Title
Setting the Stage: Advancing a Cancer Prevention Agenda for Young Adults

Permalink
https://escholarship.org/uc/item/1m0750b8

Journal
AMERICAN JOURNAL OF PREVENTIVE MEDICINE, 53(3)

ISSN
0749-3797

Author
Brindis, CD

Publication Date
2017-09-01

DOI
10.1016/j.amepre.2017.04.026

Peer reviewed
Setting the Stage: Advancing a Cancer Prevention Agenda for Young Adults

Claire D. Brindis, DrPH

SETTING THE STAGE

The Cancer Breakthroughs 2020 program (formerly Cancer Moonshots 2020), one of the most comprehensive cancer collaborative initiatives launched to date, has received international attention for its aim to accelerate the fight against cancer. This audacious goal is creating opportunities for creative worldwide collaborative efforts across scientific disciplines, the harnessing and sharing of big data, and research to expedite the development of vaccine-based immunotherapy to combat cancer.

Complementary to this endeavor is the need to pursue opportunities for primary cancer prevention, to keep people healthy and cancer free. The growing impact of cancer, both in the U.S. and globally, and the prevalence of modifiable cancer risk factors represent a window of opportunity to reduce cancer incidence at the population level. A comprehensive approach to cancer prevention considers the multiple and complex causal factors operating at different points in the life course. This approach also requires focusing on specific risk factors and the social determinants of health that contribute to the development of cancer and other preventable diseases.

The papers in this special issue of the American Journal of Preventive Medicine examine the evidence linking factors in early adulthood, covering a broad continuum of ages ranging from 18 to 44 years, to subsequent cancer risk and opportunities for putting that evidence into public health practice. The papers reflect a range of cancer types from breast to skin cancer, as well as health behaviors, chronic conditions, and inflammation that have been shown to increase cancer risk. Building upon previous work focused on other phases of life, these papers consider a variety of factors during young adulthood that may influence subsequent cancer risk. These include risks that may be uniquely faced by this age group, as well as opportunities for early intervention. Also, these papers place cancer risk within the framework of social drivers of health, including social and behavioral factors. Together, the researchers highlight contextual factors (e.g., the role of disparities in communities), programs, and policies that shape the type of environment in which individual decisions are made. For example, research has ascertained how targeted marketing of cancer-causing products, such as tobacco and alcohol, and social inequalities in access to preventive healthcare services, contribute to the environmental context of cancer risk.

THE UNIQUE ASPECTS OF YOUNG ADULTS

A nuanced understanding of early adulthood and factors that place this age group at particular risk offers insights on how to avoid the cascade of longer-term negative health consequences as this population ages. Such understanding is based upon available scientific evidence regarding patterns in cancer-related health behaviors and chronic health conditions and effective, tailored interventions, as highlighted in the brief report by White et al. The challenge for knowledge translation is the gap in existing evidence for the specific types of programs, services, and policies that are implemented. An age-focused review of this emerging field also reveals other knowledge gaps, such as the uneven inclusion of specific groups of young adults (e.g., racial, ethnic, and sexual minorities) in previous research.

Sociobehavioral mechanisms also influence the onset of cancer both during and following young adulthood. Similar to a complex mosaic, different contexts and opportunities for early intervention exist, ranging from community settings and recreational spaces (including bars and tanning salons) to worksites and the healthcare system. For example, although not all young people seek healthcare consistently, McKnight-Eily and colleagues examine the low level of alcohol screening by healthcare providers among those who do. The authors offer...
strategies for improving the content of primary care
delivery so that young adults receive the alcohol screening
and brief intervention they need, given the high prevalence
of alcohol use among young adults.9 This is particularly
relevant in light of the estimates of Ekwueme et al.11 of the
medical care costs for breast cancer attributable to alcohol
consumption among young women, further highlighting
the potential benefits of evidence-based screenings and
interventions to reduce alcohol consumption.

Linked to implementing healthcare screenings is the
need for system capacity, including provider training and
system reimbursement incentives, to ensure that such
tools are implemented with fidelity. To address primary
care provider concerns about implementing appropriate
alcohol screenings, a responsive system needs to be
developed that includes young adult support groups,
peer outreach, and treatment services. This approach
requires multisectoral collaborations, including commu-
nity, recreational, and faith-based organizations as other
entry points into systems for early screening, referral,
and care.

Analyzing co-occurring antecedent variables offers
opportunities to further understanding of the unique
aspects of this age group. Authors, such as Massetti and
colleagues,12 pursue the inter-relationship between can-
cer risk factors (tobacco, alcohol, overweight/obesity,
physical activity, and inadequate sleep), system factors
(uneven access to health care), and other risk factors that
emerge and are prevalent during young adulthood.
Specifically, they identify mental health problems that
have traditionally not been part of the mix of factors that
may directly and indirectly raise cancer vulnerability.12

For example, research is needed regarding how mental
health and stress contribute to health behaviors and
habits that further increase cancer risk. This reflects the
importance of going upstream to the root causes of
behaviors, such as tobacco and alcohol use, to create
nuanced interventions that help young adults deal with
factors that place them at risk. The need for a “deep dive”
approach is reflected in the limited effectiveness of
tobacco, alcohol, and obesity prevention campaigns for
some subgroups that focus primarily on providing
information. Instead, interventions need to be developed
and tested that respond to the underlying factors driving
the “self-medication” behaviors related to stress.

CONCEPTUAL FRAMEWORKS

To advance the field of cancer prevention, conceptual
frameworks are needed to shape research. A framework
that captures structural, environmental, and social deter-
ninants helps ensure that the complexity of developing
more effective interventions is not underestimated. For
example, Hiatt et al.13 advance the use of theories of
change to study the complexity of SES and other
disparities that contribute to understanding differenti-
tated cancer incidence. Such frameworks can be used
to develop and test cancer prevention strategies. Ling and
colleagues14 apply social cognitive theory to research
social media and health, including observational studies
using social media data sources, delivering cancer-
relevant preventive messages via online social media.
The authors present creative strategies for bringing
relevant messages to vulnerable young adults in alter-
native settings in which they often congregate. Under-
standing very specific social and cultural groups,
specifically “peer crowds” that have similar values,
aspirations, and social activities (e.g., patrons of “Hip
Hop” and “Country” bars and nightclubs), offers oppor-
tunities for tailored interventions to decrease smoking
and binge drinking. Many of these sites have traditionally
not been included in cancer prevention.15

YOUTH VOICE

Understanding the specific experiences and context for
young adults, including those of color, and engaging
them in helping to shape potential interventions is
reflected in the research contributions of McCloud et
al.16 and Schillinger and colleagues.17 Both papers point
to the effectiveness of social media and other commu-
nication strategies for engaging young adult voices across
many subgroups that are not easily categorized. Defining
young people merely by their SES or race/ethnicity is too
simplistic when developing effective health promotion
interventions. Recognition of both audience subgroups
and their diverse use of social media is needed to create
intended behavioral changes. Schillinger et al.17 describe
how message content is also shaped by the young adults’
underlying values and desire for social justice and
inclusion. The young adults’ strategies for effecting
change are shaped by a sense of defiance against an
authority that limits their community’s future. Develop-
ing tailored interventions aimed at increasing vaccina-
tions, increasing physical activity, and controlling weight
(among others), is key if the pipeline of upstream
behaviors that contribute to higher incidence of cancer
later in life are to be reduced.

The use of technology with young adults is also
promising in developing preventive interventions. Instead
of merely providing one session of health
education aimed at increasing the level of consumers’
knowledge regarding their behavioral decisions, technol-
ogy could be useful in further behavioral reinforcement.
For example, tailored interventions could take into
account the learners’ risk profile, their information needs,
their interest in incorporating behavioral change, and whether they have the skills necessary to adopt desired changes. The intervention could also be multi-phased, including reinforcement of behavioral change through online behavioral reminders, such as those described by Falzone and colleagues, and other social media efforts.

OPERATIONALIZING THE IMPLICATIONS OF RESEARCH FINDINGS INTO PRACTICE AND POLICY

Epidemiologic patterns are constructive in pointing to population disparities in the occurrence of cancer incidence and death. However, these patterns are often unable to provide insights into the underlying factors contributing to the data. Many of the cancer risk factors included in the papers, such as Anstey et al. and Yang and colleagues, reflect a complex set of proximal and distal variables that may initially not be viewed as impacting cancer risks. For example, the decision not to breastfeed, which may increase a woman’s risk for breast cancer, may be driven by a variety of barriers. These include lack of social and cultural acceptability, inadequate support by the healthcare community, and unsupportive work environments. Consequently, interventions need to include multipronged, cultural, environmental, and employment responsive strategies. These include peer counseling, changes in hospital policies, group prenatal education, lactation-specific clinic appointments, and other strategies that are tailored to the diverse health needs of communities of color.

To incorporate a “precision public health approach” to individuals, as well as populations, raises important issues. First, even though a number of strategies can be reasonably implemented with existing evidence, there remains a need for further research. For example, is the protective effect of breastfeeding stronger for those who exclusively breastfeed? Is the effect observed consistently across all racial/ethnic and socioeconomic groups? How long would one need to breastfeed to reduce cancer risk? To ensure the utility of such studies, standard measures of breastfeeding across studies are needed. Second, consumers, diverse community agencies, and other stakeholders need to be engaged in shaping the types of interventions being developed and tested. For example, what are optimal ways to support breastfeeding within a low-income and diverse community?

Reflecting the widespread use of social media and other communication channels by young adults, several of the papers focus on the role of communication and health literacy in developing interventions. Researchers, such as McCloud et al. and Simmons and colleagues, point to the challenges of developing such interventions, given the relatively limited research on media consumption, particularly by young adults’ SES, gender, race/ethnicity, and urban or rural setting. The transformation of social media as a platform for targeted marketing to this age group, including tobacco, alcohol, food, and beverage industries that remain unregulated in such settings, has also likely increased exposure to cancer risk-promoting marketing. This will require different types of interventions to be developed, including promoting health information about multiple and concurrent risks that impact the audience.

NEXT STEPS

Several cross-cutting themes have implications for the nascent field of cancer prevention among young adults within a life course and social determinants perspective. First, there continues to be a need for supporting the availability of national, state, and, ideally, local geospatial data that can be analyzed to identify the variety of social and contextual factors that contribute to cancer risks. These data are key for targeting program and policy interventions. A number of existing data sources could be enhanced, with the addition of relevant variables (e.g., housing security) and linked to other available data sets, such as geomapping, to help with additional neighborhood impact analyses.

Second, the lack of a consistent set of metrics and measures precludes the type of data sharing and analyses that would facilitate more rapid advancements in the knowledge and understanding of cancer risk, as well as effective preventive measures. Third, there is a need and technologic capacity to study the interactions of environmental and biological risk factors and sociobehavioral mechanisms. These include obesity, inflammation, environmental carcinogens, circadian rhythm disruptions, stress, social isolation, and physical inactivity. Other contextual factors include vulnerability to marketing of cancer-causing products. Such studies will likely require linking and analyzing different data sets.

Fourth, greater collaboration is also needed among those who develop and test interventions so that better and more consistent measures, as well as lessons learned, can be more readily shared. This includes the experience of developing and implementing theory-driven interventions and rigorous evaluation designs. The effective use of research evidence in the development of the next generation of effective interventions can occur when open platforms are encouraged to flourish. These enable researchers to build upon shared knowledge of a variety of strategies needed to create more effective interventions as a means of closing knowledge gaps.

Fifth, there is a need for longitudinal tracking of young adults over their life course in order to ascertain whether initial behavioral changes, when they occur, are...
maintained over time. In turn, the data would help answer how interventions can contribute to an overall reduction in the incidence of cancers among older adults. This type of evidence will be particularly compelling in making needed prevention investments.

Similar to the Breakthroughs initiative, where collaborative networks of cross-disciplinary researchers aim to expedite immunologic research, parallel efforts are also needed in cancer prevention. Although immunotherapy will take into account the individual’s -omics as precision medicine interventions are developed, the structure of the genetic profile is likely to be impacted by individual and neighborhood factors, such as disparities and stress. The latter have been shown to be causal factors in the incidence and prevalence of cancer. Thus, insights from across the spectrum, from primary prevention through early detection, and from treatment to cancer survivorship, could help inform each other’s groundbreaking efforts.

ACKNOWLEDGMENTS

Publication of this article was supported by the U.S. Centers for Disease Control and Prevention (CDC), an Agency of the U.S. Department of Health and Human Services, under contract number: 200-2017-M-94637.

I would like to acknowledge the intellectual contributions of Dr. Mary White and Dawn Holman to the concepts reflected within this commentary and the entire supplement devoted to pursuing an agenda of cancer prevention for young adults.

Claire Brindis was supported by grant #U45MC27709 from DHHS, Health Resources and Services Administration, Maternal and Child Health Bureau (Title V, Social Security Act), Division of Child, Adolescent and Family Health, Adolescent Health Branch.

No financial disclosures were reported by the author of this paper.

REFERENCES


