

# Using Behavioral Journalism to Develop Newsletters for Addressing Barriers to Colorectal Cancer Screening among Puerto Ricans

Serra-Martínez Y<sup>1</sup>; Colón-López V<sup>2</sup>; Valencia-Torres IM<sup>1</sup>; Vélez-Álamo C<sup>2</sup>; Acevedo-Fontáñez AI<sup>2</sup>; Fernández ME<sup>1</sup>

<sup>1</sup>UTHealth Science Center-Houston, School of Public Health, Center For Health Promotion And Prevention Research, <sup>2</sup>University of Puerto Rico Medical Sciences Campus, School of Public Health

## Background

- Colorectal cancer (CRC) is a leading cause of cancer-related mortality among men and women in Puerto Rico (PR).
- Colorectal cancer screening (CRCS) can reduce the incidence and mortality of CRC through early detection and removal of precancerous lesions<sup>(1, 2)</sup>.
- Data from the 2017 Behavioral Risk Factor Surveillance System, indicates that only 17.8% of PR adults over 50 years reported completing a fecal occult blood test (FIT/FOBT) in the past 12 months, and only 50.6% reported having a sigmoidoscopy or colonoscopy<sup>(3)</sup>.
- CRCS screening rates in PR remain substantially lower than the National Colorectal Cancer Roundtable's 2018 goal of 80%<sup>(4)</sup>.
- The Guide to Community Preventive Services recommends "one-on-one" education in combination with small media to increase CRCS<sup>(5)</sup>.
- There are limited studies examining the impact of "one-on-one" education in combination with other communication strategies in Latino populations, and none with Puerto Ricans.

## Objective

Use the *Behavioral Journalism* approach to develop newsletters aimed to increase CRCS among non-adherent men and women 50 years and older in Federally Qualified Health Centers in Puerto Rico.

## Methods

- We developed the content for the newsletter using Intervention Mapping (IM)<sup>(6)</sup>, a systematic approach for using theory and evidence to plan health promotion programs. IM also informed the selection of theoretical change methods (e.g. modeling) to address determinants of CRCS behavior among PRs.
- We used behavioral journalism techniques<sup>(7)</sup> to create the stories and messages for the Newsletters, including ten in-depth journalistic style interviews with participants that represented the target population, including some who survived CRC due to screening.
- We obtained quotes and key words to develop testimonials that highlight the benefits of CRCS, and demonstrate how people overcame barriers to complete CRCS and protect their health.
- We conducted focus groups (N=19) to assess appeal, acceptability, perceived relevance, cultural appropriateness, and motivation to obtain a CRCS.

## Newsletter Development

1. Design and conduct interviews: Questions were informed by the change objectives identified in Step 2 of IM.

**Table 1.** Sample of interview questions based on determinants and change objectives from Intervention Mapping.

Determinants	Questions
<b>Knowledge:</b> <ul style="list-style-type: none"> <li>Describes the various tests.</li> <li>States CRCS recommendations.</li> </ul>	<b>Questions related with FIT/FOBT:</b> <ul style="list-style-type: none"> <li>How did you know about the FIT/FOBT?</li> <li>What reasons led you to do this test?</li> <li>How did you know about FOBT / FIT?</li> </ul>
<b>Self-Efficacy:</b> <ul style="list-style-type: none"> <li>Expresses confidence in discussing CRC/CRCS with the provider (including barriers and concerns).</li> <li>Expresses confidence and demonstrates ability in requesting and obtaining referral from provider.</li> <li>Expresses confidence and demonstrates ability in making appointment.</li> <li>Expresses confidence in ability to complete all steps (FIT/FOBT).</li> <li>Expresses confidence in ability to complete colonoscopy.</li> </ul>	<ul style="list-style-type: none"> <li>Did your doctor explain the different types of screening tests to detect colorectal cancer?</li> <li>Did you (your health provider and you) discuss what test was most convenient for you?</li> <li>Was your doctor (or health provider) who recommended the test? or Were you the one who heard about the test and asked your doctor for information?</li> <li>Did your doctor (or health provider) explain the steps to follow to complete the test?</li> <li>What did your doctor explain?</li> <li>How did you get your doctor's order to complete the test?</li> </ul>
<b>Outcome expectations:</b> <ul style="list-style-type: none"> <li>Expects that PCP will answer their questions about CRC/CRCS.</li> <li>Expects that requesting and obtaining referral from provider will help to obtain CRCS.</li> <li>Expects that getting CRCS they will reduce the risk of CRC or detect it early enough to be cured.</li> </ul>	<b>Questions related with Colonoscopy:</b> <ul style="list-style-type: none"> <li>Why did your doctor recommend you the colonoscopy?</li> <li>How did you get the referral? How did it feel to get the referral?</li> <li>Did your doctor explain you the steps to follow to complete the test? What did your doctor tell you?</li> </ul>
<b>Attitude:</b> <ul style="list-style-type: none"> <li>Expresses that CRCS is a preventive behavior to take care of one's own health.</li> <li>Believes that even if embarrassed the test is worth it.</li> </ul>	

## Newsletter Development

2. Developed gender-tailored testimonial stories demonstrating how men and women overcame barriers to complete CRCS.



**Figure 1.** Testimonials from target population.

3. Assessed readability and cultural relevance using the Inflesz formula for Spanish language<sup>(8)</sup> and incorporated feedback from focus groups.



**Figure 2.** Paragraph submitted to the readability test in Spanish Inflesz.



**Figure 3.** Pretesting with priority population.

## Results

Overall, participants found the newsletter to be visually appealing and culturally appropriate. Most participants reported the newsletter increased their knowledge about CRC and CRCS, and motivated them to complete screening. They confirmed that they identified with models in the newsletters and that reading the stories made them feel like it was important to get screened to protect their health and that they could do it too. Feedback from focus groups informed key messaging and participants suggested reducing the length of testimonials, and including additional information about preventing CRC.



**Figure 4.** Newsletter Cover



**Figure 5.** Recommendations to prevent CRC.

## Conclusion

Behavioral journalism was a useful method for developing intervention materials to increase CRCS. It effectively communicated important information, increased information processing, addressed barriers, and influenced perceived norms. Focus groups indicated that it also increased self efficacy, perceived social norms and perceived benefits of CRCS. This method, may be particularly useful for reaching low literacy audiences that experience both knowledge and attitudinal barriers.

## Funding

Research for this project has been supported by the National Cancer Institute grant no. U54CA96297 for the University of Puerto Rico/MD Anderson Cancer Center Partnership for Excellence in Cancer Research.



References: (1) Registro Central de Cáncer de Puerto Rico (RCCPR). (2017, February 22, 2017). Age-Adjusted Incidence Rates by County, in Puerto Rico. Retrieved from [www.rccpr.org/Datos-de-Cáncer/Tasas-y-Mapas](http://www.rccpr.org/Datos-de-Cáncer/Tasas-y-Mapas); (2) RCCPR. (2017, February 22, 2017). Age-Adjusted Mortality Rates by County, in Puerto Rico. Retrieved from [www.rccpr.org/Datos-de-Cáncer/Tasas-y-Mapas](http://www.rccpr.org/Datos-de-Cáncer/Tasas-y-Mapas); (3) CDC. (2017, September 12, 2017). BRFSS Prevalence & Trends Data. Retrieved from <https://www.cdc.gov/brfss/brfssprevalence/>; (4) NCCRT. (2017, February 2017). About 80% by 2018. Retrieved from <http://nccrt.org/wp-content/uploads/80-by-2018-TALKINGPOINTS-Final-2.16.17.pdf>; (5) Guide, T. C. (2017). Cancer Screening: One-on-One Education for Clients – Colorectal Cancer. Retrieved from <https://www.thecommunityguide.org/findings/cancer-screening-one-on-one-education-clients-colorectal-cancer>; (6) Bartholomew, L. K., Markham, C., Rutter, R. A. C., Fernandez, M. E., Kok, G., & Parcel, G. (2016). *Planning Health Promotion Programs. An Intervention Mapping Approach* (Vol. Fourth). San Francisco: Jossey-Bass. (7) McAlister, A., & Fernandez, M. (2002). Behavioral Journalism: accelerates diffusion of healthy innovations. *Public health communication*. (8) Barrio-Cantalejo, I. M., Simón-Lorda, P., Melguizo, M., Escalona, I., Marjuán, M., & Hermandó, P. (2008). Validación de la Escala INFLESZ para evaluar la legibilidad de los textos dirigidos a pacientes. Paper presented at the Anales del Sistema Sanitario de Navarra.