The National Cancer Institute’s Portfolio of Research on Health Literacy and Communication in Oncology and Priorities for Future Research
Mission

The Health Communication and Informatics Research Branch (HCIRB) advances research on the processes and effects of communication and informatics across the cancer control continuum.
Health Literacy at NCI

Summary

The branch supports research on health literacy, defined as “the degree to which individuals can obtain, process, and understand the basic health information and services they need to make appropriate health decisions” (Institute of Medicine, 2004). Limited health literacy is an important contributor to health disparities and frequently a barrier to medical screening, treatment, health-related quality of life, and cancer communication. HCIRB encourages innovative research that examines the role of health literacy in public health and clinical cancer care. Scientific priorities include testing the effect of tailored and targeted communication, understanding the digital divide and its impact on health disparities, developing strategies for communicating uncertain and complex cancer information to diverse and limited health literacy populations, and applying mixed methods approaches to investigate challenges related to limited health literacy.
Health Disparities

- A health disparity is “[a] particular type of health difference that is closely linked with social or economic disadvantage.”

- Health disparities **adversely affect** groups of people who have **systematically** experienced greater social/economic obstacles to health:
  - Racial or ethnic group;
  - religion;
  - socioeconomic status;
  - gender;
  - age;
  - mental health;
  - cognitive, sensory, or physical disability;
  - sexual orientation;
  - geographic location;
  - or other characteristics historically linked to discrimination or exclusion.


(Adsul and Shelton, 2019)
Advancing Health Equity and Examination of Social Determinants of Health
# The Cancer Control Continuum

## FOCUS

<table>
<thead>
<tr>
<th>Etiology</th>
<th>Prevention</th>
<th>Detection</th>
<th>Diagnosis</th>
<th>Treatment</th>
<th>Survivorship</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Environmental factors</td>
<td>• Tobacco control</td>
<td>• Pap/HPV testing</td>
<td>• Shared and informed decision-making</td>
<td>• Curative treatment</td>
<td>• Coping</td>
</tr>
<tr>
<td>• Genetic factors</td>
<td>• Diet</td>
<td>• Mammography</td>
<td></td>
<td>• Non-curative treatment</td>
<td>• Health promotion for survivors</td>
</tr>
<tr>
<td>• Gene-environment interactions</td>
<td>• Physical activity</td>
<td>• Fecal occult blood test</td>
<td></td>
<td>• Adherence</td>
<td></td>
</tr>
<tr>
<td>• Medication (or pharmaceutical exposure)</td>
<td>• Sun protection</td>
<td>• Colonoscopy</td>
<td></td>
<td>• Symptom management</td>
<td></td>
</tr>
<tr>
<td>• Infectious agents</td>
<td>• HPV vaccine</td>
<td>• Lung cancer screening</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Health behaviors</td>
<td>• Limited alcohol use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Chemo-prevention</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Cross-Cutting Areas:
- Communications
- Surveillance
- Health Disparities
- Decision-making
- Epidemiology
- Health Care Delivery
- Dissemination of Evidence-based Interventions
- Measurement
NCI Portfolio in Health Literacy and Future Directions
Background

- Health literacy (HL): “The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (HHS)
- NCI has partnered with 11 other ICs and offices at NIH to issue health literacy funding opportunity announcements (FOAs)
- Present focus is on priority cancer prevention and control outcomes and health literacy as a cross cutting health communication research agenda
Portfolio Analysis

- Thematic analysis of project abstracts from 2010 and 2013
  - 96 proposed projects included in analysis
  - NCI indicated as the primary IC in 75% of project proposals (n=72)
  - Coded for primary aims, research domains, HL definition/conceptualization, populations, cancer focus, and technology
Health Literacy as the Primary Aim

Chou & Clark, 2015
Primary Cancer Prevention and Control Outcomes

Future Opportunities: Precision Medicine, Genomics, Clinical Trials, Digital, Financial
Health Literacy and Implementation and Dissemination Science

RE-AIM
Translating Research into Action
re-aim.org

REACH
How do I reach the targeted population?

EFFECTIVENESS
How do I know my intervention is effective?

ADOPTION
How do I develop the institutional support to deliver my intervention?

IMPLEMENTATION
How do I ensure the intervention is delivered properly?

MAINTENANCE
How do I incorporate the intervention so it is delivered over the long term?
Most of the studies examined only one level, if we want to address Health Communication Inequalities, including at least more than two levels of a multi-level framework are needed.
Need to understand mechanisms across levels and contexts

“Overall, the physical, social, and normative environment of health care Settings can inhibit or facilitate the application of existing literacy/health literacy skills as well as the practice of efficacious communication efforts”
(Rudd, 2018)

Intersection between Technology and Health Literacy

- In 2010 majority of proposals (58%) included some type of technology, by 2013 it was 78%.
- 21 forms of technology
- Most common
  - Internet/website: 14%
  - Video: 10%
  - Social media: 5%
  - Text messaging: 4%
  - Computer: 4%
  - Dashboards: 4%
  - Electronic health records: 4%
Intersection between Technology and Health Equity

Communication inequality refers to differences in the generation, manipulation, and distribution of information among social groups, as well as differences in: (1) access to and use of information channels, (2) attention to media content, (3) recall, knowledge, and comprehension, and (4) capacity to act on relevant information among individuals (Viswanath 2006).

Digital inequalities and why they matter
Laura Robinson, Sheila R. Cotten, Hiroshi Ono, Anabel Quan-Haase, Gustavo Mesch, Wenhong Chen

The first-level digital divide shifts from inequalities in physical access to inequalities in material access
Alexander JAM van Deursen, Jan AGM van Dijk

Download citation https://doi.org/10.1080/1369118X.2015.1012532

Check for updates https://doi.org/10.1177/1461444818797082
Future Directions to Reduce Communication Inequalities

- Reduce Communication Inequalities, including examination of the intersection between health literacy and digital health
- Multi-level and Multi-component interventions that include health literacy in at least one of two or more "levels" or components
- Inclusion of participatory methods in defining health literacy interventions and across patient, provider and organizational contexts
- Examination of health literacy in dissemination and implementation research and iterative approaches to understand behavior change
- In examination of settings and contexts where the research is occurring, making sure we are not reinforcing health inequalities and disparities
# Select Funding Opportunities

<table>
<thead>
<tr>
<th>Description</th>
<th>Contact</th>
<th>Expiration Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanism for Time-Sensitive Drug Abuse Research</td>
<td>Kelly Blake</td>
<td>Nov. 9, 2021</td>
</tr>
<tr>
<td>PAR-19-064 (R21 Clinical Trial Optional)</td>
<td><a href="mailto:kelly.blake@nih.gov">kelly.blake@nih.gov</a></td>
<td></td>
</tr>
<tr>
<td>End-of-Life and Palliative Care Health Literacy:</td>
<td>Wen-Ying Sylvia Chou</td>
<td>May 8, 2021</td>
</tr>
<tr>
<td>Improving Outcomes in Serious, Advanced Illness</td>
<td><a href="mailto:wen-ying.chou@nih.gov">wen-ying.chou@nih.gov</a></td>
<td></td>
</tr>
<tr>
<td>PAR-18-498/PAR-18-499 (R01/R21 Clinical Trial Optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovative Approaches to Studying Cancer Communication in the New Media</td>
<td>Kelly Blake</td>
<td>June 14, 2019</td>
</tr>
<tr>
<td>Environment PAR-18-638/PAR-18-639 (R01/R21 Clinical Trial Optional)</td>
<td><a href="mailto:kelly.blake@nih.gov">kelly.blake@nih.gov</a></td>
<td></td>
</tr>
<tr>
<td>NIH-NSF joint funding opportunity: Smart and Connected Health</td>
<td>April Oh</td>
<td>Dec. 11, annually</td>
</tr>
<tr>
<td>PAR-19-093 (R01 Clinical Trial Optional)</td>
<td><a href="mailto:april.oh@nih.gov">april.oh@nih.gov</a></td>
<td></td>
</tr>
<tr>
<td>Leveraging Health Information Technology (Health IT) to Address Minority</td>
<td>April Oh</td>
<td>March 5, 2021</td>
</tr>
<tr>
<td>Health and Health Disparities PAR-19-093 (R01 Clinical Trial Optional)</td>
<td><a href="mailto:april.oh@nih.gov">april.oh@nih.gov</a></td>
<td></td>
</tr>
<tr>
<td>Modular R01s in Cancer Control and Population Sciences</td>
<td>Scott Rogers</td>
<td>March 9, 2021</td>
</tr>
<tr>
<td>PAR-18-869 (R01 Clinical Trial Optional)</td>
<td><a href="mailto:rogerssc@mail.nih.gov">rogerssc@mail.nih.gov</a></td>
<td></td>
</tr>
</tbody>
</table>

A complete list of BRP funding opportunities can be found at [cancercontrol.cancer.gov/brpfunding](https://cancercontrol.cancer.gov/brpfunding). Meet HCIRB-funded grantees at [cancercontrol.cancer.gov/brpgrantees](https://cancercontrol.cancer.gov/brpgrantees).
Thank you!

Acknowledgements:
Sylvia Chou, PhD, MPH
Maureen Clark, MA
Anna Gaysynsky, MPH

Questions:
April Oh, PhD, MPH
April.oh@nih.gov
@aprilyoh
@NCIBehaviors