

ASSESSING THE FEASIBILITY OF A SMARTPHONE APPLICATION BASED INTERVENTION PROMOTING HPV VACCINE UPTAKE AND COMPLETION AMONG YOUNG ADULT, AFRICAN AMERICAN WOMEN

D.E.U.C.E.S.

Don't Ever Underestimate Casual Encounters impact on Sexual Health

Session: Impact of Social Media in Public Health
How Effective is Social Marketing?

Mandy J. Hill, DrPH, MPH
University of Texas, Health Science Center, Medical School
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(1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

“No Relationships to Disclose”

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OVERVIEW

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1. Significance to public health
2. Current mobile phone based modalities for research
3. An analysis of survey data assessing the feasibility of a Smartphone based intervention designed to improve willingness of HPV vaccine uptake
4. Long term planning for Smartphone based STI prevention interventions in the Houston area

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The Impact of HPV on Public Health

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1. Genital human papillomavirus (HPV) infects 50% of adolescents and young adults, contributing to 20 million new cases annually in the US¹
2. Of 6.2 million new HPV cases in 2000, 74% (4.6 million) were among youth ages 15 and 24 years²
3. In 2000, this age group comprised 48% of sexually transmitted infections (STIs) and 74% (4.6 million of 6.2 million incident cases) of new HPV infections³
4. Young adult women are biologically more susceptible to HPV infection⁴
5. HPV rates are highest among women a few years post the onset of sexual activity⁵

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African-Americans, HPV & Smartphones

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African American Women & HPV	African American women & mobile phones	Conclusion
Incidence of cervical cancer – 50% higher than non-Hispanic Caucasian women ⁶ Highest national HPV rates ⁷	25% Caucasian Americans use mobile phones for internet ⁸ 50% African American & Hispanic Americans use for internet ⁸	Smart phone based intervention targeting African American population

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Existing Mobile Phone Based Modalities for Research

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- Text messaging via the SexInfo tool⁹
- Short message service (SMS) ⁹
- Email^{10,11}
- Instant messaging^{10,12}
- Interactive website^{10,13}
- Online interventions^{10,14}

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Relevance of Smartphone Utilization in Research

- Mobile phones are deemed:
 - 'the platform for changing human behavior'⁹
 - 'the constant companion'⁹
- Similar efficacy to human computer interaction research, with additional benefits and the potential to increase effectiveness of behavior change^{9,15}

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Benefits of Smartphone Use

- Ability to capture layered information in a person's life 'real time'
- The ability to motivate and influence health behavior change^{9,15}

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HPV Vaccine

- Among STI prevention methods, the HPV vaccine has proven to be one of the most effective biomedical interventions^{10,16}

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Feasibility Study

A Smartphone application based intervention promoting HPV vaccine uptake and completion among young adult, African American women

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Feasibility Study

- Cross sectional, observational pilot study
- N=26 young adult, African American women ages 18-28 years
- Setting:
 - Online
 - Local Emergency Department
- Survey composed of 30 questions
- Variables assessed included:
 - Demographics
 - Sexually based
 - Smartphone based
 - HPV knowledge based



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Table 1: Frequency Analysis of Demographic Variables (N=26)

Variable	Categories of Variables	Total N (%)
Age	18-19 years	2 (7.7)
	20-21 years	9 (34.6)
	22-23 years	6 (23.1)
	24-26 years	9 (34.6)
Income 1	1 None	3 (11.5)
	2 Less than \$500	3 (11.5)
	3 \$501-1000	4 (15.4)
	4 \$1001-1500	5 (19.2)
	5 \$1501-2000	1 (3.8)
	6 \$2001-2500	3 (11.5)
	7 \$2501-3000	3 (11.5)
	8 \$3001 and over	4 (15.4)
Income 2	1 Less than \$1000	10 (38.5)
	2 \$1001-2000	6 (23.1)
	3 \$2001 and over	10 (38.5)
Income 3	1 No Income	3 (11.5)
	2 Some Income	23 (88.5)
Highest Education at the time of survey	1 Junior high school	2 (7.7)
	2 High school or GED	1 (3.8)
	3 Some college	16 (61.5)
	4 College	2 (7.7)
	5 Graduate school	5 (19.2)

Table 1: Frequency Analysis of Demographic Variables (N=26) continued

Variable	Categories of Variables	Total N (%)
Sexual Preference	Women	2 (0.08)
	Men	24 (92.3)
Contraception Use	Yes	19 (73.1)
	No	7 (26.9)
Setting	Emergency Department	5 (19.2)
	Online Survey	21 (80.8)

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Table 2: Bivariate Analysis on willingness to participate in a Smartphone based intervention

IV	Stratification	Pearson's χ^2	P-value
Comfort with an STI (HPV) application on their mobile phone	Not comfortable	7.43	.006*
	Comfortable		
Perceived availability of the HPV vaccine excluding cost as a confounder	Not likely	8.79	.067
	A little more likely		
	Somewhat more likely		
	More likely Much more likely		
Comfort with HPV messages on mobile phone	A little comfortable	5.00	.082
	Comfortable		
	Very comfortable		
Reason for choosing to participate	Something different	12.59	.013*
	It is interactive		
	I think the HPV vaccine is valuable		
	I believe in the effectiveness of this vaccine Other		
Participant's history of a STI	Yes	2.75	.097
	No		

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15 Discussion

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- Significant differences among:
 - Age groups^{*}
 - Perceived availability of the HPV vaccine, excluding cost as a confounder^{*}
 - Comfort level with an STI (HPV) mobile application on mobile phone[♢]
 - Reason for choosing to participate[♢]
- Legend:
^{*} - significant p<.05 ANOVA
[♢] - significant p<.05 Bivariate Analysis (crosstabs)
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17 Future Research

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- Identify:
 - Information required to develop an interactive Smartphone application
 - Create:
 - A virtual environment where young adults can gain awareness and health information designed to promote utilization of preventive methods.
 - Behavioral Change:
 - By incorporating 'real time' information into everyday interactions, 'real time' decision making will be influenced towards behaviors promoting sexual health.
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Q & A

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Health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity. ~World Health Organization, 1948

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Contact

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Mandy Hill, DrPH, MPH
 Assistant Professor, Assistant Research Director
 The University of Texas
 Health Science Center at Houston
 Department of Emergency Medicine
 6431 Fannin Street, JLL 420, Houston, Texas 77030
 713-500-7661
 Mandy.J.Roberts@uth.tmc.edu

University of Texas, Health Science Center at Houston, Mandy J. Hill, DrPH