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Health Care Workers in the Dominican Republic: Self-perceived role in smoking cessation

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Abstract

A Dominican Republic (DR) based multi-community trial of smoking cessation viewed health care workers (HCWs) as potential interventionists. Effectively engaging them, requires a clear understanding of their attitudes and practices regarding smoking.

A Rapid Assessment Procedure, conducted among HCWs in six economically disadvantaged communities, included physicians, nurses, other health professionals, paraprofessionals and lay workers. Attitudes and practices about smoking were consistent across the 82 HCWs and mostly reflected community views. HCWs lacked proactiveness related to smoking cessation and had a limited view of their role, attributing clients' quitting successes to personal will. Prior cessation training was limited although interest was generally high. Material resources about smoking cessation were virtually absent.

DR HCWs' views represented features both distinct from and common to HCWs elsewhere. Any intervention with HCWs must first raise awareness before addressing their role in smoking cessation, discussing implementation barriers and include training and materials about risks and effective interventions.

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Introduction

Smoking prevalence in the Dominican Republic (DR) is not well characterized, with estimates ranging from 16%–66% for males and 11%–33% for females based on surveys employing different survey methods and samples typically representing urban populations or special subgroups such as physicians or students (Aono, Ozawa, Bello, Ito & Saito, 1997; da Costa y Silva & Koifman, 1998; Mackay, Eriksen & Shafey, 2006; Pan American Health Organization, 1992; Pan American Health Organization. Health in the Americas, 1998; Report on the Regional Meeting, 1998; de los Santos, 1990; Shafey, Dolwick & Guindon, 2003; Vincent, Bradham, Rojas & Fisher, 1993). Systematic in-country surveillance data for this tobacco-growing country are limited. Information on non-urban areas or disenfranchised communities is virtually absent. As of 2008, the DR remains uncommitted to the Framework Convention for Tobacco Control, and at the time of this study had no significant public health, political or other tobacco control initiatives. The few tobacco control regulations (Sebrie, Veronica & Stanton, 2008) were generally unknown and not enforced. (Additional background information on DR smoking and tobacco related health effects are summarized in Dozier et al. (2006)).

Proyecto Doble-T (Project Double T; T for technology and T for Tobacco) was designed to build research capacity in tobacco control, including developing and testing a community intervention project involving six economically disadvantaged DR communities. From the outset, HCWs, such as physicians, nurses, pharmacists and outreach workers, were viewed as key stakeholders in the design and deployment of proposed cessation interventions. The effectiveness of involving HCWs in tobacco cessation interventions is well documented (Centers for Disease Control, 2004; Lancaster, Stead, Silagy & Sowden, 2000; Rigotti, 2002; World Health Organization (WHO), 2003). Other low income countries placed a high priority on HCW involvement in their tobacco control efforts¹ (Ferry et al, 2006; Kenkel & Chen, 2000). In a US-based study Sias and colleagues (Sias, Urquidi, Bristow, Rodriguez and Ortiz, 2008) noted that 71% of Latino participants in a tobacco cessation initiative cited advice from physicians as one of their three top motivators.

Data about DR HCWs are limited to two older studies by Pimentel Abreu-Mureno and Penatoribio (1991a) and Pimentel Custodio and Fontana (1991b) of smoking among physicians and medical students. Rates of smoking were high (34.5%) overall among physicians and 75.2% among medical and dental students in the capital, Santo Domingo (Pimentel, 1991a). More recent data are limited as the DR has not yet implemented the Global Health Professions Survey (Centers for Disease Control, 2005). An unpublished manuscript reported survey results of medical students from Santiago, DR, (Quinones, et al.) demonstrated that among 149 3rd year students, their lifetime smoking prevalence was 36.9% and 9.4% were current smokers. Pertinent to this project, only 59.1% agreed with the statement: Do you think your patients want you to advise them to stop using tobacco? Relationships between smoking and other conditions (e.g. low birth weight, cardiovascular) were not universally understood. Given the dearth of DR HCW specific research, studies from other countries provide important information on barriers and facilitators to HCW involvement in tobacco control.

Despite public attitudes about the positive influence of physicians on smoking cessation and prevention, studies of physicians' in the US and elsewhere reveal scant motivation to

assume more than a limited role in addressing smoking among their patients (Block, Hutton & Johnson, 2000; Meredith, Yano, Hickey, Sherman, 2005; Varona et al, 2005; Wechsler, Levine, Idelson, Rohman, Taylor, 1983). While most acknowledge the relationship between smoking and health problems (Coleman, Murphy & Cheater, 2000; O'Loughlin et al., 2001; Sobal, Valente, Muncie, Levine & DeForge, 1985), and the importance of counseling on smoking cessation (Sobel et al.; Vaughn et al., 2002), self-reported rates of smoking cessation interventions from routine assessment of smoking status to referral are far from universal.

Research describing the smoking cessation practices used by Latin American physicians are limited. Based on the clinical guidelines for Treating Tobacco Use and Dependence (Fiore, 2000) recommended cessation intervention five A's (ask, advise, assess, assist, arrange), among Cuban physicians, only a third "asked" and only 38% provided "advice" to smokers (Varona et al.). A survey of 45 Hispanic physicians practicing in New Mexico (Soto Mas, Balcazar, Valderrama Alberola & Hsu, 2008) demonstrated a low level of compliance with tobacco control guidelines.

A range of studies focused on barriers to professionals implementing cessation interventions (Block et al; Litaker, Flocke, Frolkis & Stange, 2005; Meredith et al.; Kviz, Clark, Hope & Davis, 1997, 1999; Ohida et al.; Helgason & Lund, 2002; Varona, et al.; Ward et al.) but none were specific to Latin America or Latino HCWs. Data on non-physicians or other types of health care workers are even more limited (Kviz, et al, 1997, 1999; Gorin & Heck, 2002; Katz, Borwn, Muehlenbruch, Fiore & Baken, 2004) and none are specific to Latin America. Research suggests that those individuals with fewer years of professional/paraprofessional training were less likely to initiate smoking cessation discussions with their clientele (Block et al.).

Given the dearth of data about HCWs in the DR an initial project goal was to assess their knowledge, attitudes and practices regarding tobacco use and cessation. Evidence from the aforementioned research on smoking and tobacco use interventions among HCWs from other countries, primarily physicians, provided guidance to this effort.

Building capacity in tobacco control included a community intervention project involving six DR communities. Qualitative methods deployed during the first phase provided formative data to shape the project's subsequent surveillance and intervention phases. These qualitative studies involved assessing behaviors and attitudes within each community, first among the community members and leaders (including those in education, business, government, health care) (Dozier et al.) and next among a range of health care providers. Findings from the later are reported here.

Methods

Rapid Assessment Procedure

Based on Beebe's methodology (1995) and our earlier work (Dozier et al.), Proyecto Doble T implemented a mixed-method qualitative approach, Rapid Assessment Procedure (RAP), that included community observations and interviews during brief focused community assessment periods. This provided expedient information to inform our project's subsequent intervention phase, in particular how best to incorporate HCWs in the project's cessation intervention.

Setting

The project was conducted in six economically disadvantaged communities, were geographically distributed across the DR: two small urban, two peri-urban (urban structure

but in remote location) and two rural. Within each pair, one was tobacco-growing (n=3), deemed important based on findings from our first set of RAPs conducted in these six communities: community attitudes toward tobacco use differed between tobacco and non-tobacco growing communities.

The nature of the six communities, highlighted in Table 1, is described in more detail elsewhere (Dozier et al.). Communities varied in the type of health care services and facilities available. This ranged from having a hospital with specialists to having only a 'medico pasante' (physician assigned short term for 12 months prior to starting specialty training). All had at least one botica (government subsidized pharmacy) that provided pharmaceuticals from a limited formulary. Several also had a retail pharmacy. Nurses and either promotoras (paid outreach workers) or vigilantes (volunteer community health advocates) (and sometimes both) were present in each community. Some communities had traditional healers. Nicotine replacement therapy was not available in any of the communities.

Subjects

Health care workers were broadly defined intentionally to include a range of individuals who the community sought out for health advice and therefore could potentially be engaged in tobacco intervention programs. Potential interviewees in each community included physicians, nurses, pharmacists/boticarios (individuals who run state funded pharmacies), promotoras, vigilantes and curanderas (healers). Proyecto Doble-T DR team members compiled a list of health care providers in each community. In the smaller communities teams made an attempt to contact every potential interviewee. All refusals (approximately 5) occurred only in the urban areas and were due to time constraints. Ultimately, the teams interviewed 82 individuals across the six communities (4 to 30 from each) (Table 2). All available types of HCWs were interviewed in each community to assure representativeness. Total completed interviews per community differed. In the rural communities the number of HCWs was small (e.g. 4 or 5) and all or nearly all were interviewed. For the larger communities, interviews were conducted until redundancy was reached within each community, so it was not necessary to interview all HCWs.

Data collection

Training—Team members were trained by project investigators experienced in RAPS. Prior to conducting the RAPS every team member reviewed the RAP protocol (that included a verbal consent) individually and in a three hour group meeting that addressed issues identified from earlier RAPs along with RAP methods and principles (methods of participant-observations, ethical principles of field work, purposive sampling strategies, and analytic matrices). Individuals with no prior RAP experience also received individual training, participated in role plays and observed team members in the field conducting RAP interviews.

Procedures—Mixed US-DR teams of three to four individuals (representing a mix of age and gender) spent between a half day and two days in each community (based on community size and number of potential interviewees) conducting interviews with HCWs and observing health care settings. This was the second RAP conducted in each community for this project so the team was already familiar with each community and could focus exclusively on the health care sector. A semi-structured Spanish language interview guide (modified from the domains utilized during the prior RAPs) was developed to assess the following domains: smoking patterns among patients; factors affecting smoking initiation, continuation, quitting; perceived risks/benefits/effects of smoking; attitudes about smoking; awareness/effects of advertising/regulations; perceived role, routine practices with patients,

recommendations to patients, perceived effectiveness, recommendations for smoking cessation resources, prior/interest in training Sample questions included: 1) What can you tell me about tobacco use in this community? Among your clients/patients? 2) In your opinion, what motivates people to quit? 3) How are people able to successfully quit? 4) What do you see as your role with your patients/clients who smoke? 5) What, if any, are your recommendations for quitting?

HCWs who were or had been smokers were asked about their smoking patterns and attempts to quit. The protocol was reviewed and classified as exempt by Institutional Review Boards in the DR and US.

Face to face interviews were conducted with HCWs, most commonly in the setting where they practiced. Interviews were not audio taped, rather detailed notes were taken during the interviews including verbatim statements by interviewees. These were typed and each interview was labeled by community, type of HCW, gender and age category. During the course of the RAPs, interview logs (assessing adequacy of representation HCW sub-groups) and matrices (assessing adequacy of data obtained within above domains) were completed during daily team debriefings to identify initial themes, assess progress and determine needed adjustments. Post-RAP analyses were undertaken individually by US team members including a review of each interview and other community-specific observations. This process identified common and unique attitudes and practices within and across communities and HCWs from different communities. These were compiled across reviewers and final conclusions determined through a consensus discussion. An overall summary and a summary for each community were completed to inform the project's subsequent community specific interventions. These findings were reviewed by other US project faculty and DR team members. Based on their input minor modifications were made to the final reports Additional details about this data analytic strategy are described in Dozier, et al.

Results

Health Care Provider Sample

The 82 individuals interviewed were distributed across the five key groups of health care providers (Table 2). Data, in the form of quotations from interviewees, are presented as evidence to support our findings. Women were represented across all of the HCW disciplines or types and 59% of all HCWs interviewed. Among each community's HCWs interviewed, at least one was a smoker (n=12) or ex-smoker (n=10) representing nearly 15 and 12% (respectively) of the individuals interviewed. It is possible that these numbers represent underreporting. Most HCWs interviewed were never-smokers ("me hace daño" [it is harmful to me]). One ex-smoker HCW was successful because "solo tenia confianza y oré" [(all)] I did was remain confident and pray]. The relationship between clinical practice and smoking among HCWs was commented on only once by a physician (non-smoker): *"la frecuencia de fumadores es alta entre proveedores de salud en el hospital así parece contradictorio que ellos hablen con sus pacientes acerca del fumar"* [smoking prevalence is high among health care providers in the hospital so it seems contradictory for them to talk to their patients about smoking]. Responses from HCWs who smoked did not differ from those who were never-smokers or ex-smokers.

Unlike the other HCWs, the physicians (MDs) interviewed were typically not long term members of the communities they served either having been assigned there (as a medico pasante) or started working there after completing their training. Several did not live in the community where they worked. This difference along with likely socioeconomic differences between MDs and the other HCWs represents an important distinction within the HCW group. Although many findings were similar regardless of type of HCW, findings particular

to the MDs are specifically noted. Findings are organized using the original domains from the RAP interview protocol.

Smoking in the Community

Factors Influencing Smoking—HCWs presented a wide range of opinions about what factors led individuals to start or continue smoking but differences across communities were not identified regardless of the community characteristics including tobacco growing status. Therefore findings are presented in aggregate except where noted.

Generally individuals who smoked were seen by HCWs both MDs and non-MDs as doing so as the result of lifestyle (*“a ellos les gusta”* [they like it]; *“cosas de la vida”* [things of life]) and that it is *“la moda”* [fashionable]. *“Los niños ven a sus amigos fumando y quieren tratarlo”* [Kids see friends smoking and want to try it]. “Stress” and *“disipar o aliviar las penas”* [relieve worries] were also cited along with parental or family smoking practices. *“Ellos también aprendieron de sus padres. Es contagioso”* [They learned from their parents, too. It’s ‘contagious’...](MD). Some MDs viewed smokers as being genetically predisposed to smoke. Smoking was considered a vice, like drug and alcohol use. *“Hay mucho vicio de tabaco”* [There is a lot of tobacco vice]. HCWs including MDs did not differentiate social smokers as different from those with a vice for tobacco use.

Who Smokes—*“...casi el mundo completo fuma, no es diferente aquí”* [...almost the entire world smokes, it is no different here]. HCWs perceptions about the overall prevalence of community smoking also varied greatly within communities (25% to 90%;). *“Casi todo el mundo fuma”* [Almost everybody smokes]. Since not all MDs lived in the communities where they worked, and some were new to their positions, several acknowledged that their ability to assess overall prevalence was limited. Despite disparate opinions, HCWs saw smoking as relatively common across the community but possibly declining. *“Los que fumaban dejaron ese habito”* [the ones who used to smoke quit the habit’]. HCWs including MDs associated smoking more commonly with older adults and in several communities with men more so than women. *“Los hombres fuman más que las mujeres y los ancianos más que los jóvenes”* [Men smoke more than women and old people more than young people]. In two communities, smoking among adolescents was of greater concern, while in others it was considered uncommon. MDs did not mention adolescent smoking. Smoking among children was not mentioned by any HCW interviewed.

What type of tobacco is used—HCWs noted that smokers used different products; this included commercially prepared cigarettes, tobacco (self-rolled), cigars, pipes and, in a few communities, chewing tobacco. Some HCWs including MDs viewed commercially manufactured cigarettes as more harmful. *“Los cigarrillos son más perjudiciales, porque ellos pasan por un proceso químico”*. [Cigarettes are more harmful, because they pass through a chemical process]

Prohibitions against smoking—Only one HCW noted, *“Hay ‘No se le vende a menores’ avisos en los colmados pero aun así se le vende tabaco a los menores”*. [There are “don’t sell to minors” signs in the colmados but minors are sold tobacco anyway]. While HCWs acknowledged that hospitals and clinics had verbal prohibitions against smoking, no one including MDs mentioned other national or local laws or regulations or institutional policies regarding smoking. Smokers were seen by the HCWs as smoking both in public and at home. *“...las personas fuman donde ellos quieren”*. [...people smoke wherever they want]. *“No hay reglas, pero hay lugares donde usted no puede fumar (la iglesia) porque es una costumbre”*. [There are no rules, but there are places where you cannot smoke (church) because it’s a custom]. ‘No Smoking’ signs were not visible in any health care facilities,

although people did not smoke in or around any of the clinics or hospitals. ‘Respect’ (a value referred to by community members during the previously conducted RAPs) was at times cited by HCWs (but not the MDs) as the reason for community members agreed to restrictions.

Perceived Benefits of Smoking

HCWs including MDs saw no benefits of smoking (“*No hay beneficio, es muy perjudicial y peligroso*” [There’s no benefit, it’s really harmful and dangerous]), but several noted that their patients say that it helps them lose weight, relax, or has ‘psychological’ benefits. From the view of all of the HCWs the benefits of quitting outweighed these perceived benefits and included getting ‘better health’, having more money (spending less on cigarettes) and ‘personal satisfaction’. “*Los beneficios de dejar de usar tabaco son mejor salud, pulmones saludable, corazón saludable y usted se ahorra su dinero*” [The benefits of quitting tobacco use are better health, healthy lungs, healthy heart and you save your money]. MD responses were similar with less emphasis on the financial benefits, one noting that not all problems caused by smoking can be reversed.

Perceived Influences on Quitting

HCWs indicated that smokers quit due to their religious beliefs, realization that they are addicted or when they see harm to their own body (or harm observed among other smokers): “*Ellos ven el daño en sus cuerpos, ellos ven que siempre tosen, con esputo*” [They see the harm in their bodies, they see they are always coughing, with sputum] ; Success at quitting is determined by the individual’s ‘personal will’: “*Una persona necesita voluntad para dejar de usar tabaco*” [A person needs will power to quit using tobacco]. This perspective was nearly ubiquitous across MDs and non-MDs.

HCWs including MDs acknowledged that quitting was difficult particularly if the person retained previous friendships (with smokers), continued other existing vices (“*Si usted tiene otros vicios como el café, licor, sería mas difícil*” [If you have other vices like coffee, alcohol, it would be more difficult]) or had a fear of getting sick while quitting (“*las personas no quieren tener las enfermedades que viene cuando dejan de fumar*” [people don’t want to get the sickness that comes from quitting]). One MD described the latter as a ‘torment’: “*Yo no pienso que hay riesgos, pero si usted esta realmente adicto a los cigarrillos, usted podría sentir ansiedad {cuando usted trata de dejar de fumar}*” [I don’t think there are risks, but if you are really addicted to cigarettes, you could get anxiety {when you try to quit}] (MD).

Media/marketing—Despite the preponderance of tobacco advertising, HCWs rarely mentioned the impact of media on smoking nor did they note any influence of tobacco company advertising on community or individual smoking except as a possible barrier to quitting: “*los fumadores pueden ver la publicidad y personas fumando por todas partes*” [Smokers can see advertisements and people smoking everywhere] (MD). Similarly use of media as a way to promote cessation was not mentioned or not thought to have much potential influence.

HCW Role in Smoking Cessation

Knowledge of Risks—HCWs knowledge of specific health effects was variable across those interviewed. Myriad health effects from smoking were noted, ranging from specific respiratory problems (emphysema, chronic pulmonary disease and pneumonia but not asthma), cancer and gastro-intestinal difficulties. Less prominently mentioned were cardiovascular effects (hypertension, stroke) and other chronic conditions such as diabetes.

MDs were no more knowledgeable than the non-MD HCWs. Several HCWs including MDs commented that smoking is more detrimental to those predisposed to certain illnesses.

Practices—HCWs did not routinely assess their patients' smoking status. Virtually all HCWs commented that they 'could tell' if someone smoked and therefore did not need to ask. This was based on their breath or having seen them smoking in public. "*Ellos niegan que ellos son fumadores pero sé que ellos fuman.*" [They deny they are smokers but I know they are smoking]. Despite 'knowing' smoking status, HCWs had difficulty estimating prevalence among their clientele. Of interest several MDs noted a low prevalence of smoking among their patients (in contrast to their observations of higher prevalence of smoking in the community).

There was no standard assessment process or forms to document patients' tobacco use in health care settings. The 'ficha familiar' (a documentation tool used by many clinics across the DR) did not have a place to indicate an individual's smoking status. HCWs including MDs typically asked patients about smoking only if they presented with a condition deemed smoking related or exacerbated by smoking ("*Yo sólo hablo con esos pacientes que se que son fumadores.*" [I only talk with those patients that I know who are smokers]). Advice to quit was described as attempts to motivate ("orientar") the individual to stop smoking, primarily by talking about risks ("*Habla con ellos acerca de las enfermedades que el fumar puede causar como el cáncer.*"; [I talk to them about the diseases smoking can cause like cancer]. [*S]olo hablo acerca del daño, las complicaciones del fumar*" [I just talk about the harm, complications of smoking]). HCWs' including MDs account of this "orientation" depicted a one sided talk that included scare tactics (e.g. major surgery, death if continue smoking). No differences in approach by type of disease or condition were mentioned nor did the level of smoking seem to influence the discussion of smoking.

Referral to resources to help clients quit was not mentioned. Written resources were not available (*Nosotros no tenemos información escrita*, [We don't have written information]). HCWs including MDs did not mention any steps they took to either prevent someone starting to smoke or to promote quitting before the individual becomes ill.

When asked specifically what would help someone quit, HCWs including MDs mentioned several methods but no one mentioned incorporating them into their smoking advice: slow reduction (smoking fewer cigarettes) over time, use of mints and candy (as a substitute or to help deal with side effects), lowering coffee or alcohol consumption (as activities strongly associated with smoking), and diversion (doing something other than smoking to "avoid the boring moments"; 'recreational activities, community groups'). Only one HCW (a vigilante) specifically mentioned working over time with an individual to support his quit attempt.

When specifically asked, passive smoking was acknowledged as a concern by nearly all HCWs, mentioning that non-smokers are likely harmed more by smoke exposure than is the smoker "*Es perjudicial oler el humo para las personas que no fuman porque ellos no están acostumbrados al humo*" [It is harmful to smell smoke for those that don't smoke because they aren't used to the smoke]. MDs were less likely to make this distinction, citing that children, pregnant women, those with existing illnesses and women living with a smoker were at greater risk for harm by exposure to passive smoke. No MD mentioned talking with smokers about the potential harms of exposing others to smoke.

Barriers to Intervention—Clinics and offices had many posted health promotion messages, such as family planning, immunization and HIV/AIDS. Anti-smoking or smoking cessation messages were universally absent from posted materials. Several HCWs commented that smoking was not a priority to discuss during patients' visits. Several MDs

noted that talking to patients about hypertension was more important than talking about smoking. Additionally not all HCWs saw themselves as responsible for implementing smoking cessation interventions. HCWs, regardless of discipline or training, noted that the MD has the main responsibility for interacting with patients about smoking, although one nurse described herself as the “*la comunicadora principal al paciente*” [principal communicator to the patient]. Another nurse indicated that she had seen a lot of her patients smoking but that she did not “*atienda a eso, porque es su problema*” [pay attention to that, because it is their problem]. Others including some MDs noted that their time with patients was limited, thus creating a barrier to cessation efforts. How much time they thought it would take was not mentioned. Others were not interested in recommending medications (“*Yo no recomiendo las medicinas ni los remedios y yo no los recomendaría*” [I don’t recommend medications or remedies and I wouldn’t recommend them either]). Another identified barrier cited by HCWs including MDs were the potential negative effects of quitting (e.g. withdrawal symptoms), particularly if someone quit abruptly.

The impact of the HCW on patients’ quit attempts was unclear. Most HCWs including MDs acknowledged that they did not evaluate if their motivational efforts were effective but emphasized how hard it was for their patients to stop. One HCW observed “*dejar de fumar no es muy difícil*” [quitting smoking is not too difficult]. Some MDs thought that complementary activities such as mints were fairly effective. Lack of knowledge about the effectiveness of interventions and, for some time, appeared to deter HCWs from intervening.

Facilitators to Intervention—Across the communities, HCWs viewed several resources as potentially useful to help promote cessation, including the church and family/friends. Several noted that these could be supplemented by support groups, educational materials (including videos and pamphlets). No HCW mentioned non-physicians such as nurses, vigilantes, promotoras or others as having a role in smoking cessation. HCWs did not see the Internet as a useful cessation tool. The importance of providing diversions and entertainment to help the quitter avoid smoking was reiterated by many HCWs including MDs.

HCW Training—Most HCWs had no exposure to formal training about tobacco or tobacco cessation methods which may contribute to the overall lack of priority given to smoking and cessation. With the exception of the healers, HCWs interviewed expressed interest in training in this topic, recommending that the training happen in the community (for convenience and to tailor the training to the community). The younger MDs were more likely to have been exposed to some information about the effects of tobacco use but no MD reported receiving training on cessation interventions.

Discussion

This qualitative study of HCWs from six disadvantaged DR communities identified attitudes and practices that mitigate against implementation of smoking cessation interventions. Differences between MDs and other HCWs were few. Smoking among clients or in the community was not a priority concern for these DR HCWs. They expressed general opinions about smoking in their community that for the most part paralleled those expressed by community members (Dozier et al.). Compared with earlier findings from these same communities (Dozier et al.), HCWs were more informed about the negative health effects of smoking and the impact of passive smoking but their knowledge was incomplete (e.g. relationship between asthma and smoking). Of note, HCWs did not differentiate social smokers from more routine smokers (as the community did). While HCWs did not view their role in cessation as important, our earlier findings indicated that community members did. The latter specifically mentioned MDs as central to these interventions, a finding consistent with the literature from other countries (Bremberg & Nilstun, 2005). Despite

community difference between tobacco and non-tobacco growing communities, a similar distinction was not found among the HCWs.

HCWs in these DR communities were not proactive vis a vis their role in tobacco cessation. Based on a model such as the 5 As brief intervention (ask, advise, assess, assist, arrange) (Fiore et al., 2000), among these HCWs, assessment of smoking status or tobacco use (Asking) was not routine and interventions for primary prevention (to prevent tobacco initiation) were absent. Cessation discussions were limited in scope to providing information (Advising) and not based on guidelines or other evidence. Research from other countries identified factors that influenced initiation of cessation discussions: HCW tobacco use (current or former), patient demographics, patient smoking habits and patient condition (Bremberg & Nilstun; Block et al., 2000; Ossip-Klein, et al.; Varona, et al.). Similar to Coleman et al.'s qualitative study (2000) HCWs were most likely to discuss cessation with a patient who had a smoking related illness.

Another factor, not well described in the literature, may account for HCWs limited involvement with smoking cessation. These DR HCWs including the MDs held strong views that personal will was key to an individual's cessation success. This belief may hinder HCWs from assuming a greater role in initiating cessation discussions or supporting quit attempts and represents a significant barrier to changing their practice. While not specifically described in earlier studies this belief may be similar to concerns among providers about the applicability and effectiveness of interventions with their patient population (Litaker et al.). Few other barriers to implementing cessation interventions were identified by these DR HCWs. This differs dramatically from studies elsewhere (Kviz, et al., 1997, 1999; Meredith, et al.; Wechsler et al.), a likely consequence of these HCWs' limited experience with implementing smoking cessation interventions. Through this project, by working to increase the number of HCWs using cessation interventions, HCWs may identify additional barriers to implementation and as an unintended consequence result in additional resistance to the using the interventions.

Another key finding was the absence of comments about the effectiveness of cessation interventions. While striking, this finding may be consistent with another central observation about these communities. The absence of a culture of quitting was evident in earlier community RAPs (Dozier, et al.) and may be interpreted by DR HCWs as patient disinterest, a factor cited in studies of HCW's in other countries (Meredith et al.; Vaughn et al.).

Compounding these factors is the finding that DR HCWs were not trained in smoking cessation either as part of their original education or subsequent training. As noted in the literature, this may account for the low priority given to smoking cessation intervention (Katz et al., 2004; O'Loughlin et al.; Varona, et al., 2005). Hartmann et al. (2004) noted a direct relationship between incorporating cessation intervention practices during residency training with long term adoption of this practice. Lack of intervention training may also account for these HCW's failure to recognize that environmental tobacco control efforts or their absence (e.g. tobacco company advertising; governmental regulations) affects smoking initiation or prevalence.

Although differences in attitudes about smoking cessation were not found across HCW types, HCWs did differentiate among their roles related to smoking cessation. MDs were viewed as primarily responsible. This is similar to the previously findings from Silas et al. (2008) and those reported by Kviz et al. (1997, 1999) who noted that among privately insured patients over age 50, provider type was the key predictor for whether the individual asked about smoking with physicians more likely to ask than nurses. While Gorin and Heck (2002) noted that physicians were more effective than the others, they also documented that

the more individuals (e.g. other staff in a practice or clinic) involved in the cessation effort the higher the quit rates. As noted by Katz, HCW training can increase the involvement of others such as nurses or medical assistants in cessation interventions. Some HCWs, such as healers and boticarios, did not view themselves as having a role in tobacco cessation interventions.

It is unclear whether these findings are due to attributes specific to the DR or would be found in similar communities in other countries. HCW studies in countries with limited tobacco control initiatives typically include students rather than practicing HCWs and are often limited to urban areas (GTSS Collaborative Group, 2006), making comparisons to our findings difficult. Alternatively, since the HCWs interviewed received their training from DR-based programs, their training, and in turn their actual practices, may be more in line with in-country attitudes and regulations (e.g. government) rather than by external influences (e.g. receiving training outside the DR). This along with the long-standing influence of the tobacco industry may account for these unique results.

Based on the experience of other countries with more mature tobacco control initiatives, building tobacco interventions into routine care is fundamental to success. Engaging HCWs not only raises their awareness of the importance of intervening but can increase their intervention effectiveness. Furthermore by building intervention skills across all HCWs, cessation resources are expanded, thereby overcoming a barrier to engaging physicians in cessation (availability of referral resources). Increasing resources not only helps address a community identified priority (greater physician role in cessation) but also increases the opportunity for physicians to refer (Arrange).

Use of the RAP approach provided key information about HCW attitudes and practices toward smoking in the DR and demonstrated the value of gathering community specific data as not all findings were consistent with other published studies. Subsequent to this phase the project conducted surveys in each community including a cohort of smokers and a household surveillance about health and smoking behaviors. Findings from these sources informed the interventions, deployed in the three intervention communities (not identified at the time of data collection). One component, training in cessation, was specifically offer to all HCWs in each intervention community. Additionally cessation specialists (all non-physicians) were trained to serve a local resources to whom smokers desiring to quit could be referred.

Our findings were used to develop systematic HCW surveys and interventions including training programs (Ossip-Klein et al, accepted for publication). By so doing we sought to engage DR HCWs in the project's community tobacco cessation interventions.

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Table 1

Community Characteristics

Community Type Population	Other Community Characteristics	Tobacco Growing	HCW Interviewees		HCW Smoking Status	
			Potential	Actual	Current	Ex
A Urban >25,000	Suburb of 2 nd largest City Rural Clinic	No	Total: 10 MD [*] : 4 Nurse [†] : 2 Botica [‡] : 5 Other [§] : 0	7	2	1
B Urban >25,000	County Seat Public Hospital (tertiary level) School: 1 ^o & 2 ^o	Yes	Total: 218 MD: 107 Nurse: 105 Botica: 2 Other: 3	30	2	2
C Peri-Urban 6 – 10,000	School: 1 ^o & 2 ^o (secondary level) Borders Haiti Public Hospital	No	Total: 37 MD: 9 Nurse: 23 Botica: 4 Other: 1	19	1	2
D Peri-Urban 6 – 10,000	Rural Clinic School: 1 ^o & 2 ^o	Yes	Total: 19 MD: 1 Nurse: 4 Botica: 1 Other: 12	17	2	2
E Rural <2,000	Rural Clinic School: 1 ^o	No	Total: 5 MD: 1 Nurse: 2 Botica: 1 Other: 1	4	0	1
F Rural <2,000	Rural Clinic School: 1 ^o	Yes	Total: 6 MD: 2 Nurse: 3 Botica: 1 Other: 0	5	0	2

*Physicians including physicians in training

†Nurses including registered and practical

‡Pharmacist/pharmacy staff

§Includes promotoras, vigilantes, healers, miscellaneous others

Table 2

Types of Health Care Providers Interviewed

Physicians	29
Nurses (licensed and practical)	21
Pharmacy/Botica staff	10
Others:	
Promotoras and health promoters	11
Healers	6
Miscellaneous	
(e.g. dentist, administrator)	5
Total	82