled trial. Support from Pfizer and the Lung Cancer Research Foundation.
Rendle & Takvorian et al.

Telehealth

Patients getting recommended lung cancer screening:

5%

Only 5% of eligible patients get lung cancer screening. A randomized controlled trial will test the feasibility of telehealth referral to increase screening. Rendle et al.

Pediatric Patient-Reported Outcomes

81% Patients reporting outcomes ≥50% of days

In the first feasibility test of patient-reported outcomes among children with cancer, 81% of patient and caregiver units reported symptoms at least half of the time. 97% of clinicians found symptom reports understandable and useful. Support from Alex's Lemonade Stand, Children's Hospital of Philadelphia, and the ASCO Foundation.

Cancer

Electronic symptom monitoring in pediatric patients hospitalized for chemotherapy

Barz Leahy et al., 2021.

Machine Learning + Nudges

Increasing goals-of-care conversations between patients and clinicians:

15.2% NUDGE

3.6% NO NUDGE

In a randomized controlled trial of over 4,000 patients, clinician nudges utilizing a machine learning algorithm to identify high-risk patients increased goals-of-care or Serious Illness Conversations.

JAMA Network™

Effect of Integrating Machine Learning Mortality Estimates With Behavioral Nudges to Clinicians on Serious Illness Conversations Among Patients With Cancer
Manz & Parikh et al., 2020.

$4.9 MILLION AWARDED

The National Cancer Institute awarded $4.9M over 5 years to PC3I and partners to increase evidence-based cancer care. A randomized controlled trial of ~5,500 patients at 12 sites will test clinician and patient nudges aided by machine learning to increase Serious Illness Conversations.

CANCER CARE @ HOME

1,500 PATIENTS RECEIVE CANCER CARE AT HOME

In 2020, PC3I launched a first-in-the-nation program to expand cancer treatments provided in the home. Widespread coverage included a 3-part documentary, podcasts, and mentions in *The Washington Post*; *O, The Oprah Magazine*; *STAT News*; & *The Chicago Tribune*. Support from the Center for Health Care Innovation.

Medscape

At-Home Cancer Treatment: Risks and Rewards

NEJM Catalyst

Accelerating the Delivery of Cancer Care at Home During the Covid-19 Pandemic
Laughlin et al., 2020.

TheoryLab

Cancer Care at Home Podcast

HIGHLIGHT: Our Thought Leadership

We harness the insights of top researchers and multidisciplinary thought leaders across Penn Medicine.

The NEW ENGLAND JOURNAL of MEDICINE

A Hidden Opportunity: Medicaid's Role in Supporting Equitable Access to Clinical Trials
Takvorian et al., 2021.

Harvard Business Review

Understanding One Challenge in Cutting Health Care Costs
Parikh et al., 2020.

JAMA Network™

Patient-Reported Outcomes in Pediatric Oncology: The Patient Voice as a Gold Standard
Barz Leahy et al., 2020.

Health Affairs

The CMS Oncology Care Model Is Falling Short Of Its Promise
Bowers et al., 2020.

JAMA Network™

Independent Oncology Practices in the COVID-19 Era: Does US Cancer Care Need a Bailout?
Frosch et al., 2020.

PC3I PENN CENTER *for* CANCER CARE INNOVATION

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