Intersections of Community Health, Primary Care and Specialty Care

Shawna V. Hudson, Ph.D.

Henry Rutgers Chair, Professor and Research Division Chief
Department of Family Medicine and Community Health
Rutgers Robert Wood Johnson Medical School

Professor of Health Education, Society & Policy
Rutgers School of Public Health

Director of Community Engagement, NJ Alliance for Clinical and Translational Science

Member, Rutgers Cancer Institute of New Jersey

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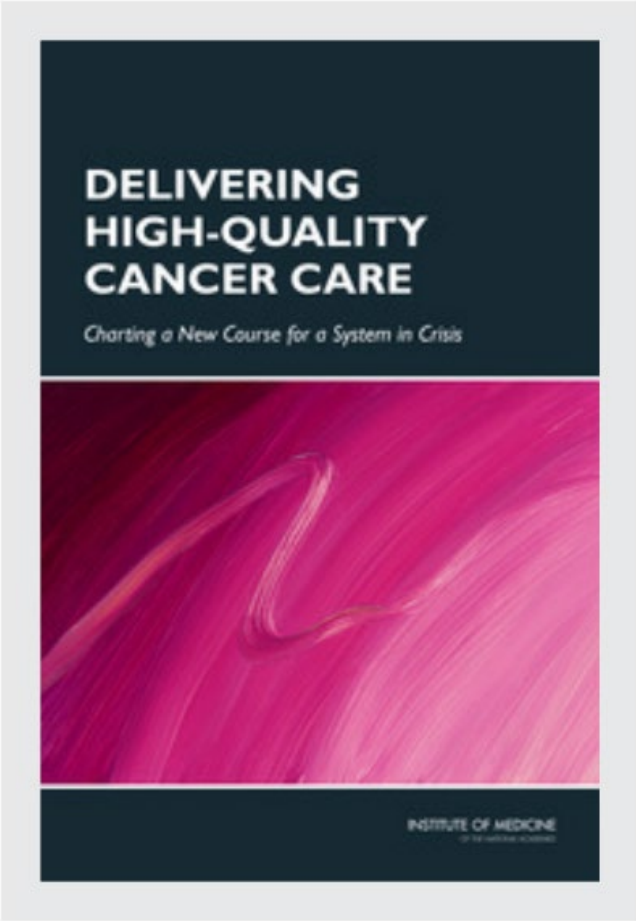
Disclosure

- Served as a member of the NASEM Implementing High-Quality Primary Care committee

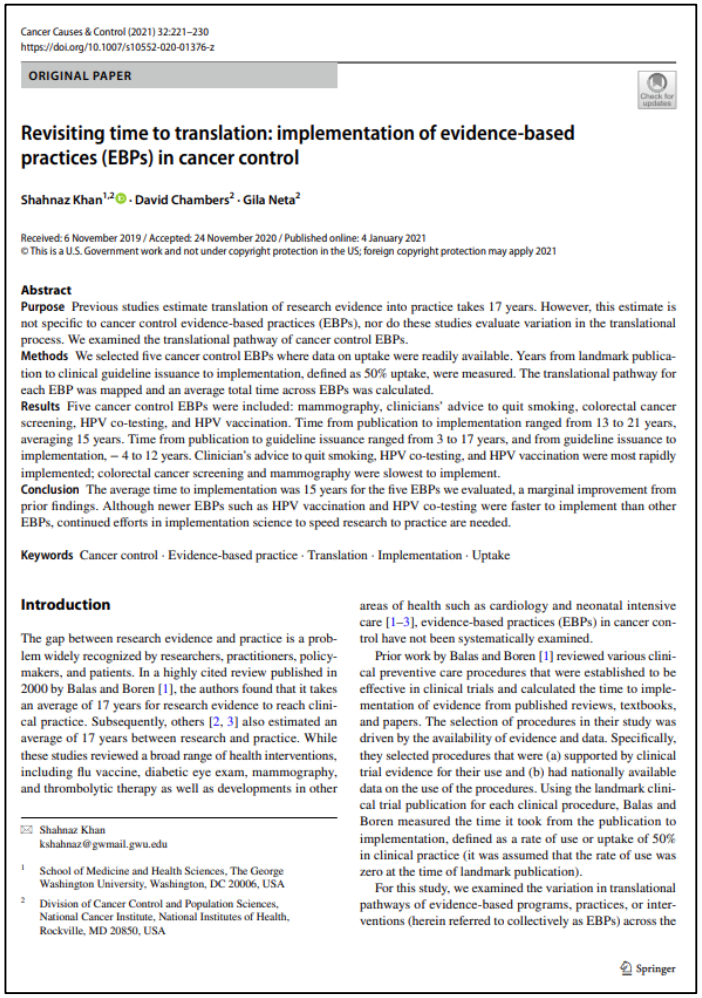
A system in crisis

- In 2013, a National Academy of Medicine report characterized cancer care delivery as a “system in crisis” due to fragmented care and failure to use evidence-based practices in clinical decision-making
  - This crisis applies to both primary and oncology care



Slow Uptake of Evidence Based Practice (EBPs)

- Cancer care delivery efforts to improve prevention and target risk behaviors have faced substantial translational challenges
- The translational timeline for five key EBPs (i.e., mammography, smoking cessation, colorectal cancer screening, HPV co-testing, and HPV vaccination) from discovery into routine health care practice is 15 years



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ORIGINAL PAPER

Revisiting time to translation: implementation of evidence-based practices (EBPs) in cancer control

Shahnaz Khan[1,2] · David Chambers[2] · Gila Neta[2]

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Abstract

Purpose Previous studies estimate translation of research evidence into practice takes 17 years. However, this estimate is not specific to cancer control evidence-based practices (EBPs), nor do these studies evaluate variation in the translational process. We examined the translational pathway of cancer control EBPs.

Methods We selected five cancer control EBPs where data on uptake were readily available. Years from landmark publication to clinical guideline issuance to implementation, defined as 50% uptake, were measured. The translational pathway for each EBP was mapped and an average total time across EBPs was calculated.

Results Five cancer control EBPs were included: mammography, clinicians' advice to quit smoking, colorectal cancer screening, HPV co-testing, and HPV vaccination. Time from publication to implementation ranged from 13 to 21 years, averaging 15 years. Time from publication to guideline issuance ranged from 3 to 17 years, and from guideline issuance to implementation, − 4 to 12 years. Clinician's advice to quit smoking, HPV co-testing, and HPV vaccination were most rapidly implemented; colorectal cancer screening and mammography were slowest to implement.

Conclusion The average time to implementation was 15 years for the five EBPs we evaluated, a marginal improvement from prior findings. Although newer EBPs such as HPV vaccination and HPV co-testing were faster to implement than other EBPs, continued efforts in implementation science to speed research to practice are needed.

Keywords Cancer control · Evidence-based practice · Translation · Implementation · Uptake

Introduction

The gap between research evidence and practice is a problem widely recognized by researchers, practitioners, policymakers, and patients. In a highly cited review published in 2000 by Balas and Boren [1], the authors found that it takes an average of 17 years for research evidence to reach clinical practice. Subsequently, others [2, 3] also estimated an average of 17 years between research and practice. While these studies reviewed a broad range of health interventions, including flu vaccine, diabetic eye exam, mammography, and thrombolytic therapy as well as developments in other areas of health such as cardiology and neonatal intensive care [1–3], evidence-based practices (EBPs) in cancer control have not been systematically examined.

Prior work by Balas and Boren [1] reviewed various clinical preventive care procedures that were established to be effective in clinical trials and calculated the time to implementation of evidence from published reviews, textbooks, and papers. The selection of procedures in their study was driven by the availability of evidence and data. Specifically, they selected procedures that were (a) supported by clinical trial evidence for their use and (b) had nationally available data on the use of the procedures. Using the landmark clinical trial publication for each clinical procedure, Balas and Boren measured the time it took from the publication to implementation, defined as a rate of use or uptake of 50% in clinical practice (it was assumed that the rate of use was zero at the time of landmark publication).

For this study, we examined the variation in translational pathways of evidence-based programs, practices, or interventions (herein referred to collectively as EBPs) across the

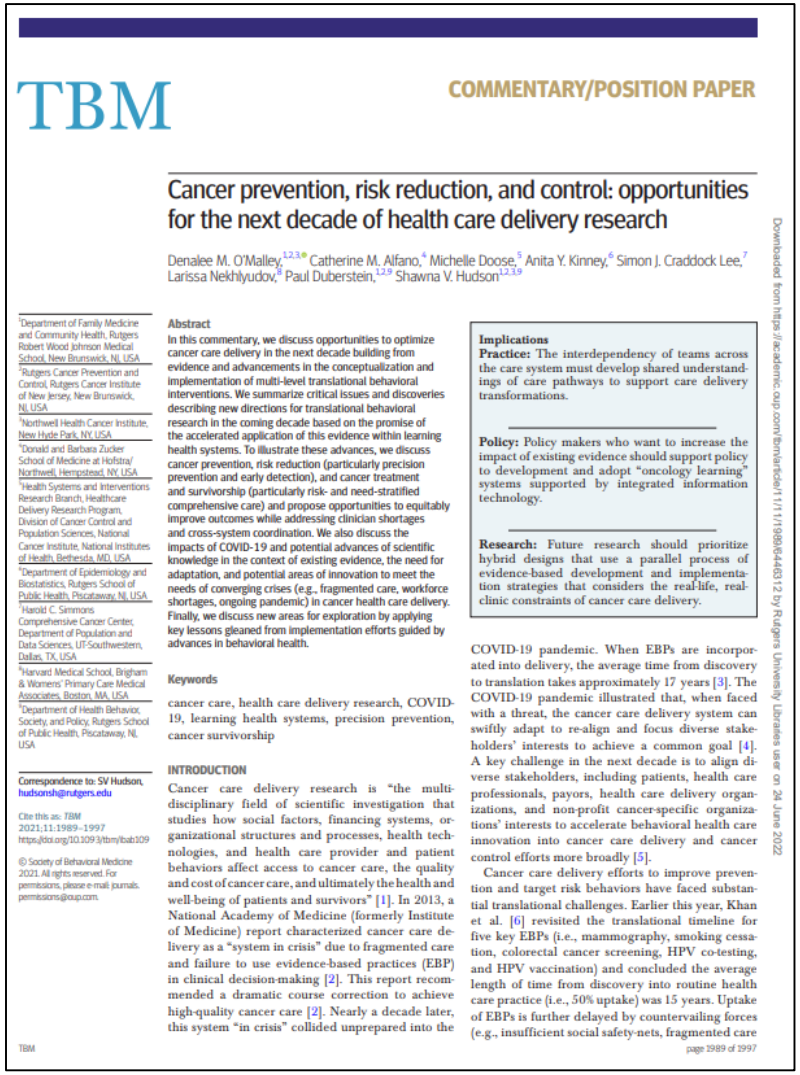
✉ Shahnaz Khan
kshahnaz@gwmail.gwu.edu

[1] School of Medicine and Health Sciences, The George Washington University, Washington, DC 20006, USA

[2] Division of Cancer Control and Population Sciences, National Cancer Institute, National Institutes of Health, Rockville, MD 20850, USA

Multi-Level Challenges

- Uptake of EBPs is further delayed by multi-level forces both upstream and downstream of the organizational or provider interaction with an individual patient
  - insufficient social safety-nets
  - fragmented care delivery
  - unconnected health information technology systems
  - lack of payer incentives
  - structural racism
  - the built environment



TBM

COMMENTARY/POSITION PAPER

Cancer prevention, risk reduction, and control: opportunities for the next decade of health care delivery research

Denalee M. O'Malley,[1,2,3,8] Catherine M. Alfano,[4] Michelle Doose,[5] Anita Y. Kinney,[6] Simon J. Craddock Lee,[7] Larissa Nekhlyudov,[8] Paul Duberstein,[1,2,9] Shawna V. Hudson[1,2,3,9]

[1]Department of Family Medicine and Community Health, Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ, USA
[2]Rutgers Cancer Prevention and Control, Rutgers Cancer Institute of New Jersey, New Brunswick, NJ, USA
[3]Northwell Health Cancer Institute, New Hyde Park, NY, USA
[4]Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, Hempstead, NY, USA
[5]Health Systems and Interventions Research Branch, Healthcare Delivery Research Program, Division of Cancer Control and Population Sciences, National Cancer Institute, National Institutes of Health, Bethesda, MD, USA
[6]Department of Epidemiology and Biostatistics, Rutgers School of Public Health, Piscataway, NJ, USA
[7]Harold C. Simmons Comprehensive Cancer Center, Department of Population and Data Sciences, UT-Southwestern, Dallas, TX, USA
[8]Harvard Medical School, Brigham & Womens' Primary Care Medical Associates, Boston, MA, USA
[9]Department of Health Behavior, Society, and Policy, Rutgers School of Public Health, Piscataway, NJ, USA

Correspondence to: SV Hudson, hudsonsh@rutgers.edu

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Abstract

In this commentary, we discuss opportunities to optimize cancer care delivery in the next decade building from evidence and advancements in the conceptualization and implementation of multi-level translational behavioral interventions. We summarize critical issues and discoveries describing new directions for translational behavioral research in the coming decade based on the promise of the accelerated application of this evidence within learning health systems. To illustrate these advances, we discuss cancer prevention, risk reduction (particularly precision prevention and early detection), and cancer treatment and survivorship (particularly risk- and need-stratified comprehensive care) and propose opportunities to equitably improve outcomes while addressing clinician shortages and cross-system coordination. We also discuss the impacts of COVID-19 and potential advances of scientific knowledge in the context of existing evidence, the need for adaptation, and potential areas of innovation to meet the needs of converging crises (e.g., fragmented care, workforce shortages, ongoing pandemic) in cancer health care delivery. Finally, we discuss new areas for exploration by applying key lessons gleaned from implementation efforts guided by advances in behavioral health.

Keywords

cancer care, health care delivery research, COVID-19, learning health systems, precision prevention, cancer survivorship

Implications

Practice: The interdependency of teams across the care system must develop shared understandings of care pathways to support care delivery transformations.

Policy: Policy makers who want to increase the impact of existing evidence should support policy to development and adopt "oncology learning" systems supported by integrated information technology.

Research: Future research should prioritize hybrid designs that use a parallel process of evidence-based development and implementation strategies that considers the real-life, real-clinic constraints of cancer care delivery.

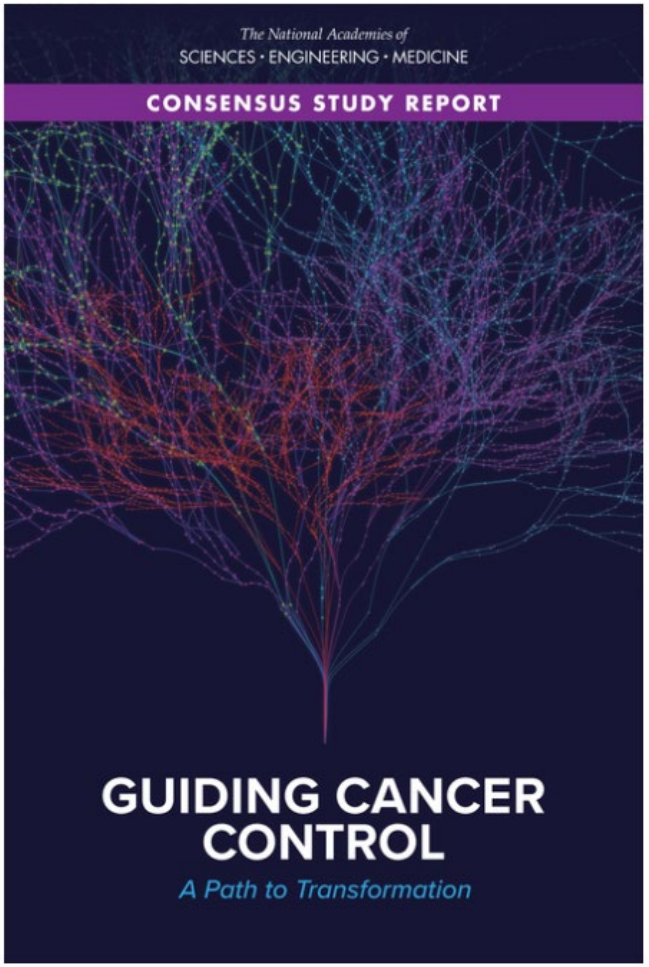
INTRODUCTION

Cancer care delivery research is "the multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and health care provider and patient behaviors affect access to cancer care, the quality and cost of cancer care, and ultimately the health and well-being of patients and survivors" [1]. In 2013, a National Academy of Medicine (formerly Institute of Medicine) report characterized cancer care delivery as a "system in crisis" due to fragmented care and failure to use evidence-based practices (EBP) in clinical decision-making [2]. This report recommended a dramatic course correction to achieve high-quality cancer care [2]. Nearly a decade later, this system "in crisis" collided unprepared into the COVID-19 pandemic. When EBPs are incorporated into delivery, the average time from discovery to translation takes approximately 17 years [3]. The COVID-19 pandemic illustrated that, when faced with a threat, the cancer care delivery system can swiftly adapt to re-align and focus diverse stakeholders' interests to achieve a common goal [4]. A key challenge in the next decade is to align diverse stakeholders, including patients, health care professionals, payors, health care delivery organizations, and non-profit cancer-specific organizations' interests to accelerate behavioral health care innovation into cancer care delivery and cancer control efforts more broadly [5].

Cancer care delivery efforts to improve prevention and target risk behaviors have faced substantial translational challenges. Earlier this year, Khan et al. [6] revisited the translational timeline for five key EBPs (i.e., mammography, smoking cessation, colorectal cancer screening, HPV co-testing, and HPV vaccination) and concluded the average length of time from discovery into routine health care practice (i.e., 50% uptake) was 15 years. Uptake of EBPs is further delayed by countervailing forces (e.g., insufficient social safety-nets, fragmented care

Alignment of Incentives

- A key challenge in the next decade is to align diverse stakeholders, including patients, health care professionals, payers, health care delivery organizations, and non-profit cancer-specific organizations' interests to cancer control efforts more broadly



To provide high quality clinic based cancer prevention we need high quality primary care

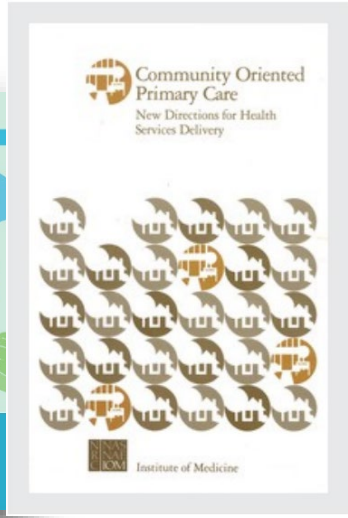
High Quality Primary Care

- High-quality primary care is the provision of whole-person, integrated, accessible, and equitable health care by interprofessional teams that are accountable for addressing the majority of an individual's health and wellness needs across settings and through sustained relationships with patients, families, and communities.

Community Oriented Primary Care

"An approach to medical practice that undertakes responsibility for the health of a defined population, by combining epidemiologic study and social intervention with the clinical care of individuals, so that the primary care practice itself becomes a community medicine program. Both the individual and the community or population are the focus of diagnosis, treatment, and ongoing surveillance."

—*Community-Oriented Primary Care: New Directions for Health Services Delivery* (IOM, 1983, p. 70)



Access, Workforce and Payment Are Key

5 Objectives for Achieving High-Quality Primary Care

1. PAYMENT
   Pay for primary care teams to care for people, not doctors to deliver services.
2. ACCESS
   Ensure that high-quality primary care is available to every individual and family in every community
3. WORKFORCE
   Train primary care teams where people live and work
4. DIGITAL HEALTH
   Design information technology that serves the patient, family, and interprofessional care team
5. ACCOUNTABILITY
   Ensure that high-quality primary care is implemented in the United States

Access Strategies

- We need primary care highly engaged in promoting population health in the communities in which they are practicing and addressing community needs that impact health
  - Integrate care delivery in non-clinical settings
  - Partner with health departments, academic institutions, local governments, and others to create opportunities for screening
  - Community members should be involved in care delivery

Workforce Strategies

- We need interprofessional teams with non-clinician team members, such as health coaches, community health workers (CHWs) and patient navigators, to serve as points of contact and continuity for primary care
  - Primary care workforce needs to reflect the people it serves
  - Integrate CHWs into primary care teams
  - Need to draw on the resources of the “extended health care and community care team”
    - Community based organizations
    - Healthy aging services

Payment Strategies

- Suggests a shift in primary care payment toward hybrid (part Fee for Service, part capitated) models, making them the default method for paying for primary care teams over time
  - Pay prospectively for team-based care
  - Provide incentives for incorporating non-clinician team members
  - Provide incentives for partnerships with community-based organizations

Community Alignment

- We must investigate and address the policies and practices identified as “root causes” of structural racism and structurally design our learning health systems to support health equity and dismantle processes that reinforce and sustain racial health disparities

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SOUNDING BOARD

Realizing the Potential of Cancer Prevention — The Role of Implementation Science

Karen M. Emmons, Ph.D., and Graham A. Colditz, M.D., Dr.P.H.

In the past two decades, we and others have estimated that more than half of cancers could have been prevented by applying knowledge that we already have. Tobacco use, inactivity, and obesity are modifiable causes of cancer,[1-3] and evidence now suggests that vaccination against the human papillomavirus, the use of aspirin and selective estrogen-receptor modulators, and participation in screening programs further reduce the risk of specific cancers.[4,5] The effect of these strategies on cancer-related outcomes in the general population is significant. A 62% reduction in lung-cancer mortality is associated with smoking cessation at age 50,[6] and environmental and policy strategies are effective at increasing cessation.[6-8] A 95% reduction in mortality is associated with screening for cervical cancer,[9] a 100% reduction in mortality is associated with vaccination against the human papillomavirus,[10-12] and a 90% reduction in mortality related to chronic liver disease and liver cancer is associated with vaccination against hepatitis B virus.[13] There is also benefit for those at high risk for cancer. Lung-cancer screening is associated with a 20% reduction in mortality among smokers at high risk, salpingo-oophorectomy reduces the risk of breast and ovarian cancer among women with a *BRCA1/2* mutation,[14,15] and treatment with selective estrogen receptor modulators reduces the incidence of breast cancer by 50% among women at high risk.[16,17] Screening, diagnosis, and treatment of hepatitis C virus infection reduces the risk of all-cause mortality by 50% among those with infection.[18] Our ability to prevent cancer has improved significantly.

HOW WELL DO WE USE THE EVIDENCE ON CANCER PREVENTION?

The evidence on cancer prevention has not been adopted in the United States as effectively as it might have been (Table 1). Among the strategies for the prevention of cancer, smoking cessation has the longest-standing evidence base. Environmental and policy approaches (e.g., taxation and restrictive policies) that reduce the rate of risky behaviors and that increase access to treatment are particularly important for tobacco control at the population level.[6-8,26] However, the current federal excise tax on tobacco, $1.01, is low as compared with the average of about $3.15 per pack in high-income countries worldwide. There is often statistically significant variation among the states in the implementation of the evidence base. One example is state tobacco taxes, which range from 17 cents to $4.35 per pack of cigarettes.[27] Raising cigarette excise taxes at the state and federal levels is viewed as a key strategy in reducing smoking prevalence, yet almost one third of states have not raised their taxes in 10 years. Long-standing gaps in access to cessation treatment were addressed in the Affordable Care Act (ACA),[28,29] which is now at risk.

Similar gaps in the implementation of the evidence base can be seen in nearly all known cancer-prevention strategies. Simply put, as a nation, we continue to underinvest in primary prevention and screening and fail to adopt strategies to ensure that all population groups benefit equally from our knowledge of cancer prevention. As a result, cancer morbidity and mortality are unnecessarily high,[30] and these high rates translate into huge health care costs and a devastating burden for patients and their families.[31,32] Prevention is much less expensive. For example, the economic cost of smoking is estimated at $300 billion a year.[33] Every $1 expended on a comprehensive smoking-cessation program in Massachusetts was associated with a return on investment of $2.12.[34]

HOW CAN WE MAXIMIZE THE USE OF EXISTING EVIDENCE?

If we wish to increase the use of the existing evidence on cancer prevention, it is imperative

Summary

- We have a new model of primary care that embraces and centers community needs
- We have a robust, challenging cancer prevention evidence base and opportunities to rethink how we partner with communities and clinicians to put them into practice
- We need to leverage policy to create clinical practice settings that understand, engage with and can adapt to address the needs of their communities