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Examining 2-1-1 Service Requests as Potential Markers for Cancer Control Needs

Kassandra I. Alcaraz, Lauren D. Arnold, Katherine S. Eddens, Choi Lai, Suchitra Rath, Regina Greer, and Matthew W. Kreuter

This study examined the utility of using 2-1-1 “service request” data to predict callers’ cancer control needs. Using data from 4,104 callers to United Way 2-1-1 Missouri, logistic regression was used to examine relationships between caller demographics, type of service request, and cancer control needs. Of six types of service requests, three were associated with having specific cancer control needs, and two were associated with being uninsured. Findings suggest routinely collected 2-1-1 data may help efficiently identify callers with specific cancer control needs. However, to apply this approach in 2-1-1 systems nationally, further research and ongoing surveillance is necessary.
Identifying Potential Target Beliefs for Youth Smoking Prevention Mass Media Campaigns: Findings From an Online Study With 13 – 25 Year Olds

Emily Brennan, Michelle Jeong, Laura Gibson, Ani Momjian, Danielle Naugle, Heather Forquer, Andy Tan, Sarah Parvanta, and Robert Hornik

We examined the association between specific smoking-related beliefs and intentions to smoke in an effort to identify potentially useful belief targets for youth smoking prevention mass media campaigns. We surveyed 1,100 13 – 25 year olds online, asking them to rate the likelihood that various consequences (e.g., health, addiction, social (un)popularity) would occur if they smoked. Analyses will identify (1) which beliefs predict the likelihood that young people do not intend to smoke and (2) the potential gain at the population level if endorsement of each belief could be increased. Based on these findings, promising campaign targets will be identified.
LocalHealthData.org: A Tool For Creating Locally Relevant Health Stories

Charlene Caburnay, Erin Robinson, Tim Poor, Balaji Golla, Rebecca Gernes, and Matthew Kreuter

LocalHealthData.org is a free, web-based tool originally designed to enrich the health information environment in minority communities, streamline the data-collection process, and make locally specific health information accessible for resource-limited journalists and community members. Currently, LocalHealthData.org provides instant access to health data from over 70 sources and over 300 datasets and translates these data into plain language sentences. Visitors also have access to 500+ photographs, searchable by community and race/ethnicity, and can create their own charts. Since launching the site in June 2011, visitors have represented 37 different countries and 48 states and have clicked on more than 13,000 individual data points.
Neurocognitive Predictors of Successful Health Messages

Christopher N. Cascio, Matthew O’Donnell, Frank Tinney, Josh Carp, and Emily B. Falk

Despite the success of prominent behavior change models in explaining the impact of health messages on behavior change, they are still limited. One difficulty in predicting health behavior change is the uncertainty in knowing who will successfully traverse the gap between attitudes, intentions, and behavior. The current study aims to (1) identify the neurocognitive signature of successful health communications, as well as underlying mechanisms that promote successful health messages, and (2) examine the neural effects of a self-affirmation manipulation delivered prior to message exposure. Results are discussed in the context of cancer communication and prevention efforts.
A Natural Match: Linking the Missouri Tobacco Quitline With Food Stamps

Christopher Casey, Erin Robinson, Charlene Caburnay, and Matthew Kreuter

Smoking has become largely an SES-based disparity. The Supplementary Nutrition Assistance Program (SNAP, or commonly known as Food Stamps) reaches over 40 million people every month—the low-income Americans most affected by smoking. The Missouri Tobacco Quitline is not well known among SNAP users. We partnered with SNAP and the Quitline to bring cessation referrals to a potential 400,000 Missouri families. We are evaluating our program’s implementation process and success in promoting the Quitline. This successful partnership could be replicated in many social service settings that serve a low-SES community.
Use of mHealth for Chronic Disease Management: Looking Across Three Patient Populations

Ming-Yuan Chih, Fiona M. McTavish, Dhavan V. Shah, Michael G. Boyle, Michael S. Levy, Deborah K. Mayer, and David H. Gustafson

Three smartphone-based CHESS systems are undergoing or recently completed randomized controlled trials with populations facing different chronic health conditions: (1) underserved youth with moderate to severe asthma (mean age 14, 11% Caucasian), (2) adults dealing with alcohol addiction (mean age 38, 85% Caucasian), and (3) colon cancer survivors (mean age 59, 85% Caucasian). This report considers the usage patterns of these three mHealth applications by the corresponding populations. Our systematic usage analyses (i.e., system entry, exposure, and engagement) offer rich information for understanding user behavior and highlight one essential design consideration—one size does not fit all, nor should it.
“Help! I Really Need Someone to Talk to Right Now”: Deep Disclosures on Cancer Message Boards

Jonathan D’Angelo, Dhavan V. Shah, and David H. Gustafson

Past studies exploring Social Penetration Theory (Altman & Taylor, 1973) online have generally supported the patterns of self-disclosure hypothesized by this theory: movement from superficial facts to deep and intimate matters. However, this may not always be the case. This research argues that in certain online contexts, personal and intimate facts or deep disclosures are expressed early in a relationship. Specifically, this research found that participants in a message board housed on a private eHealth system dedicated to breast cancer, patients posted deep self-disclosures concerning treatment information and calls for help early and often in their interactions. Implications on theory and inventions are discussed.
Implementing an Effectiveness Trial of CHESS in a Large Healthcare Delivery Setting

Kathy Easter, Chin Tengsico, Jack Hollis, David Feeny, K. Sabina Smith, Elizabeth Shuster, and Dahlia Cadiz

This poster details how we designed and implemented an effectiveness RCT within the Kaiser Permanente Northwest (KPNW) healthcare delivery system. Steps included securing system- and department-level buy-in from a large number of stakeholders, recruiting new breast cancer patients, providing CHESS and a control website, obtaining follow-up data, and assessing providers’ perceptions of clinical encounters with study patients. Outcome data are not yet available, but process measures are presented, along with conclusions about implementation strategies.
Impact of Crises on Call Volume to 2-1-1

Katherine S. Eddens, Kassandra I. Alcaraz, Matthew W. Kreuter, Suchitra Rath, and Regina Greer

Times of crises often cause a spike in call volume challenging 2-1-1’s ability to meet their service quality standards. For researchers gathering data through 2-1-1s, high call volume might reduce accrual. This study examines the impact of crises on call volume to 2-1-1, how call volume affects research participant accrual, and how recruitment efforts affect 2-1-1 service quality indicators. Findings suggest that crises causing spikes in call volume adversely affect 2-1-1 service quality indicators and accrual of research participants. In 2-1-1 - research collaborations, both partners need to understand the dynamic relationship between call volume, research accrual and service quality.
Presenting Longitudinal Data: Does Type of Graphical Format Matter?

Angela Fagerlin, Brian Zikmund-Fisher, Knoll Larkin, and Daniel A. Hamstra

Research has shown that pictographs are the best graphical format for presenting static numbers (e.g., side effect of tamoxifen). However, little research has tested the effectiveness of different graphical formats for presenting longitudinal data. The current study tested how line, pie, bar, and pictographs affected knowledge (actual and perceived), risk perceptions, graph perceptions, and hypothetical behavior in a prostate cancer clinical context. Few differences across graphs emerged in terms of knowledge, risk perceptions or behavior. People split mostly evenly in their preference for graphs with the exception that few preferred pictographs. Similarly, people perceived that they understood pictographs least.
Mass Media Campaign to Increase the Use of All Smoking Cessation AIDS: Results From a Monthly Population- and Individual-Level Evaluation

Laura Gibson, Sarah Parvanta, Michelle Jeong, Giridhar Mallya, and Robert Hornik

We evaluated a 16-month Philadelphia adult smoking cessation media campaign targeting using help to quit. We surveyed a representative sample of 3,354 smokers in a monthly cross-sectional design, some with 3-month follow-up surveys (n=890). There was no evidence for population-level campaign effects. However, more campaign exposure predicted subsequent use of help (odds ratio [OR] = 1.08, p<.01), seeking doctor advice (OR = 1.08, p<.01), and using medications (OR = 1.09, p<.05) adjusting for baseline behavior. Results suggest the campaign had effects on those exposed, but stronger effects and wider reach were needed for campaign impact at the population level.
**Make Research Matter:** A Web-based Toolkit That Supports the Development of Interventions With High Dissemination and Implementation Potential

Michelle Henton, Borsika Rabin, James Dearing, Ross Brownson, and Nikki Caito

The Make Research Matter (MRM) website is an online toolkit that assists developers of interventions increase the dissemination and implementation (D&I) potential of their products. Tools on the MRM site include: the Planning Tool—an interactive survey that provides a tailored report that aids researchers with their dissemination plan; the Resource Library—a searchable database consisting of a compilation of D&I-related articles from multiple sources; the Narrative Library—a freely accessible online library containing video vignettes of “how-to” knowledge to D&I problems; the Glossary—containing over 100 definitions of terminology used in D&I health research.

This project was supported by award number P20CA137219 from the National Cancer Institute.
A Novel Intervention Using Narratives to Reduce Cancer Disparities: African American Breast Cancer Survivor Stories

Donna B. Jeffe, Maria Pérez, Karen K. Collins, Julianne Sefko, Deb Ksiazek, Balaji Golla, Julie Margenthaler, Graham Colditz, and Matthew Kreuter

We developed and pilot tested a cancer-communication intervention using a survivor-story video library. We rated 917 videos for likability, clarity and length, and emotional impact and selected 207 highly rated story clips told by 35 African American breast cancer survivors for video-program inclusion. We pilot tested the video program with 10 African American breast cancer patients who viewed videos, selected by topic or by storyteller. Participants found stories to be “interesting and informative” and identified with storytellers (e.g., they “think a lot like me”). Video-program usability was rated highly. Participants reported that the stories convinced them to receive follow-up mammograms.
Methodological Issues in Testing Messages

Minji Kim, Dina Shapiro, and Joseph Cappella

To collect responses to and evaluations of messages efficiently, researchers often use repeated-measure designs and videos embedded within web surveys. A secondary analysis of five studies explored the impact of these approaches on the reliability and validly of the resulting data. Results indicate that repeated evaluations of messages affect the substantive outcomes of the study such that respondents evaluate messages in later positions more favorably. In addition, the use of videos in web surveys leads to self-selection and response bias, such that the final sample is more likely to be older, educated, male, self-employed, and to have high Internet connectivity speeds.
Mapping e-Health Intervention Effects Over Time for Cancer Patients With Depression

Sojung Claire Kim, Bret Shaw, Dhavan V. Shah, Robert Hawkins, Susan Pingree, Fiona M. McTavish, and David H. Gustafson

This study examined the main and conditional effects of depression and different types of e-health interventions on breast cancer patients’ perceived health care competence, emotional well-being, and social well-being over time. The three e-health interventions—Internet Only as a control condition, Full CHESS (Comprehensive Health Enhancement Support System), and Full CHESS plus a human Mentor, (a cancer information specialist)—provided varying degrees of interactivity and presence. A total of 328 women with breast cancer participated in one of the three interventions for a six-month period. Women were further distinguished into two groups based on their reported levels of depression. For perceived health care competence and social well-being, the results revealed significant interaction effects for intervention type by depression by time, such that breast cancer patients with high levels of depression benefited most regarding these health outcomes in the Full CHESS plus Mentor intervention over the six-month intervention. For emotional well-being, there were significant interaction effects between intervention type and depression, regardless of time. These findings can guide e-health intervention developers by offering practical advice on how to design effective e-health systems that will increase psychosocial health benefits of cancer patients with depression.
Implementation and Dissemination of CHESS eHealth Breast Cancer Support in Population-Based Care


To answer the need for information and support for women newly diagnosed with breast cancer, CHESS is being offered to provide web-based information for decision-making, behavior change, and emotional support. This is the first time CHESS is being disseminated widely as a standard of care in a community population. This project evaluates the real-world implementation of CHESS by assessing the utilization at both the institutional and patient levels. We provide preliminary information on effectiveness of CHESS introduction to patients, initial patient utilization, and organizational issues affecting CHESS adoption and use in community cancer care.
We All Scream for Ice Cream: Physical Craving and Positive Identity Negotiation in the Face of Cancer

Bryan McLaughlin, Shawnika Hull, Kang Namkoong, Dhavan Shah, and David Gustafson

During the process of coding for quantitative analysis it became clear that the women in CHESS talked about ice cream and the deliverymen who brought it to them a lot. Lacking a theoretical basis for interpreting this phenomenon, we performed a grounded theory analysis. The results reveal that by sharing identity markers based around physical cravings, the women of CHESS are able to negotiate an identity that is joyful without denying the reality of their situation. We conclude that seemingly trivial topics such as ice cream can have profound implications for the healthy negotiation of self-identity for cancer patients.
Reactions to Graphic Cigarette Warning Labels Among Diverse Populations

Amy McQueen, Charlene Caburnay, Kimberly Kaphingst, Vetta Thompson, Molly Tovar, Erika Waters, and Matthew Kreuter

Our objective is to assess reactions to graphic cigarette warning labels to inform anti-tobacco media campaigns. We use surveys, card sort exercises, and qualitative interviews assess reactions to nine warning labels. Outcome measures include emotions, conceptual understanding, personal relevance, novelty, perceived effectiveness, counterarguing/reactance, anticipated social reaction, and action steps. Targeted recruitment is ongoing involving youth (age 13-17), young adult (18-24), and adult (25+) smokers, non-smokers, and those at-risk for smoking from vulnerable populations (e.g., minority, low income, rural, blue-collar). Preliminary results show differences in reactions across labels and groups. Results will identify the specific warning labels that resonate best with vulnerable populations.
This study suggests a corpus linguistic approach instead of conventional thematic qualitative methods, which rely on deductive and sometimes less objective coding process. A corpus linguistic analysis provides statistical evidence of how the expressive patterns of cancer caregivers are distinctive. It allows researchers to develop more systematic and evidence-based coding rules to capture caregivers’ experiences and feelings. Applying a corpus analysis in a caregiver support group context, this study delineates what kinds of difficulties (e.g., financial, physical, emotional) caregivers experienced, how they coped (e.g., venting, positive reappraisal, humor) with these difficulties, and how they provided support to each other.
A Multi-Step Analysis of Informational and Emotional Expression Patterns Among Breast Cancer Patients

Tae Joon Moon, Ming Yuan Chih, Jung-Hwan Yang, Dhavan Shah, Sandra Knisely, Yang-Sun Hong, Byung-Gu Lee, Chang-Won Jung, Jinha Kim, Fiona McTavish, and David Gustafson

Using a multi-step analytic method, this study investigates what types of messages are exchanged in an online support group, how patterns of expression vary across individuals, and which attributes are related to expression patterns. The computer-aided content analysis discovered four subcategories of emotional support and eight subcategories of informational expression. A cluster analysis determined three distinctive expression patterns: low in both informational and emotional expression, high in both informational and emotional expression, and high in informational expression only. Finally, logistic regression analyses confirmed that the age, income, entry-time into the group are significant predictors of expression patterns.
Thank You for Sharing Your Survivor Story:
The Effects of Survivors’ Support on Newly Diagnosed Breast Cancer Patients

Tae Joon Moon, Woohyun Yoo, Min Yuan Chih, Amy Atwood, Dhavan Shah, Michael Aguilar, Helene McDowell, Fiona McTavish, and David Gustafson

Breast cancer survivors have a better understanding of treatments and psychological difficulties accompanying their cancer experience. Moreover, after overcoming the life-threatening disease, they can experience post-traumatic growth. Literature suggests that this might promote them to share their experience and to be potential support providers. This study investigates which types of social support breast cancer survivors provide to newly diagnosed patients. It describes how the survivors’ support is qualitatively different from that of newly diagnosed breast cancer patients through a systematic computer-aided content analysis. The study further investigates how the survivors’ support contributes to a psycho-social adjustment of newly diagnosed patients.
What Are the Effects of Cancer-Related Information Engagement on Health Behaviors and Patient Outcomes? A Synthesis of Research Findings From Penn CECCR Population-Based Studies

Danielle Naugle, Andy S.L. Tan, Laura Gibson, and the Penn CECCR Seeking/Scanning/PCIE Research Group*

In this review, we present a synthesis of the body of research arising from population studies among American adults at-risk of cancer and a population sample of cancer patients in Pennsylvania between 2003-2012 to highlight observed patterns in the relationships between information engagement with cancer-related health information and a variety of health behaviors and patient-reported outcomes. The review concludes that cancer-related information seeking or scanning are associated in important and non-obvious ways with cancer screening behaviors, preventive lifestyle behaviors, treatment decision processes, post-treatment surveillance, and patient-reported health outcomes. Implications for future research and practice for cancer communication will be discussed.

* Authors of the studies in the summary will be listed on the poster. We also wish to acknowledge the contributions of past and present members of the Annenberg School of Communication CECCR research team (2003 to present).
How do ideas spread from person to person? We combine automated language analysis (sentiment analysis; SA) with fMRI data in a study where subjects were exposed to socially relevant stimuli and provided verbal post-scan evaluations. The resulting language samples were analyzed using SA. Positive sentiment is associated with activation in neural regions associated with self-related processing, social cognition, and memory during initial idea encoding. We are applying this technique to the evaluation of health messages (i.e., promoting physical activity or reducing smoking) to understand the neural precursors of successful message propagation and the fundamental building blocks of successful cancer communication.
Graphic Warning Labels on Tobacco Products: Factual Claims or Anti-Smoking Advocacy?

Christine Skubisz and Joseph N. Cappella

What explains public opinion about policy initiatives? We hypothesized that political ideology and argument framing influence policy support. Key arguments in the graphic warning labels debate, concerning constitutionality and the role of government, were identified by content-analyzing elite news sources and court documents. Pre-test participants evaluated the extent to which arguments supported or opposed the policy and provided ratings of argument strength and effectiveness. In the main experiment, participants were randomly assigned to receive arguments opposed to or in favor of the warnings. Analyses examine the effects of political ideology and argument framing on policy support and emotional reactions.
From Lurkers to Sustainers: Change in the Expression of Emotional Support in an Online Cancer Support Group

Woohyun Yoo, Ming-Yuan Chih, Min Woo Kwon, Jung Hwan Yang, Eunji Cho, Bryan McLaughlin, Namkoong Kang, Dhavan V. Shah, and David H. Gustafson

This study explores how the expression of emotional support in an online breast cancer support group changes over time and what factors predict this pattern of change. The growth curve modeling was performed with data collected from 192 participants in an online breast cancer support group during a 24-week intervention period. Findings show that the expression of emotional support increases over time for the first 12 weeks of the intervention, but then decreases slightly with time after that. In addition, age, living situation, comfort level with computer and the Internet, and coping strategies predict the changing pattern of expressing emotional support.
Online Expression of Emotional Support Mediates the Effect of Social Competence on Breast Cancer Patients’ Health Benefits

Woohyun Yoo, Namkoong Kang, Mina Choi, Dhavan V. Shah, Michael Aguilar, Stephanie Tsang, Yangsun Hong, and David H. Gustafson

This study examines the mediating roles of the online expression and reception of emotional support in the relationship between social competence and beneficial health outcomes for breast cancer patients. The data used in the analysis resulted from merging computer-aided content analysis of discussion posts, action log data analysis of system usage, and longitudinal survey data collected from 237 participants in an online breast cancer support group. Findings suggest that social competence promotes breast cancer patients’ expression but not reception of emotional support, which in turn improves patients’ positive health outcomes, such as psychological well-being, emotional functioning, and healthcare competence.
The Social Stress-Buffering Roles of Emotional Support Expression and Reception in an Online Breast Cancer Support Group

Woohyun Yoo, Yangsun Hong, Dhavan V. Shah, and David H. Gustafson

This study examines the social stress-buffering functions of expression and reception of emotional support in an online breast cancer support group. The data used in the analysis resulted from merging computer-aided content analysis of discussion posts, action log data analysis of system usage, and longitudinal survey data collected from 237 participants in an online breast cancer support group. Findings indicate that the expression and reception of emotional support buffer the deleterious effect of negative change in intimate relationships on breast cancer patients’ coping strategies.