JOURNAL OF WOMEN'S HEALTH
Volume 22, Number 5, 2013

DOI: 10.1089/jwh.2012.3845

Increasing Tobacco Quitline Calls from Pregnant African American Women: The "One Tiny Reason to Quit" Social Marketing Campaign

May G. Kennedy, PhD, MPH,[1] Maureen Wilson Genderson, PhD,[1] Allison L. Sepulveda, MA,[2,*] Sheryl L. Garland, MHA,[3] Diane Baer Wilson, EdD, MS, RD,[4] Rose Stith-Singleton, MEd,[5] and Susan Dubuque, MEd[6]

Abstract

Introduction: Pregnant African American women are at disproportionately high risk of premature birth and infant mortality, outcomes associated with cigarette smoking. Telephone-based, individual smoking cessation counseling has been shown to result in successful quit attempts in the general population and among pregnant women, but "quitlines" are underutilized. A social marketing campaign called One Tiny Reason to Quit (OTRTQ) promoted calling a quitline (1-800-QUIT-NOW) to pregnant, African American women in Richmond, Virginia, in 2009 and was replicated there 2 years later.

Methods: The campaign disseminated messages via radio, interior bus ads, posters, newspaper ads, and billboards. Trained volunteers also delivered messages face-to-face and distributed branded give-away reminder items. The number of calls made from pregnant women in the Richmond area during summer 2009 was contrasted with (a) the number of calls during the seasons immediately before and after the campaign, and (b) the number of calls the previous summer. The replication used the same evaluation design.

Results: There were statistically significant spikes in calls from pregnant women during both campaign waves for both types of contrasts. A higher proportion of the calls from pregnant women were from African Americans during the campaign.

Conclusion: A multimodal quitline promotion like OTRTQ should be considered for geographic areas with sizable African American populations and high rates of infant mortality.

Introduction

The infant mortality rate (IMR) in the United States is higher than the IMRs of at least 40 countries.[1,2] More than 24,000 infants under 1 year of age died in the United States in 2010.[3] There is a severe racial disparity in the pattern of infant deaths; the current national IMR among African Americans is more than double that of whites.[3]

Maternal smoking is a leading risk factor for low birth weight, which is strongly associated with preterm birth,[4] a major cause of infant mortality.[5] Conversely, discontinuing smoking during pregnancy has been shown to increase birth weight.[6] This paper reports the results of a two-wave, community-based participatory social marketing campaign called One Tiny Reason to Quit (OTRTQ) that targeted pregnant African American smokers in Richmond, Virginia.

The objective of the campaign was to encourage pregnant smokers to call a toll-free number (1-800-QUIT-NOW) for telephone smoking cessation ("quitline") counseling. This counseling follows a protocol that is consistent with best practice recommendations from the North American Quitline Consortium. Quitline counseling is conveniently accessed and has been shown to be effective with various populations.[7] Evaluation of a telephone smoking cessation

[1]Social and Behavioral Health Department, Virginia Commonwealth University (VCU) School of Medicine, Richmond, Virginia.
[2]Institute for Drug and Alcohol, Studies, VCU, Richmond, VA.
[3]Health Policy and Community Relations, VCU Health System, Richmond, Virginia.
[4]Department of Internal Medicine, VCU School of Medicine, Richmond, Virginia.
[5]Richmond Healthy Start Initiative, Richmond, Virginia.
[6]Neathawk Dubuque & Packett, Richmond, Virginia.
*Currently at Disease Management Department, Volunteer State Health Plan, a licensed HMO affiliate of Blue Cross Blue Shield of Tennessee, Inc., Chatanooga, Tennessee.

counseling program that was specifically targeted to pregnant women showed that telephone counseling was effective with light smokers at the end of pregnancy and pregnant women who were unsuccessful in previous quit attempts during their pregnancies.[8] Most quitline outcome studies have shown a dose–response effect; receiving several counseling sessions has been associated with higher rates of smoking cessation.[9,10]

Infant mortality and maternal smoking in Richmond

In 2005, the IMR in the City of Richmond was 13.2 per 1000, well above the state rate of 7.4 per 1000.[11] African Americans constitute a slight majority within the city of Richmond.[12] Between 2001 and 2005, Richmond IMRs were three to five times higher among African Americans than among whites.[13] Using the Centers for Disease Control and Prevention (CDC)-recommended perinatal periods of risk procedure,[14] a study of matched Richmond birth/death certificates from 2001–2005 determined that, for fetal-infant deaths beyond 24 weeks gestational age, maternal health/lifestyle (a vital statistics coding category comprised of factors such as smoking) was the most commonly cited risk factor.[13] Also, in recent interviews with African American patients at an urban obstetrics clinic in Richmond, 41% of the pregnant women reported lifetime daily use of tobacco, and 39.3% reported smoking cigarettes in the past 3 months,[15] suggesting a substantial need for cessation support.

Campaign support and planning

A communication campaign was funded in spring 2007 as part of an infant mortality research center grant to the Virginia Commonwealth University (VCU) School of Medicine. University researchers, local providers of health and social services to at-risk women, and former service recipients who were part of an existing infant mortality prevention coalition in Richmond formed a committee to plan the campaign.

Version 2.0 of the Social Marketing edition of CDCynergy[16] guided the infant mortality coalition committee's efforts. This free, online, interactive performance support tool provides step-by-step tutorials and case examples. It is maintained by CDC to help users plan, implement, and evaluate a social marketing campaign. After institutional review board approval (June 12, 2008), a literature review, key informant surveys of researchers and service providers, focus groups of recently pregnant African American smokers and quitters, an inventory of local smoking cessation services, and a "secret shopper" exercise (details published elsewhere)[17] were conducted to inform major decisions about campaign focus and strategy. The coalition adopted smoking cessation among currently pregnant women as the campaign health objective and calling 1-800-QUIT-NOW as the campaign "call to action."

Quitline counseling reach and eligibility

Smoking quitlines can be accessed in every state by calling 1-800-QUIT-NOW. Quitlines provide individual telephone counseling sessions based on structured protocols and many also mail cessation materials to callers. Quitline service in Virginia is sponsored by the Virginia Department of Health and delivered by a national vendor. The quitline counseling available in Virginia was designed for the general population, not specifically for pregnant women, but there are some differences in the ways in which pregnant callers and other callers are served by general audience quitlines. Depending on the availability of funds and state policy, nicotine replacement therapy (NRT) supplies are sometimes mailed to adult quitline callers, but not to pregnant women; NRT is not recommended for pregnant women.[10] Among the other special procedures employed with pregnant women are discussing the risks of smoking for the baby's health, allowing the woman to talk about feeling guilty about smoking during the pregnancy, reassuring her that calling the quitline is an important first step in quitting that demonstrates her strength, sending literature on secondhand smoke to the woman's family, and beginning to discuss the benefits of staying smoke-free postpartum in the last trimester.[18] The receipt of multiple quitline counseling sessions per caller was free of charge (either reimbursed without copay by some form of insurance, or provided at no charge to uninsured individuals) in Virginia at the time of the campaign.

Quitline promotions

Quitline counseling is often underutilized unless it is promoted by media campaigns. Quitlines served only an estimated 1.2% of smokers nationwide in 2009.[19] Media campaigns are recommended as part of comprehensive anti-tobacco strategies by the Guide to Community Preventive Services[20] because they have been successful in promoting quitlines to general audiences in several countries, but very few campaigns have specifically targeted African Americans.[21,22]

With regard to pregnant women, mass media promotions offer a way to deliver antismoking messages before the initiation of prenatal care. Media messages can also reinforce cessation prompts from physicians to women already in care. However, we found only two studies of media-based quitline promotions that targeted pregnant smokers. One was designed for low-income women throughout England[23] and the other was for Native American women in Arizona.[24] Although both campaigns increased quitline calls from pregnant smokers while ads ran, it was noted that the Arizona campaign was successful only when its ads were positive in tone.[25] Positive messages also were effective in a social marketing campaign that used print and face-to-face channels instead of electronic media to reach pregnant smokers in Stoke-on-Trent, England; evaluators of that campaign reported that it tripled quit rates. [26]

The One Tiny Reason to Quit campaign

Theoretically, the goal of the OTRTQ campaign was to create an attractive "exchange," to make calling 1-800-QUIT-NOW worthwhile in terms of its anticipated benefits from the perspective of the target audience.[27] Message concepts about various benefits of the quitline were audience-tested for appropriateness and appeal with pregnant African American current or recent smokers in an urban hospital obstetrics/gynecology clinic waiting room.[17] An example of their feedback was that quitline friendliness was more important to highlight than the fact that quitlines were free of charge. After the concept testing, an award-winning local ad agency was retained and given instructions about message content. The agency's creative team drafted the slogan "One Tiny Reason to Quit," message text, and graphic copy, all of which were subjected to additional audience-testing in intercept interviews in high-risk obstetrical clinic waiting rooms.

When the campaign materials were in final form, volunteer outreach workers (OWs) from the African American community (e.g., public housing tenant council presidents) and front-line clinic and social service agency staff attended training workshops in which they learned to approach pregnant smokers and convey three key campaign messages: (a) "Even if you're already pregnant, there's still time to quit smoking and give your baby a good chance for a healthy start," (b) "Call 1-800-QUIT-NOW for friendly, high-quality smoking cessation counseling," and (c) "Tell a friend who needs to know about 1-800-QUIT-NOW." The OWs also received supplies of campaign-branded items to distribute (e.g., cellphone-shaped tins of mints and mint-flavored lip balm, chosen because many of the pregnant smokers preferred mentholated cigarettes).

Both the interpersonal and media campaign components were launched at a press conference at a large meeting of the infant mortality coalition. The primary OTRTQ media investment was in radio ads. An original 30-second ad ran in purchased time on the local urban contemporary radio station that was most popular with young African American adults according to Arbitron ratings. The radio ad featured the voice of a child, the type of "messenger" that pregnant African American women had endorsed in copy tests of draft ads. Other media included billboards on donated space in high-risk neighborhoods, press coverage, newspaper ads in African American weekly papers, a Facebook page that included the audio spot, and small posters in community venues frequented by the target audience. The billboards and posters included a large photograph of the head and hands of an African American infant. In a second wave of the campaign 2 years later, a utility bill stuffer displaying the infant image, the campaign slogan, and the quitline number was added to the marketing mix, along with branded stickers for patients in five pediatric practices that accepted Medicaid. The creative materials can be viewed online.[17]

In OTRTQ Wave 1, radio ads began the last week of June 2009. Ads continued until the media budget was depleted in mid-October. Some billboards and bus interior ads remained in place after that, and some interpersonal outreach continued until OWs were brought together and thanked for their contribution in late October. An estimated 17 million impressions (i.e., opportunities to hear the campaign messages) were created by OTRTQ during its initial wave, with billboards and radio ads creating the largest numbers of impressions.[17]

Grant funds that accumulated during the final 2 years of the funding period were invested in a second wave of the campaign that lasted from the first of January through March 2011. Once more, some posters and billboards remained in place for a while, and a low level of OW communication continued after March while limited supplies of give-away items lasted.

This study was conducted to assess possible effects of exposure to the OTRTQ campaign on calls to the quitline from pregnant smokers, especially those who were African American. A random sample survey was not feasible financially. Instead, we relied on routinely collected quitline call data. Based on the positive results of the two previous campaigns that had targeted other populations of pregnant women, we hypothesized that we would reach pregnant African American women in Richmond successfully and that calls from this group would increase significantly in temporal concert with our campaign waves.

Materials and Methods

Design

Campaign periods were compared to periods of approximately equal length prior to and after the campaign waves among pregnant women and all callers. In addition, seasonal call patterns (e.g., spikes from New Year's resolutions to stop smoking) were taken into account by contrasting calls during the campaign seasons with calls made during the same seasons in previous, noncampaign years (hereinafter referred to as "year-over-year" comparisons).

Sample

Calls were tallied if they were (a) from callers who were between 18 and 45 years of age, and (b) made from counties in the local broadcast range of WBTJ-FM,[28] the radio station that ran ads.

Measures

A de-identified file of routinely collected Virginia call data was made available to our research team by the quitline vendor under a limited data use agreement. There were two measures of the call variable: (1) a count of unique callers, and (2) the total number of calls, a measure that included repeat calls from some individuals but reflected the previously observed counseling dose–response.[8] All contrasts were conducted with both measures (i.e., total calls and unique callers). Findings were virtually identical; for brevity, inferential analyses of total calls are reported in the following section of this report. Demographic and tobacco use questions are part of the quitline protocol; caller responses are preserved in a minimum dataset.[29]

Analyses

Call data were analyzed separately for Wave 1 and Wave 2 using chi square tests. Call data are aggregated by full calendar month by the quitline vendor, but Wave 1 ad purchase months did not overlap completely with call months. Because there is often a lag between broadcasts of health messages and behavioral responses[30]; we chose to address the inexact fit between call months and ad months by defining calls from July 1 through October 31, 2009, as "during the campaign" for purposes of Wave 1 analysis. In other words, we treated the first week of ads as having occurred before the campaign, and 2 weeks after ads stopped as having occurred during the campaign period. The pre- and postcampaign comparison periods for Wave 1 were also 4 months long: March through June 2009 and November through February 2010.

Fortunately, Wave 2 ad months overlapped precisely with call data months (January–March 2011); the Wave 2 campaign and comparison periods were all 3 months long. December was excluded from the analysis because no radio ads were run in December (ad time is much more expensive in that month), and holiday leave for medical and social service providers depresses normal rates of face-to-face quitline promotion. The Wave 2 "pre" comparison period was September–November 2010, and the post period was April–June 2011.

Results

The absolute number of pregnant white callers did not drop during Wave 1 of the campaign period, but the race/ethnicity

distribution of pregnant callers shifted dramatically compared to pre and post campaign periods ($\chi_2^2 = 19.22$, $p < 0.0001$). As shown in Table 1, African Americans comprised 85.6% of the 28 pregnant callers during the campaign as compared to 41% of the 10 in the season before the campaign (fractional percentages due to race nonresponse from some callers). The proportion of African Americans among pregnant callers returned to 27.6% of 18 pregnant callers in the postcampaign period.

There was a significant increase in the total number of calls from pregnant women during Wave 1 of OTRTQ compared to the analogous season the prior year ($\chi_1^2 = 9.88$, $p < 0.001$). By contrast, there was no year-over-year increase in calls from *all* callers ($\chi_1^2 = 1.0$, $p > 0.05$). There was an even larger increase among pregnant women when the comparison period was the season immediately before the campaign ($\chi_1^2 = 14.6$, $p < 0.0001$). See Table 2 for numbers of pregnant callers and total calls from pregnant women during these periods.

Wave 2 findings replicated the general pattern already described (see Table 3). Again, although the absolute number of white callers did not drop, the race/ethnicity distribution of pregnant callers shifted. Almost all (93% of 45) of the pregnant callers during Wave 2 were African American as compared to 47.9% of 14 in the 3 months before the campaign and 48.8% of 49 in the postcampaign comparison period ($\chi_2^2 = 15.37$, $p < 0.001$). The demographics of all unique callers to the quitline ($N = 3487$, inclusive of pregnant women) in the 6 months before and during the 2011 campaign provide context for the demographics of pregnant callers. Of all quitline callers, 57% were female, 73% were daily smokers, 26.1% had not completed high school, 30.8% had a high school degree or general equivalency diploma, 28.1% had some college, 15% had at least a college degree, 35% were African American, and 28.6% were uninsured.

During Wave 2, there was a larger increase in the number of calls from pregnant women than there had been in Wave 1; there were more than five times as many calls from pregnant women during Wave 2 than from the same season in the prior year ($\chi_1^2 = 23.98$, $p < 0.0001$). Once again, the increase in calls from pregnant women held when the comparison period was the season just before the campaign ($\chi_1^2 = 4.1$, $p < 0.05$), and this time the spike appeared to persist into the 3-month postcampaign period ($\chi_1^2 = 2.1$, $p < 0.05$). However, the Wave 2 rise among pregnant callers should be viewed in light of a general secular trend; calls from all callers doubled compared with the volume during the campaign season the previous year ($\chi_1^2 = 232.44$, $p < 0.0001$).

Table 1. Demographics, Smoking Status, and Source of Knowledge of the Quitline for Unique Pregnant Callers from Richmond, Virginia, Before (Pre) and During One Tiny Reason to Quit Campaign Waves 1 and 2

	Wave[a]			
	1 (2009)		*2 (2011)*	
	Pre (n = *10*)	*During* (n = *28*)	*Pre* (n = *14*)	*During* (n = *45*)
Age, mean (SD)	27.5 (6.7)	28.5 (6.9)	22 (5.7)	26.4 (5.4)
Cigarettes/day, mean (SD)	9.8 (6.6)	12.1 (7.1)	10.9 (7.6)	12.6 (8.2)
Smoke daily	91.3	93.7	91.8	86.7
No. of cigarettes/day				
1–5	5.6	15.5	15.6	25.3
6–19	77.8	53.8	65.8	66.7
>19	16.6	30.7	18.6	8.0
Education				
Less than high school	8.7	15.6	17.9	26.7
High school/general equivalency diploma	26.1	40.6	36.5	48.5
Some college	47.8	37.5	34.9	18.8
College	17.4	6.3	10.7	6.0
African American	26.1	85.6	47.9	93.0
Insurance				
Private	43.5	46.9	41.3	47.1
Medicaid	47.8	40.6	39.9	39.3
Uninsured	8.7	12.5	18.8	13.6
How heard about quitline[b]				
One Tiny Reason to Quit	0.0	21.4	0.0	22.2
Employer	10.0	0.0	7.1	0.0
Family/friend	10.0	0.0	14.2	2.2
Health department	30.0	0.0	14.2	4.4
Health professional	10.0	21.4	7.1	4.4
Outdoor ad	0.0	3.6	14.2	24.4
Newspaper/magazine	20.0	3.6	14.2	0.0
Radio	10.0	46.4	7.1	42.2
TV	10.0	3.6	14.2	0.0
Re-enrollment offer	0.0	0.0	7.1	0.0

[a]Values are percentages unless otherwise indicated.
[b]Callers could give multiple sources.

Table 2. Total Quitline Calls from All Callers and Pregnant Women, and Unique Pregnant Callers from Richmond, Virginia, Before, During, and After One Tiny Reason to Quit Campaign Wave 1 (2009)

Period	Total calls from all callers	Total calls from pregnant women	Unique pregnant callers
Season before the campaign			
Prior year	2163	54	23
Campaign year	2311	21	10
Increase	7%	—[a]	—[a]
Campaign season			
Prior year	2296	32	12
Campaign year	2713	76	28
Increase	2%	137%	133%
Season after the campaign			
Prior year	2165	35	15
Campaign year	2597	42	18
Increase	20%	2%	2%

[a]Year-over-year decrease.

Table 3. Total Quitline Calls from All Callers and Pregnant Women, and Unique Pregnant Callers from Richmond, Virginia, Before, During, and After One Tiny Reason to Quit Campaign Wave 2 (2011)

Period	Total calls from all callers	Total calls from pregnant women	Unique pregnant callers
Season before the campaign			
Prior year	1573	25	11
Campaign year	1703	20	14
Increase	8%	—[a]	27%
Campaign season			
Prior year	1606	23	13
Campaign year	3503	123	45
Increase	118%	434%	246%
Season after the campaign			
Prior year	1190	34	14
Campaign year	3542	118	49
Increase	198%	247%	250%

[a]Year-over-year decrease.

Finally, we reanalyzed our Wave 2 data including the month of December in the pre period and drew the same conclusions about the campaign results. Only four pregnant women called the quitline from Richmond during December.

Discussion

Both of the OTRTQ campaign waves were temporally associated with statistically significant spikes in quitline calls from pregnant women. In addition, the proportions of pregnant callers who were African American increased substantially during the waves. When asked where they had heard about the quitline, the majority of pregnant callers either supplied the OTRTQ campaign name or mentioned outside advertising or radio, the major OTRTQ media channels. Together, these three findings provide strong support for our hypothesis that the campaign would reach members of its primary target audience successfully and motivate them to call.

The number of pregnant African American callers during the campaign was small but not negligible given that there were fewer than 400 African American births per month on average in the seven-county Richmond health district in 2009.[31] Moreover, actual quitline calls have been shown to be the "tip of the outcome iceberg" in survey-based evaluations of quitline promotions. Such surveys have found added quitline promotion effects on intentions to quit, talking to others about quitting, spontaneous quit attempts, and antismoking policy climate.[25]

A recent meta-analysis of effects of smoking cessation campaigns for general adult audiences found that emphasizing negative health effects was the most effective strategy,[32] but this may not be true for low-income, minority pregnant women. In focus groups that we conducted while the campaign was being designed, participants told us that they were already aware of the risks of smoking, were coping with a substantial amount of stress, and would need encouraging invitations in order to call. Because this feedback was consistent with outcomes of the Arizona campaign that targeted pregnant women and with focus group themes from the campaign in England, OTRTQ messages and brochures used gain-frames such as "give your baby a healthy start" rather than loss-frames such as "avoid health problems for your baby." Quitline counseling was described as "friendly and helpful," and women were asked to share information about the quitline with a friend "who needs to know," affirming that that they could have a positive impact on the health of others. In addition, our radio ads included pleasant music and thanked a mother character for quitting smoking. Furthermore, in role-playing exercises, OTRTQ outreach workers received feedback about (a) being positive in their conversational tone, (b) describing the quitline as an attractive option, and (c) pointing out enjoyable features of reminder give-aways (e.g., that mints could provide menthol-like oral pleasure, and that the magnetic picture frame could display a sonogram image until the woman had a picture of her own "tiny reason to quit"). Although this study did not constitute an empirical test of the differential effects of positive and negative messages, we believe that the OTRTQ evaluation findings were consistent with previous observations about the importance of employing a positive tone with high-risk pregnant women.

It should also be noted that this study did not address the question of whether media channels and materials that target African American women are more effective at reaching and motivating them than general audience approaches. A review of 15 years of records from the California quitline found that general audience media campaigns prompted a higher rate of calls from African Americans than from whites.[33] Pregnant African Americans in Virginia might be more responsive than white pregnant women to any promotional campaign.

We found no plausible rival explanations for the call spikes among pregnant women during the OTRTQ campaign waves. These spikes were higher than would be predicted on the basis of a secular trend in calls from members of the general population and, according to the Virginia quitline funders, there were no other media quitline promotions underway. Although

higher cigarette prices can motivate quit attempts among pregnant smokers,[34] and a federal cigarette tax increase raised the price of premium cigarettes prior to Wave 1,[35] the tax increase took effect at the beginning of the 2009 pre period. The direction of any bias introduced by the tax would have been towards the null hypothesis that there was no association between being exposed to the campaign and calling the quitline.

Using quitline call data to evaluate the success of the campaign was affordable, avoided self-report bias with regard to the call number outcome, and permitted analyses of unintended consequences for nonpregnant callers, but these administrative data had some disadvantages for the evaluation. For example, aside from gender and pregnancy status, questions about caller characteristics are recommended but not required by the quitline protocol. There was a sufficient amount of missing data on demographics and tobacco use to create the potential for instability in estimates. Since race was of central importance in evaluating this targeted campaign, we examined race missingness rates in monthly quitline reports covering a period of several years. Luckily, there was no evidence of fluctuations in race missingness specific to the time periods included in these analyses. Use of administrative data also resulted in an incomplete overlap between the ad and call data periods for Wave 1. The improved fit between the periods in Wave 2 may help to explain its relatively high and sustained call spike. Finally, callers were not probed for details when they gave general answers to the question about where they heard about the quitline. Answering "radio" did not necessarily mean that a caller had heard the OTRTQ radio spot, and memories about exposure channels are often inaccurate.[36] Usual media channels (e.g., television) had standard numeric codes, but special sources (e.g., a time-limited campaign) were recorded by quitline staff in up to two text fields, and this information may be incomplete. Furthermore, rates of exposure through individual channels fail to capture the synergy that multimodal campaigns are designed to bring about. The inability of the present findings to guide future channel selection is a limitation of this study, as it is of many campaign evaluations.[37]

A strength of OTRTQ was that it was associated with a second call spike in Richmond without revision of its creative materials; campaigns normally require periodic refreshment to continue to attract the attention of the public. Campaign "wear out" may have been avoided because messages became salient to women as they become pregnant. A cost–benefit analysis was well beyond the scope of the present study, but a re-usable, moderately priced campaign that averted even a small number of cases of severe prematurity should save money.[38] Media costs for one wave of the Richmond campaign were about $25,000 in unadjusted 2009 dollars. Detailed expenditures, staffing requirements, and suggestions for optimizing available funds in mounting a campaign like OTRTQ are made in an operations manual that is available online.[39]

Conclusion

To our knowledge, this is the first time a social marketing campaign has promoted calling a smoking cessation quitline specifically to pregnant African American women, and the approach was promising. Unfortunately, resources for quitline counseling and promotion dwindled in Virginia and other states when 2-year funding from the American Recovery and Reinvestment Act of 2009 ended. At this writing, any uninsured caller receives only one counseling session from QUITNOW VA. However, there is now a free, 24-hour national quitline for pregnant women, 1-866-66(START), sponsored by the American Legacy Foundation and managed by the American Cancer Society, and 17 states have special quitline services just for pregnant women.[40] Guaranteeing the continued availability of multisession quitline counseling to pregnant women (e.g., by overcoming barriers to reimbursement through Medicaid) would be sound public health policy. It may also be a good public health investment to promote quitlines to pregnant African American smokers in places where African American populations are large and racial disparities in infant mortality evident.

Acknowledgments

This research was funded in part by Center grant no. 1P60MD002256-01 to the VCU Center on Health Disparities from the National Center on Minority Health and Health Disparities, National Institutes of Health. Wally R. Smith, M.D. contributed to the grant proposal and consulted on the campaign. Our appreciation is extended to reviewers of previous drafts of this manuscript.

Author Disclosure Statement

No competing financial interests exist.

References

1. World Bank. World Development Indicators database, Year 2010. Available at http://data.worldbank.org/indicator/SP.DYN.IMRT.IN (accessed November 18, 2012).
2. MacDorman MF, Matthews TJ. Behind the international rankings of infant mortality: how the United States compares with Europe. National Center for Health Statistics 2009;23:1–8.
3. Murphy SL, Xu J, Kochanek KD. Deaths: preliminary data for 2010. National Vital Statistics Report 2012;60(4). Available at www.cdc.gov/nchs/data/nvsr/nvsr60/nvsr60_04.pdf (accessed February 15, 2013).
4. Stoll BJ, Hansen NI, Bell EF, et al. Eunice Kennedy Shriver National Institute of Child Health and Human Development Neonatal Research Network. Neonatal outcomes of extremely preterm infants from the NICHD Neonatal Research Network. Pediatrics 2010;126:443–456.
5. Salihu H, Aliyu M, Pierre-Louis B, Alexander G. Levels of excess infant deaths attributable to maternal smoking during pregnancy in the United States. Matern Child Health J 2003;7:219–227.
6. Lumley J, Oliver SS, Chamberlain C, Oakley I. Interventions for promoting smoking cessation during pregnancy (Review). The Cochrane Collaboration. John Wiley, 2009. Available at: http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD001055.pub3/full (accessed May 11, 2013).
7. Stead LF, Lancaster T, Perera R. Telephone counseling for smoking cessation (Cochrane Review). In: The Cochrane Library 2004, Issue 1. Chichester, UK: John Wiley & Sons, Ltd, 2009.
8. Rigotti NA, Park ER, Regan S, et al. Efficacy of telephone counseling for pregnant smokers: A randomized controlled trial. Obstet Gynecol 2006;108:83–92.
9. Parker DR, Windsor RA, Roberts MB, et al. Feasibility, cost and cost-effectiveness of a telephone-based motivational intervention for underserved pregnant smokers. Nicotine Tob Res 2007;9:1043–1051.

10. Fiore M, Jaén CR, Baker TB, et al. Treating tobacco use and dependence: 2008 update. Clinical practice guidelines. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, 2008.
11. Division of Health Statistics, Virginia Department of Health. Total infant deaths by place of occurrence and place of residence, Virginia 2005. Available at www.vdh.virginia.gov/HealthStats/documents/2010/pdfs/InfDeathRace05.pdf (accessed February 15, 2013).
12. U.S. Census. State and county quick facts. Available at http://quickfacts.census.gov/qfd/states/51/51760.html (accessed November 18, 2012).
13. Masho SW, Keyser-Marcus L, Varner S, et al. Addressing perinatal disparities using community-based participatory research: data into action. J Community Psychol 2011;39:292–302.
14. Guillory VJ, Cai J, Hoff GL. Secular trends in excess fetal and infant mortality using perinatal periods of risk analysis. J Natl Med Assoc 2008;12:1450–1456.
15. Saitz R, Svikis D, D'Onofrio G, Kraemer KL, Perl H. Challenges applying alcohol brief intervention in diverse practice settings: populations, outcomes, and costs. Alcohol Clin Exp Res. 2006;30:332–338.
16. CDCynergy Social Marketing Edition (version 2) 2007. Available at www.orau.gov/cdcynergy/soc2web/default.htm (accessed February 15, 2013).
17. Sepulveda AL, Wilson DB, Garland SL, Dubuque SE, Singleton RS, Kennedy MG. One Tiny Reason to Quit: a coalition-based smoking cessation campaign for pregnant African American women. Cases in Public Health Communication & Marketing 2010;4:28–56. Available at http://sphhs.gwu.edu/departments/pch/phcm/casesjournal/volume4Summer/peer-reviewed/V4s_case2PR.cfm (accessed February 15, 2013).
18. Rohweder C, DiBiase L, Schell D. Pregnancy and post-partum quitline toolkit. Chapel Hill, NC: The National Partnership to Help Pregnant Smokers Quit. January 2007. Available at www.tobacco-cessation.org/PDFs/Quitline Toolkit.pdf (accessed February 15, 2013).
19. North American Quitline Consortium. Annual survey of quitlines in North America, 2010. Available at www.naquitline.org/?page=survey2010 (accessed February 15, 2013).
20. Task Force on Community Preventive Services. Tobacco. In: Zaza S, Briss PA, Harris KW, eds. The guide to community preventive services: what works to promote health? Atlanta, GA: Oxford University Press, 2005, pp. 3–79.
21. National Cancer Institute. The role of media in promoting and reducing tobacco use. Tobacco Control Monograph no. 19. NIH Pub. No. 07-6242. Bethesda, MD: US/DHHS/NIH/NCI.
22. Health Education Council. Black folks don't use quitlines: exploring the true story. Available at http://healthedcouncil.org/docs/NAATEN%20Quitline.pdf (accessed February 15, 2013).
23. Campion P, Owen L, McNeil A, McGuire C. Evaluation of a mass media campaign on smoking and pregnancy. Addiction 1994;89:1245–1254.
24. Albrecht SA, Maloni JA, Thomas KK, Jones R, Halleran J, Osborne J. Smoking cessation counseling for pregnant women who smoke: scientific basis for practice for AWHONN's SUCCESS project. J Obstet Gynecol Neonatal Nurs 2004;33:298–305.
25. Centers for Disease Control and Prevention. Telephone quitlines: a resource for development, implementation, and evaluation. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, Final Edition, September 2004. Available at www.cdc.gov/tobacco/quit_smoking/cessation/quitlines/index.htm (accessed February 15, 2013).
26. Merritt R. Avoiding the lighthouse effect: addressing internal problems. Social Marketing Quarterly, Marketing Mavens, January 17, 2012. Available at www.socialmarketingquarterly.com/avoiding-light-house-affect-addressing-internal-problems (accessed February 15, 2013).
27. Kotler P, Andreasen A. Strategic marketing for nonprofit organizations. Englewood Cliffs, NJ: Prentice Hall, 1991.
28. Radio Locator. Available at http://radio-locator.com/ (accessed February 15, 2013).
29. North American Quitline Consortium (NAQC). The minimal data set for evaluating quitlines. Phoenix, AZ: NAQC, 2005. Question wording available at www.naquitline.org/resource/resmgr/mdsta2010/jan12mdsiq12-30-09final.pdf (accessed February 15, 2013).
30. Valente TW. Evaluating health promotion programs. 1st edition. New York: Oxford University Press, 2002.
31. Virginia Department of Health, Division of Health Statistics. 2009 Annual report. Table 1. Total live births by place of occurrence and place of residence by race with resident live birth rates per 1,000 total projected population by planning district and city or country. Available at www.vdh.state.va.us/HealthStats/documents/2010/pdfs/BirthsByRace09.pdf (accessed February 15, 2013).
32. Durken S, Brennen E, Wakefield M. Mass media campaigns to promote smoking cessation in adults: an integrative review. Tob Control 2012;21:127–138.
33. Zhu SH, Gardiner P, Cummins S, et al. Quitline utilization rates of African-American and white smokers: the California experience. Am J Health Promot 2011;25(5 Suppl):S51–58.
34. Ringel JS, Evans WN. Cigarette taxes and smoking during pregnancy. Am J Public Health 2001;91:1851–1856.
35. Centers for Disease Control and Prevention (CDC). Federal and state cigarette excise taxes—United States, 1995–2009. Morb Mortal Wkly Rep 2009;58:524–527.
36. Henkel LA, Franklin N, Johnson MK. Cross-modal monitoring confusions between perceived and imagined events. J Exp Psychol Learn Mem Cogn 2000;26:321–335.
37. Fishbein M, Hornik R. Introduction to the special issue: measuring media exposure: papers from the Annenberg Media Exposure Workshop. Communication Methods and Measures 2008;2(1–2):1–5.
38. Ruger JP, Emmons KM. Economic evaluations of smoking cessation and relapse prevention programs for pregnant women: a systematic review. Value Health 2008;11:180–190.
39. Sepulveda AL, Kennedy MG, Stith-Singleton R, Garland SL, Dubuque SE. One Tiny Reason to Quit Operations Manual. Available at www.healthdisparities.vcu.edu/?id=1388&sid=10 (accessed February 15, 2013).
40. The National Partnership to Help Pregnant Smokers Quit. Getting help and support. Available at www.helppregnantsmokersquit.org/quit/toll_free.html (accessed February 14, 2013).

Address correspondence to:
May G. Kennedy, PhD, MPH
Social and Behavioral Health Department
Virginia Commonwealth University School of Medicine
P.O. Box 980149
Richmond, VA 23298-0149

E-mail: mgkennedy@vcu.edu