Communication Strategies for Cancer Prevention and Control: From Traditional to New Media

Adapting Communication Interventions to Address Health Disparities Using Traditional Media

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Disclosure of Interest

No conflict to disclose.
This Presentation

• Overview of Cervical Cancer and HPV Infection in Los Angeles, California

• Communication Interventions to Address Disparities in Cervical Cancer Screening and HPV Vaccination
  – Tamale Lesson, Edutainment/Narrative Innovative Intervention
  – Es Tiempo, An Environmental Cue as an Innovative Intervention

• Conclusions

• Next Steps: Future Innovative Interventions
Human Papillomavirus Infection (HPV)

- Human papillomavirus (HPV) is the main infectious factor for cervical cancer. It causes over 99% of cervical cancers. It is also responsible for HPV related cancers.

- Although rare, HPV can be transmitted from mother-to-child at birth.

- Mostly women are impacted by the HPV virus, but it can also affect men.

- Most men who get HPV (of any type) never develop any symptoms or health problems.

- Some types of HPV can cause genital warts, and other cancers
  - Penis
  - Anus
  - Oropharynx (back of the throat, including base of the tongue and tonsils.)

(Source: Centers for Disease Control and Prevention, 2016)
As of October 19, 2016, the CDC changed their recommendations on the number of HPV shots for younger adolescents.

- Fewer shots offer more incentive to prevent HPV cancers.

<table>
<thead>
<tr>
<th>Number of doses CDC recommends, depending on age group:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 doses</td>
</tr>
<tr>
<td>3 doses</td>
</tr>
</tbody>
</table>
# International Table with Prevalent Screening Methods and Guidelines

<table>
<thead>
<tr>
<th>Country</th>
<th>Rates of HPV Vaccination</th>
<th>Rates of Cervical Cancer Screening Coverage</th>
<th>Method for Screening for Cervical</th>
<th>Guidelines for Cervical Cancer Screening (every 3 years, etc)</th>
</tr>
</thead>
</table>
| Brazil    | 2nd dose coverage: 36.7% (girls aged 9-11) 2015  
Males: No Data Available | 81.5% (all women aged 25-64)  
Pap test (primary)  
HPV DNA & VIA (alternative) | Pap test  
Pap test 3 years following 2 consecutive annual negative tests for women aged 24-64 |
| Canada    | >=1st dose coverage: 72% (girls aged 12-14) & 64% (girls aged 17 year olds)  
Males: No Data Available | 72.8% for women aged 18-69  
Pap test | Pap test  
Pap test every 3 years starting at age 25 |
| England   | 2nd dose coverage: 66.6% girls | -71.2% (aged 25-49 & measured at 3.5 years)  
-78.4% (aged 50-64 & measured at 5.5 years)  
Liquid-based pap test | -Liquid-based pap test every 3 years for women aged 25-49  
-Liquid-based pap test every 5 years for women aged 50-64 |
| France    | 25.0-29.3% (Full course HPV vaccination coverage for routine immunization) general 2012 | 73.6%  
Pap test | Pap test  
Pap test every 3 years for women aged 25-65 |
| Mexico    | 67% % (Full course HPV vaccination coverage for routine immunization) (general) 2010 | 42.8% (all women aged >20 screened)  
Pap test | Pap test  
Pap test every 3 years following 2 consecutive annual negative tests |
| Netherlands | 61% (Full course HPV vaccination coverage for routine immunization) (general) 2010-2013 | 57.7%  
Pap test (primary)  
HPV DNA & VIA (alternative) | Pap test every 5 years for women aged 30-60 |
| U.S.A.    | 3rd dose: 69.3% (girls aged 13-17) 2014  
3rd dose: 48.2% (boys aged 13-17) 2014 | 83% (below the target of 93%)  
Pap test | -Pap test every 3 years for women aged 21-29  
-Co-testing can be done starting at the age of 30 (Pap test with HPV test every 5 years) |

[https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6040a2.htm](https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6040a2.htm)
Disparities Among Women in Los Angeles County

Incidence of Cervical Cancer in Los Angeles County

- LA County: 10
- Asian/Pacific Islander: 9.3
- Black: 7.6
- Latina: 7.5
- White: 14.3

Age-adjusted per 100,000 female population

Los Angeles County Department of Public Health, Office of Women’s Health. Health Indicators for Women in Los Angeles County: Highlighting Disparities by Ethnicity and Poverty Level, February 2010.

1 https://publichealth.lacounty.gov/owh/docs/Health-Indicators-2010.pdf
Innovative Interventions Edutainment Tamale Lesson

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NCI
TR01CA144052
Murphy/Baezconde-Garbanati
Edutainment: Entertainment Education

• Edutainment is the process of Designing and implementing a media message to both entertain and educate.

• According to CDC 88% of Americans learn about health issues from primetime and daytime television or some form of media. (Hollywood, Health and Society at USC)
Tamale Lesson

1. Conduct a randomized control trial to test the relative efficacy of the identical information presented in a narrative and non-narrative format to determine if narratives are more effective.

2. Identify the mechanisms (transportation and identification with characters) that underlie changes in relevant knowledge, attitudes and behavior.
To empirically test this, we produced two 11 minute films each conveying the same key facts regarding the cause of cervical cancer (the Human Papilloma Virus or HPV) as well as its detection (via Pap test) and prevention (via the HPV vaccine).

• The **non-narrative**, *It’s Time*, uses a more traditional approach featuring doctors, patients, and figures.

• The **narrative**, *The Tamale Lesson*, revolves around a family’s preparation for their youngest daughter’s Quinceañera (15th birthday).
Tamale Lesson

3 Minute Clip: https://youtu.be/MzOKzCTzMV5
Full Video: https://youtu.be/C41WMFO6meQ
It’s Time: Fact Based Film

2 Minute Clip: https://youtu.be/O4ipEhgpnSY
Behavior (Had a Pap Test/Made an Appointment) at 6 Month Follow-Up

<table>
<thead>
<tr>
<th></th>
<th>MEXICAN AMERICAN</th>
<th>EUROPEAN AMERICAN</th>
<th>AFRICAN AMERICAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had Pap Since Film</td>
<td>38%</td>
<td>50%</td>
<td>34%</td>
</tr>
<tr>
<td>Made Appointment</td>
<td>32%</td>
<td>22%</td>
<td>25%</td>
</tr>
<tr>
<td>Not Due for a Pap</td>
<td>13%</td>
<td>22%</td>
<td>43%</td>
</tr>
<tr>
<td>Had Pap Since Film</td>
<td>33%</td>
<td>34%</td>
<td>39%</td>
</tr>
<tr>
<td>Made Appointment</td>
<td>33%</td>
<td>50%</td>
<td>30%</td>
</tr>
<tr>
<td>Not Due for a Pap</td>
<td>6%</td>
<td>43%</td>
<td>7%</td>
</tr>
<tr>
<td>Had Pap Since Film</td>
<td>7%</td>
<td>36%</td>
<td>4%</td>
</tr>
<tr>
<td>Made Appointment</td>
<td>10%</td>
<td>37%</td>
<td>30%</td>
</tr>
<tr>
<td>Not Due for a Pap</td>
<td>6%</td>
<td>4%</td>
<td>7%</td>
</tr>
</tbody>
</table>
Theoretical Predictors of Narrative Impact in the U.S.

Among women who saw Tamale Lesson in the United States it was not ethnicity per se that predicted impact but rather the extent to which an individual was...

• “transported” or immersed in the story, and

• identified with the positive role model.

Transforming Cancer Knowledge, Attitudes and Behavior Through Narrative (R01CA144052 - Murphy/Baezconde-Garbanati)

PIs: Sheila Murphy & Lourdes Baezconde-Garbanati
Conclusions

• The narrative and non-narrative films were successful interventions.

• The narrative was more effective in increasing knowledge and attitudes than the non-narrative.

• Racial/ethnic disparities in attitudes toward Pap tests found at the pretest no longer existed at either the posttest or follow-up.
Conclusions

- 6-month follow-up the narrative erased ethnic disparity in cervical cancer screening rates.
  - At pretest, non-Hispanic White women were far more likely to have been recently screened (46%) than Mexican American participants (32%).
  - At the 6-month follow-up, Mexican American participants exposed to the narrative went from having the lowest rate of screening (32%) to the highest (82%).

- Why did it work?
  - Attention to “Transportation,” “Identification” with characters and the emotional appeal of the storyline.
Conclusions

• Cultural and language specific elements can be incorporated into designing campaigns to reach vulnerable populations.

• Although great progress has been made with the HPV vaccination, less so in cancer screening and early detection among Hispanic women. Tamale Lesson types of interventions are still needed, especially to reach older women and those that have not been vaccinated with the HPV vaccine.

• Narrative or storytelling is a powerful tool in Hispanic communities for the delivery of prevention messages that generate behavioral changes.
Es Tiempo

Lourdes Baezconde-Garbanati, PhD, MPH
Sheila Murphy, Robert Haile, Vickie Cortessis, Laila Muderspach, Sandra Ball-Rockeacch, Mary Ann Pentz, Steve Grubber, Meghan Moran, Mariana Amatullo, Elisa Rufino, Rosa Barahona, Yaneth Rodriguez, Rhonda Ragab, Teresa De Anda, Samantha Garcia, Irene Martinez, Julie Lam, Zul Surani,

Clínicas Monsenor Oscar Romero, Vision y Compromiso Promotoras de Salud
Office of Women’s Health, Los Angeles County Dept. of Public Health
Designmatters Program Students,
Center for Health Equity in the Americas,
Dept. of Preventive Medicine, Annenberg School for Communication and Journalism,
University of Southern California
Understanding Cultural Imagery
Es Tiempo: Empirical data

• Formative research based on environmental scans of the community

• 12 focus groups with intended audience

• Over 400 women interviewed with community
  – Intercept surveys

• Tested design elements at 2 community clinics
  – Clínicas Monseñor Cesar Oscar Romero
Es Tiempo

- Es Tiempo is a visually stunning campaign designed around the purple bloom of the Jacaranda tree, as an environmental trigger.

- The jacaranda tree is common in East Los Angeles in particular and in Mexico, El Salvador, and various other parts of Central America and in Africa.

- Exploit the Jacaranda tree’s annual bloom as an environmental cue in nature to remind women about cervical cancer screening and the HPV vaccine.
The annual bloom of the Jacaranda tree serves as an environmental cue in nature to remind women to get screened or make sure sons and daughters have received the three doses of the HPV vaccine.
Es Tiempo – Main Messages

Cervical cancer can be averted through

• Early detection (Pap testing and DNA testing)
• Vaccination against the Human Papillomavirus (HPV), which causes cervical cancer

It’s important, it’s easy and it’s time!
Way Finders

Where to go for a screening?
• Labeling clinics that offer Pap test and HPV vaccinations for teens
Other Design Elements

Wall Murals
• Signaling the location of a nearby clinic

Painting
• Easy-to-reproduce, environmental graphics
When Jacarandas Bloom, Es Tiempo

It’s time to ask if you and your children are protected against cervical cancer.
Partner Agencies

Los Angeles County Office of Women’s Health & Clínicas Monseñor Oscar A. Romero
Pilot Campaign - Evaluation Design

- Quasi-Experimental design
- 2 intervention clinics in media catchment area (Clinica Mnsr Romero-Boyle Heights & LAC+USC)
- 1 control clinic outside the media catchment area (Clinica Mnsr Romero- Pico Union)
- Assess outcomes at participating clinics
- Outcome measurements
  - Number of cervical cancer screenings at participating clinics.
Pilot Campaign
Es Tiempo to Correct Cancer Disparities: Clinic data

Percent of women who became compliant during the intervention period:
- Boyle Heights Intervention (n=1428): 46%
- Pico Union No Intervention (n=745): 33%

Chi-square p < .001

Percent of women who received a postcard and got a Pap Test:
- Boyle Heights Postcard + Outdoor Media (n=345): 65%
- Pico Union Postcard Only (n=100): 34%

Chi-square p < .001
Community Intercept Survey Findings

- N = 431 women interviewed
- Women were Hispanic/Latinas
- Women were an average of 45 years old (range: 18-81 years old)

<table>
<thead>
<tr>
<th>Survey Findings</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mainly Speaks Spanish at Home</td>
<td>83%</td>
</tr>
<tr>
<td>Have Health Insurance</td>
<td>71%</td>
</tr>
<tr>
<td>Most Common Form of Health Insurance:</td>
<td>60%</td>
</tr>
<tr>
<td>MediCal (government based)</td>
<td></td>
</tr>
</tbody>
</table>
Knowledge of Cervical Cancer

Do you know what causes most cervical cancer? N=431

- Yes, 26.9%
- No, 68.0%
- Missing, 5.1%

Of the Women who said they know what causes most cervical cancer. N=116

- 78% Answered correctly
- 24% Did not answer correctly
In your opinion, how important are Pap Tests? N=431

- Very important: 87.2%
- Important: 8.4%
- Moderately important: 1.6%
- Slightly important: 0.2%
- Not at all important: 0.2%
- Missing: 2.3%
How often should a woman your age get a Pap Test?

- Annually: 73.5%
- Every 2 years: 11.1%
- Every 3 years: 7.0%
- Once in your life: 0.2%
- I don't know: 1.9%
- Other: 2.6%
- Missing: 3.7%

(N=431)
Knowledge of HPV Vaccine

Have you heard about the HPV vaccine?
N=431

- Yes, 59.4%
- No, 33.6%
- Not sure what it is, 3.9%
- Missing, 3.0%

Of the Women that had heard about HPV vaccine: N=256 (those had heard)

- Learned About HPV Vaccine via **Television** 39%
- Learned About HPV Vaccine via **Doctor** 38%
- Learned About HPV Vaccine via **Clinic or Hospital** 12%
Have you received the HPV vaccine?

- Yes, 8.1%
- No, 74.2%
- Not sure, 12.5%
- Missing, 5.1%

Have you received the HPV vaccine? N=431
Would you like more information about the HPV vaccine? N=431

- Yes: 76%
- No: 18%
- Missing: 6%

In what format would you like to receive this information (Check all that apply) N=431

- Other: 11.4%
- Women’s Magazine: 26.2%
- Brochure: 41.3%
- Internet: 24.8%
- TV: 31.3%
- Radio: 18.3%
- Social Media: 22.0%
- Flyer: 28.8%
- Text Message: 19.0%
- Video: 26.2%
Summary of Findings for Es Tiempo

• Environmental cues can serve as an annual reminder that “It’s Time” to think about cervical cancer
  – Have you been screened in the last three years?
  – Have your children received all the recommended doses of the vaccine?

• Cultural and language specific elements can be incorporated into design to reach vulnerable populations.

• Understanding of cultural imagery prevalent in the community and of the cultural spaces where campaign will be implemented can lead to more relevant design elements

• Although great progress has been made with the HPV vaccination, we still need to protect women who were not vaccinated against HPV.

• The anti vaccine movement: There are those still reluctant to use vaccines. Need understand what are the issues they raise, what are the barriers to vaccine use, and address these issues and concerns with more research and data.
Next Steps

• Create educational tool kit for clinics with Tamale Lesson and Es Tiempo elements.
• Create an App for use with Latinas.
• 8 other countries expressed interest in adapting Tamale Lesson video.
• Use social media to communicate similar health messages including Facebook, WhatsApp.
• Use webnovela model with participants deciding fate of characters in Tamale Lesson.
• Work with prime time television to insert educational messages into prime time TV shows, telenovelas and other shows.
• Use radionovelas and power of radio (Radio Bilingue) to deliver messages to rural and more isolated communities.
• Disseminate video in 900 jurisdictions in Panama via the Ministry of Health of Panama.
• Use selfies with images of jacaranda in social media to promote the campaign during the bloom of the tree.
• There is interest from a Health Services System to implement Es Tiempo in its 48 clinics throughout Los Angeles.
Acknowledgements

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Thank you!

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