

# Organizational Change in a Perinatal Treatment Setting: Integration of Clinical Practice and Policies on Tobacco and Smoking Cessation<sup>†</sup>

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**Abstract**—Perinatal smoking presents serious health risks to the fetus, mother, and child. Despite extensive evidence of risk and high rates of smoking among in-treatment perinatal women substance abusers, tobacco-related practice and policy change has not been widely transferred for application in drug abuse treatment programs for pregnant and parenting women. This qualitative study investigated the process of change and the resultant adoption of clinical policy and treatment innovation in a residential drug abuse treatment program that converted from tobacco-tolerant to tobacco-free with provision of smoking cessation services. Informed by the Organizational Readiness for Change Model, staff interviews and data analysis were conducted to examine program characteristics affecting adoption. An organizational climate of openness to change and the program's clarity of mission, expressed in perinatal-specific motivators for change, influenced the adoption of tobacco-related clinical practice and policy. Re-allocation of time, previously occupied by smoking behaviors, allowed for added promotion of maternal-child interaction and positive role-modeling for children.

**Keywords**—organizational change, perinatal substance abuse, smoking cessation, tobacco policy

Despite high rates of smoking among pregnant and parenting women in drug abuse treatment programs and serious health risks for the women and their children, few perinatal-

<sup>†</sup>The author thanks Cheryle Stanley, Executive Director of Women's Recovery Services, Santa Rosa, California, Vicki Smith, Nurse Practitioner, UCSF School of Nursing, and the staff of WRS for their participation in this study. Thanks also to Ms. Stanley, Ms. Smith, and Tina Armodl for their review of the manuscript, and to Judy Gerard and Cathy McDonald of the Nicotine Dependence Treatment Training Program of the Alcohol, Tobacco, and Other Drug Provider Network, located at Thunder Road Adolescent Treatment Centers, Inc. in Oakland, California for information on the Network. This work was supported by the NIDA-funded Treatment Research Center at UCSF (T32DAO7250).

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specific programs have integrated program-wide no-smoking policies, smoking cessation, or nicotine treatment into their treatment and recovery regimens. Organizational climates and capacity for uptake of new technology have been cited as building blocks for innovation and determinants of practice enhancement and improved patient outcomes (Greener et al. 2007; Knudsen & Roman 2004; Simpson 2002). In the case of smoking cessation, technology and tools are available for adoption of effective programs, but practice change for adoption of these in-house tobacco programs is limited due to staff resistance, minimization of tobacco effects compared to those of illicit drugs, lack of ability to implement evidence-based practices, and organizational stasis (Hurt et al. 1995; Montini & Guydish 2004). In his work on diffusion of innovations, Rogers (2003: 115) asserts that we should "increase our understanding of motivations for adopting an

innovation" and suggests that examination of why change for adoption occurs will prove valuable.

This article describes an organizational transformation at Women's Recovery Services in Santa Rosa, California. The present qualitative study examined the story of the program's move from its long-standing policy of tobacco tolerance to that of a smoke-free environment in 1999, and adoption of a broad program of smoking cessation and nicotine treatment in 2002. Data are presented on the program's process of change, organizational attributes supporting the change, and perinatal-specific factors that motivated staff to tolerate their pioneer status as innovators in perinatal tobacco treatment.

## PERINATAL WOMEN: SMOKING AND DRUG USE

Over the last four decades, cigarette smoking contributed to 94,000 infant deaths due to maternal smoking (CDC 2004a). In-utero exposure to cigarette smoke poses an increased risk for childhood asthma and other respiratory problems (Jaakola & Gissler 2004; Moskowitz, Schwartz & Schieken 1999; Floreani & Rennard 1999; Adair-Bischoff & Sauve 1998). Infants of smokers are at increased risk for low birth weight, prematurity, reduced liver size, asthma, middle-ear disease, nicotine withdrawal syndrome (Law et al. 2003; Picone et al. 1982), stillbirth, and sudden infant death (Ventura et al. 2003; DiFranza & Lew 1995), and long-term childhood exposure to passive cigarette smoking is associated with middle-ear disease, infantile colic and acid reflux (Shenassa & Brown 2004).

It is estimated that one in five pregnant women in the U.S. are smokers, over half of whom have co-occurring mental health problems including major depression, phobias, and personality disorders (Goodwin, Keyes & Simuro 2007). Two-thirds of pregnant smokers in the United States are Medicaid recipients (Windsor et al. 2000), and rates of smoking among women with nine to 11 years of education are three times higher than among women with 16 or more years (USDHHS 2001). American Indian/Alaska Native women have the highest rates of smoking during pregnancy at 20.6%, followed by Whites (15.9%), African Americans (9.4%), Hispanics (3.7%), and Asian/Pacific Islanders (2.7%) (CDC 2007). Perinatal women smokers with substance use disorders are at risk for complications from their drug use and specific risks from smoking including cancer of the oropharynx and lung, coronary artery disease, stroke, chronic obstructive pulmonary disease, cigarette-caused burns, bladder cancer, lower bone density (USDHHS 2001), and breast cancer (Reynolds et al. 2004). Obstetric risks include low maternal weight gain, spontaneous abortion, placenta previa and abruption, preterm labor, stillbirth, changes in the fetal brain and nervous system development (Furuno, Gallicchio & Sexton 2004; USDHHS 2001; Wisborg et al. 2001; Franco et al. 2000; Ananth, Smulan & Vintzileos 1999), ectopic pregnancy (Saraiya et al. 1998),

and disinclination to breastfeed (Noble et al. 2003). In 1996 in the United States, smoking-attributable expenditures (SAEs) for neonatal care rose to \$366 million, or \$704 per smoking mother (CDCP 2004b), and it is estimated that for every \$1 spent on tobacco treatment during pregnancy, up to \$6 may be saved (Marks et al. 1990).

Research indicates a relationship between continued smoking during pregnancy and other drug use (Visscher et al. 2003; Ockene et al. 2002; Svikis et al. 1997). A California study of drug use among delivering women found higher rates of use of all other drugs, including a 21-times higher rate of amphetamine and methamphetamine use compared to nonsmoking pregnant women (Vega et al. 1993). A study of women in an inpatient eating disorders unit also indicated an association between cigarette smoking and caffeine abuse, alcohol and marijuana use, and eating disorders (Haug, Heinberg & Guarda 2001), and in their study of urban heavy smokers, Okah and colleagues (2004) noted that pregnant women were more likely to also use drugs if they had a mental illness.

Persons with substance abuse disorders are known to also be smokers (Falk et al. 2006; Order-Connors 2000), with high rates of smoking-associated mortality (Hurt et al. 1996). Reports of smoking behaviors or cessation interventions among in-treatment drug dependent perinatal women are limited, yet high rates of smoking in this group are assumed (Bean 2007). Haug and colleagues (2001) noted in their study of 50 methadone-maintained pregnant women that 88% were smokers for whom education on the health risks of smoking did not affect quit rates.

## ORGANIZATIONAL CHANGE

Organizational theory and research provide a framework for practice change in drug abuse treatment settings (De Smet 1998; Lamb, Greenlick & McCarty 1998; Backer 1995; Rogers 1995; Burke & Litwin 1992). Simpson's (2002) conceptual model for transferring research to practice identified key factors influencing the process including organizational readiness for change, resources, climate, and staff attributes. Operationalized by Lehman, Greener and Simpson (2002) in the Organizational Readiness for Change (ORC) tool, organizational readiness, resources, staff attributes, and climate are examined to study "innovation and change efforts" in drug abuse treatment settings. Readiness is defined as the program's need for improvement in clinical practices and administrative functioning, training needs, and pressure for change. The resources domain includes offices, staffing, training, computer access, and the use of the Internet and email. Staff attributes include efficacy, value placed on professional growth, willingness to influence other staff, and adaptability in a changing environment. Climate includes clarity of mission, staff cohesiveness, autonomy, openness of communication, stress, and openness to change. Research utilizing the ORC has since examined organizational functioning and its influence on client levels

of treatment engagement (Greener et al. 2007) and organizational readiness for change in adolescent treatment programs (Saldana et al. 2007). Other determinants of organizational change include staff "opinion leaders" (Moore et al. 2004), organizational uses of information, known as "absorptive capacity" (Knudsen & Roman 2004), and characteristics of the specific intervention itself (Rogers 2003).

The serious health risks for drug-dependent perinatal women smokers and their children should compel perinatal drug treatment providers to integrate smoking cessation into drug abuse treatment, yet few of these specialized programs have done so, presumably due to continuing controversies about the place of tobacco treatment in drug abuse treatment, staff smoking and general resistance, lack of relevant technology, and worries about decreased admissions and the opinions of third party payor and community stakeholders (Harrison 2006; Stanley 2006; Goldsmith & Knapp 1993; Hoffman & Slade 1993; Sees & Clark 1993). Stasis being the norm, research on the processes and motivations for an exceptional organizational change undertaken to address tobacco addiction in perinatal women and likely to reduce morbidity and mortality of drug affected women and their children was needed.

Therefore, the current qualitative study was undertaken to examine a change in a perinatal drug abuse treatment program that underwent a massive organizational conversion from tobacco-tolerant to tobacco-free and subsequent adoption of nicotine treatment for pregnant and parenting clients. Aims of this case study were to examine program characteristics affecting organizational change in tobacco policy and clinical practice and explore perinatal-specific motivators for change. The story of innovation and data on staff openness to change and clarity of mission, expressed in perinatal motivators for change, are presented. Elements of the program's tobacco-related clinical practice and policies are described, and implications for behavioral health care services for drug-dependent pregnant and parenting women smokers are discussed.

## METHODS

### Study Setting

Women's Recovery Services (WRS), the study setting, originated as a social model program, retaining aspects of social model programming throughout its three decades of service to women and children (Borkman et al. 1998). Opened in 1975, WRS was founded as a gender-specific program organized in response to growing consciousness of women's needs in alcohol recovery (CAARR 2005), and as such had pioneer status in the women's social model recovery movement in California. WRS is a gender-responsive residential perinatal treatment and recovery services program with a 90-day residential treatment component, aftercare, and transitional housing. It is a publicly-funded program that also accepts private insurance and self-pay

sliding scale reimbursement. The program has capacity for 20 pregnant and/or parenting women and 12 children ages newborn to 11 years old and provides services to approximately 90 women (unique admissions) and 80 children annually. In FY 2003-2004, client primary drugs of abuse included methamphetamine (80%), alcohol (8%), marijuana (7%), and other (5%). Ethnicity of clients during the same period was Caucasian (69%), Native American (11%) Hispanic (11%), African American (8%), and Asian (1%)(Sonoma Web Infrastructure for Treatment Services 2007). Client length of stay is typically six months, with a range of three to nine months. Children's services include on-site developmental assessment and intervention, health care services by referral, and case management. Transportation is provided to outside medical appointments and child welfare services meetings, and childcare is provided in the facility by trained childcare staff and by residents in cooperative agreement with each other. Clients may leave the facility to participate in 12-Step meetings and family and child visitation after successfully obtaining incentive-based privileges, and clients are accompanied by staff to off-site meetings during the first 30 days after admission. WRS adheres to a pre-admission requirement of 72 hours of sobriety and "clean time" that does not include being tobacco-free.

Program treatment services, described as holistic, include weekly individual and group psycho-education sessions, daily 12-Step meetings, health and parenting education, recreational therapy, intensive case management, and adherence to a gender-responsive model of treatment. On-site mental health services include medication prescription and monitoring, with off-site psychological assessment, and referral to outside counseling services two weeks prior to planned discharge. At the time of the study, the family nurse practitioner (FNP) provided primary care to the women clients, with prenatal care obtained from outside obstetrics providers. WRS is in a residential neighborhood with the nearest tobacco outlet two blocks from the facility.

### Study Sample and Recruitment

The study was presented to the executive director and program staff by the investigator. Each staff member was invited to participate in a one-time in-person interview and staff who agreed to be interviewed were then invited to participate in one focus group. The eight participants included the program executive director, medical director, two case managers, intake specialist, FNP, family therapist, and childcare director, all of whom are female. Among the participants, three were licensed clinicians with graduate degrees, two participants had masters degrees, and one had a baccalaureate degree. Mean years of working at the facility was 6.12 (range 1.5 to 13 years) (see Table 1).

### Data Collection and Analysis

A semistructured interview guide (available from the author) was developed and informed by the Organizational

**TABLE 1**  
**Staff Credentials and Years at Facility**

Position	Credential	Years at Program
Executive Director	BS	8.5
Medical Director	MD	13
Nurse	RN, FNP, MS	6
Therapist	MFTT	6
Child Care Director	MS	5
Case Manager	MS (candidate)	7
Case Manager	none	2
Intake Specialist	none	1.5

Readiness for Change (ORC) model (Lehman, Greener & Simpson 2002; Simpson 2002). Participants were asked about their perspectives on the process of change in the program's approach to tobacco treatment and policy innovation, and about attributes of staff, climate of the organization, and program institutional resources. The one-hour interviews were audiotaped and took place in a confidential space within the residential program setting. Participants received no stipend for their participation in the study and a contribution of food and other staples was donated to the program. All staff agreed to participate in the study with the exception of three overnight residential personnel who declined due to time inconvenience. The study participants provided informed consent and all study procedures were approved by the University of California, San Francisco Committee on Human Research.

Interviews were transcribed and compared to the audiotapes to assure accuracy and were then coded using NUD\*IST 4™ qualitative data analysis software. A total of 81 codes emerged, and transcripts were coded using them. Analysis was conducted using a theoretical analytic framework (Miles & Huberman 1994; Bulmer 1979) informed by the ORC. The framework was composed of organizational domains, including organizational readiness and climate, staff attributes, and agency resources. These domains served as themes for analysis and examination of participants' perspectives on the innovation and the story of change. As content analysis proceeded, analytic memos were written to clarify and stimulate conceptualization, for development of new codes, and to build cohesion between existing codes (Miles & Huberman 1994; Boyle 1991). Trustworthiness of the data was ensured using strategies to establish credibility, dependability and confirmability (Lincoln & Guba 1985). Member checks and peer reviews were conducted to ensure credibility. During the course of the interviews, study participants were often asked about the meaning of their statements, e.g. "I understand you are saying this; is that correct?" For further data verification, a focus group was conducted with all program staff who had participated in individual interviews after the interviews were completed and data was analyzed; the findings were shared with the group and members provided feedback. Additionally,

the investigator discussed the study findings with a peer reviewer with extensive experience in women's substance abuse treatment and data were reviewed for reasonableness and plausibility with that peer reviewer. Investigator familiarity with the research context and setting also ensured credibility. Simultaneous data collection and analysis ensured dependability, and in the interpretation phase of analysis, and to confirm the findings, constant comparison of data was conducted and included review of participant interviews and memos. In the interpretative phase of the analysis, reflexivity of the investigator regarding the participants and their stories became a source of data, informed a part of the analysis process, and enhanced trustworthiness (Creswell 1994; Lipson 1991; Lincoln & Guba 1985). Interview data collection was conducted in September and October 2003, and the focus group was conducted in April of 2004. In addition to the interview and focus group data, other sources of information for this case study (Creswell 1994) included eight hours of observation in the program setting and at a public presentation by WRS staff on their tobacco treatment programming, and review of WRS program documents.

## RESULTS

### **WRS Before the Organizational Change**

WRS opened in 1975 as a women's gender-specific residential program, and for the next 22 years the program addressed problems of addiction in women and their children without inclusion of tobacco prevention or treatment services. The story of innovation and change to incorporate smoking cessation and tobacco education at WRS began in 1997 and initially grew out of the executive director's (ED) concern over the health of the children and women clients in the facility. In 1995, when the ED arrived at WRS, Santa Rosa city code (Santa Rosa City Code 2007) prohibited smoking inside public buildings, including WRS. Like other drug treatment programs in Sonoma county and elsewhere, clients and staff were allowed to smoke outside and did so behind the main program building in separately designated client and staff smoking areas. Clients and staff could see each other smoking and children playing nearby in the program's outdoor play area could see their mothers and

staff smoking. At WRS at the time, within one day including time for lunch (one hour), breaks from program activities (1.5 hours), and hours at the end of the structured day until "lights out" (3 p.m. to 10 p.m.), clients had 9.5 hours of free time during which they could smoke. Clients were allowed to keep lighters and matches in the residence or on their person. Besides smoking, staff described other client tobacco-related activities including talking and thinking about smoking, stealing from other clients to obtain money for cigarettes, hiding, borrowing, lending and bartering for cigarettes, and picking up cigarettes found outside during walks.

### The Beginning of Change

In the spring of 1999, a personal turning point in her experience with smoking at WRS caused the ED to begin contemplating institution of a smoke-free environment. Here she describes pivotal experiences that influenced her decision to lead an organizational change:

... two situations made me really think we were not doing the best we could do. One night I was here, it was dark, it must have been winter . . . I saw a young woman standing by the gate out front, one of our clients. And I asked her what she was doing there . . . she said she was taking her young son to the hospital for a breathing treatment. And as she was standing there with her young son on one hip . . . she had a cigarette in her other hand. And I thought, we are not doing treatment correctly . . . And I just felt like, we've GOT to make a change . . .

. . . I watched . . . the women come out of their groups, when they walked down the ramp out of their group, I felt like they about knocked each other over trying to get to the smoking area. I felt, what is this about? . . . the women had to kind of argue with one another, who was going to go in the smoking area first, and who would watch the children while the others were in the smoking area. And I thought, wow . . . (Executive Director)

Independently, other staff also described the turning point in their stories of change:

When the policy changed . . . they were waiting for transportation to transport a mom and a baby that had respiratory problems . . . And the baby is on mom's hip, wheezing, gasping for air, and mom is smoking a cigarette. And it was just like, what's wrong with this picture? (Case Manager 2)

From what I gather . . . the executive director had seen a client that had asthma and the child had asthma and was on one hip and the client herself was having a cigarette in the other hand. And from that moment, what I heard was that our executive director said . . . this is not okay . . . (Case Manager 1)

After these observations, the Director began to review published literature on smoking in persons treated for addiction, and identified Rustin's (1998) work on integration of smoking cessation into drug abuse treatment settings which she described as her "foundation for feeling like it can be done."

She received help from the Nicotine Dependence Treatment Training Program of the Alcohol, Tobacco, and Other Drug Provider (ATODP) Network in nearby Alameda County, a project funded at the time by the California Tobacco Tax and Health Promotion Act (Proposition 99) to provide training and technical assistance to drug abuse treatment programs on smoking cessation and tobacco policy. The move to a smoke-free program was described as difficult because of external criticism from treatment colleagues, funders, and others who questioned the innovation and, in turn, the judgment of the ED and her staff. The ED and case manager described the opposition to their move to smoke-free:

. . . there was so much opposition to it [going smoke-free] . . . And I think mostly I heard whenever I entertained the thought or was brave enough to speak about it, whether it was around other providers . . . staff . . . funders, always, people always said, you can't make that work. Or they'd say, why would you try that? And of course the other question that you still hear, is why would you take that away from them? . . . I felt like we were giving our clients something. And others thought we were taking something away . . . (Executive Director)

So we're kind of like the fish that are going against everybody. And sometimes we're the laughing stock of the [other] treatment facilities . . . it's hard for our clients because they see, well . . . if it's such a big problem, why aren't other treatment facilities . . . working towards that? And I always say to them, remember, it always takes one to start . . . I'll reflect back . . . [on] Bill Wilson and Dr. Bob. It took two people to go against what society was saying. So Women's Recovery Services is taking that first stance. (Case Manager 1)

A few months later, in June of 1999, with the support of staff, WRS went smoke-free. The ED applied for and received funding from FIRST 5 Sonoma County to support smoking cessation sessions conducted by the American Lung Association (ALA) of California (Redwood Empire). FIRST 5 programs exist in every county of California and were established as a result of Proposition 10, the California Children and Families Act of 1998. Funding was also obtained from United Way Sonoma Mendocino Lake (counties) to purchase nicotine patches for client and staff use during the initial shift to nonsmoking. At the time, the majority of WRS clients were smokers, as were five of the 12 to 14 staff. The staff smokers elected to quit along with the clients on the quit date set by the executive director. In a ceremony led by the ALA support person, clients and staff placed their cigarettes, matches, and lighters in a garbage can and declared the program smoke-free. They placed patches on one another and discussed the supports they would use in the initial phase of quitting. With the change to smoke-free, clients were required to abstain from cigarette smoking entirely while enrolled in the residential program, including during passes to outside appointments, events, and family or child visitation. In the weeks following the program's move to smoke-free, two clients were discharged for smoking while on pass. The practice of discharging clients due to a

**TABLE 2**  
**Components of Nicotine Treatment**

Assessment of nicotine use and associated consequences
Client verbal agreement signature on a nonsmoking statement of understanding
Inclusion of tobacco in chemical use history
Inclusion of smoking cessation in treatment planning, case conferencing
Tobacco education: lecture, handouts, homework
Integration of tobacco into relapse prevention content and strategies
Nicotine replacement therapy (patch)
Random and post-pass carbon monoxide (CO) meter
Sanctions (reduction of privileges, loss of pass) for tobacco use accompanied by increase in therapeutic interventions (e.g. homework, reading)
Milieu saturation: high visibility antismoking posters and educational materials on premises

“slip” was soon eliminated and therapeutic interventions (e.g. group work, writing about the slip) were increased while keeping the client in treatment.

For staff, the smoke-free policy meant if they continued to smoke, they could have “no evidence of smoking,” i.e. staff could continue to smoke as long as they carried no cigarettes or lighters and their clothing and hair did not smell of tobacco smoke. The executive director reported that the program lost no staff and no clients as a result of the 1999 change to smoke-free. Four of the staff smokers remained tobacco-free throughout the duration of their employment at WRS, and one resumed smoking, continuing adherence to the employee “no evidence” policy.

#### **Continuing Change: Integration of Treatment for Nicotine Dependence**

Three years later, in mid-2002, WRS began providing nicotine treatment for all clients as a mandatory part of their treatment and recovery experience at WRS. The FNP led the process of integrating nicotine treatment that included an initial review of research literature on perinatal smoking cessation treatment models and interventions, creation of an educational curriculum, development and implementation of clinical protocols, supervision of staff in tobacco treatment issues and leading case conferences on individual client issues. For several months prior to the practice change, the FNP repeatedly brought up smoking and nicotine addiction, encouraging staff discussion of nicotine treatment integration. The FNP cited Rustin’s model (1998) and the Transtheoretical Model of Change (Prochaska & DiClemente 1983) and its central construct, stages of change, as having relevance to the WRS organizational innovation:

... I think what practically made the most sense was Terry Rustin’s model that he used in changing an inpatient [drug treatment] unit from a smoking unit to a nonsmoking unit . . . he used Prochaska and DiClemente’s stages of change for both the clientele [and] staff. He understood that the staff had to go through these same stages of change. And so obviously our staff had gone through a good deal of the change . . . so my approach was trying to identify where [staff] were in their

thinking and their feelings about it, and go with wherever people are. I mean, where else is there to start, really? (Family Nurse Practitioner)

The FNP, with support from the Executive Director, program physician and staff, began to gradually add nicotine treatment components into the menu of program services (see Table 2) and by the fall of 2002, all elements were in place. The organizational change at WRS included integration of a philosophical stance, viewing tobacco as the usual first drug of choice for their clients, as the mood-altering drug most likely to sicken or kill a client or their child, and as contraband necessitating detection, searches, and seizure. Patches, at the time a covered benefit under California’s Medi-Cal program for pregnant and parenting women, was the single pharmacological tool utilized for nicotine replacement therapy. Tobacco-related program policies were also implemented including: (1) preadmission notification to clients and referral sources regarding the program’s tobacco policy and treatment; (2) placement of the phrase “nicotine free” in the outgoing message of the program’s answering machine and on the WRS program brochure, website, and t-shirts and (3) public discussion of WRS tobacco innovations with public and private funders, monitoring agencies, referral sources, local drug treatment service providers, local and regional self-help networks, and in presentations at drug abuse treatment conferences and regional recovery events. Although a sea change had occurred at WRS in their thinking and programming, the FNP and staff therapist reflected on the “mythology” about quitting smoking as a risk to recovery and other barriers to client tobacco recovery from beyond the walls of the program:

... it seems to mirror what you do read in the literature about the resistance and the mythology . . . that it may actually harm their recovery from other substances, all that stuff about “first things first” and too much stress, and “you’ve got to let them have something” . . . but it seems to me to only be spoken by people who continue to smoke . . . we’ve heard some stories about sponsors saying things to the clients . . . that [stopping smoking] may have a negative impact on their recovery.

And most of the sponsors are smokers. So it really presents a dilemma for the clients when they go off site. (Family Nurse Practitioner)

... [we knew] it would be very difficult, even in the [12 Step] fellowship . . . they would have obstacles such as having a sponsor perhaps who smoked, or having difficulty finding a sponsor who didn't use nicotine. So I knew that there would be many, many barriers, many difficulties and challenges. But it was really clear, and research was indicating, that it [the move to smoke-free] would benefit enormously. (Therapist)

### **Staff Smoking**

Seven of the eight study respondents indicated their smoking status during the interview and one did not. Of the seven who mentioned smoking status, six were nonsmokers and one was a current smoker who observed the program's no-evidence policy. In the spirit of "keeping it real," the one staff smoker was open with coworkers about her smoking status, and was committed to providing tobacco treatment to clients. She described her struggles with and perspective on the current place of smoking cessation in women's drug abuse treatment and recovery:

... I still suffer from struggling with smoking myself, but that doesn't lead me . . . [to] not want to have this information given out. Years ago, if I were in treatment I wonder where I'd be right now with the information that's now being given . . . So my view is that it's good . . . My job is to give them [clients] information. And the more information I give them, the more it plants a seed in my head that I can actually do this. But just because I'm not there yet, that doesn't give me the right to withhold information.

... there is a [smoking cessation] movement. I'm a firm believer that there's a movement. A lot of women in the fellowship are really starting to make that. It's helpful that we have some women that come through here who are alumni, who stopped smoking, who are a great example. . . There's a movement. It's a slow creeping one. And it's going to have to be reinvented every time we have newcomers coming in.

### **Factors Affecting WRS Organizational Change**

The program's motivational readiness was expressed in high levels of internal pressure to change exerted by the ED and the FNP. The need for program improvement was voiced by the ED after her turning point experiences and in her actions to seek funding and consultation to lead the program in step-wise change to a smoke-free environment, and by the FNP in her strong counsel for adoption of nicotine dependence treatment. The FNP's dissemination of research findings, provision of staff training and support, collaboration with the program physician, and leadership of the team in a collaborative process of tobacco policy development was influential, if not the essential determinant, of adoption of nicotine treatment at WRS. The change to smoke-free emanated from a specific policy decision by the ED, and addition of nicotine treatment began after the FNP made

specific recommendations that were accepted by the clinical team and implemented with staff support.

Institutional resources included the diversity of staff roles that allowed for and contributed multiple perspectives on the problem of perinatal drug dependency and the process of recovery for women and their children. The majority of staff had graduate levels of education and/or specialist licensure in addiction studies, which may also represent a hybrid model of perinatal treatment in terms of staff preparation and level of skill. Extensive training by the FNP enhanced the practice of qualified staff and created a resource-full therapeutic environment for adoption of tobacco treatment. The number and quality of staff was also adequate to support integration of the new clinical procedures and a strong mutual respect and pride in the program served to solidify team member relationships around a unified mission of perinatal health through smoking cessation. Access to the Internet also provided information on integration of tobacco-related clinical practices and policies; consultation and support services provided by funding from nonprofit organizations devoted to smoking cessation and child health and wellness were also key resources for change.

The organizational climate at WRS, specifically openness to change and clarity of mission, was a significant factor for change. Openness to change supported the integration process as it unfolded and continued, and staff voiced a sense of urgency about providing tobacco treatment and helping their clients to stop smoking. Respondents shared their perspectives on change and their commitment to working on the issue of tobacco use despite opposition from outside detractors:

I think in some areas that we are very open, as a facility. But I think we have to be willing to take this big stance looking at nicotine . . . [we] are willing to take the criticism and just keep fighting forward . . . I believe that there are a lot of women that have fought for different things before society was even ready for it. And we're kind of that new phase. And I think we have to be open and enlightened with the information and to keep working. (Case Manager 1)

You have to be really open to change . . . working with human beings you have to be open to change, because you can't just say this is the standard policy and it's going to meet everybody's needs . . . I think sometimes we get caught up in our work and we could use more time to think and talk and consider before we act. But sometimes you just have to act. (Child Care Director)

Clarity of the mission at WRS was focused on pregnancy and parenting. Perinatal-specific motivators included their wish to prevent maternal and child morbidity and mortality, support positive maternal role modeling by eliminating smoking, and increase time for therapeutic mother-child interaction by elimination of time and space for smoking. These motivators became touchstones for staff

when the process of integration was particularly difficult or community criticism or client resistance proved especially challenging. Staff awareness of the health effects of smoking was a prime motivator for maintaining their commitment to change, and they reflected on feelings of being responsible for maternal and child safety, and the health status of the women and their children which influenced their motivation for change. Staff also spoke of observed health benefits to the women and their children, in particular a reduction in respiratory infections and visits to health care providers and emergency rooms:

... a perinatal program, by definition, is pregnant women and women with kids . . . just the kind of people that you really do not want exposed to second hand smoke. So to bring them here and say this is a safe place but your mom's gonna smoke around you, or her colleagues here, her peers are going to be smoking around you, is not responsible. I think we have to have a smoke free environment if we're going to call ourselves safe. I think it's ridiculous not to . . . I can recall a client that I had years ago. She was pregnant and had horrible asthma. And the baby was at risk, the woman was at risk. And she was continuing to smoke . . . and that's something that sticks in my mind. (Physician)

I was committed right away [to going smoke-free] . . . because I thought that the impact of the smoking on the children was of great importance and something that we needed to be thinking about a lot. (Therapist)

... all of our children in the facility have a high incidence of asthma and I believe . . . probably 80% of the children in treatment [at WRS] had some sort of asthma related breathing problem, and the moms did too. And I just can't continue to perpetuate that. I just have to show them a better way. (Executive Director)

... something that I do look back on and think about . . . is the level of health that the children were experiencing. There seemed to be more colds, more upper respiratory illness and asthma going on back then . . . (Childcare Director)

... one of the things I can compare it to being there before and after, is that the pediatric health has improved amazingly . . . We were shipping kids off to the doctor's offices every day, all day, because of respiratory infections, ear infections, all those kinds of things, asthma. And it really doesn't happen much at all any more. (Family Nurse Practitioner)

Staff described their desire to support positive role modeling by the women in order to influence their children's future choices about smoking. Staff knowledge of research on familial influence on child smoking behaviors, and the opportunity afforded in residential treatment for exposing clients' children to an alternative way of life acted as motivation for staff. Staff described how the educational message of smoking's effects on kids starts at intake, when clients sign the WRS nonsmoking statement of agreement, which is used also as a therapeutic touchstone to return to in the event of a tobacco relapse:

For one thing, modeling the behavior [smoking] is something that I wanted not to have. There is a great deal of social modeling of its acceptability, but there's tremendous power if the people close to children don't smoke. That does a great deal. (Therapist)

It says "Women's Recovery Services Smoke Free Facility." And then it goes on to say, "I have been informed and agree that I will abide by the non smoking designation of Women's Recovery Services. At this facility we realize that drugs, alcohol, and nicotine addiction are harmful to myself, my children, and to the staff. While I am a resident at Women's Recovery Services, I will refrain from using any of these substances." And then the client signs it and dates it, and I sign it . . . then if the issue comes up, we can pull this out of their file, and say, you agreed to this. (Intake Specialist)

With the change to a nonsmoking environment came an increase in available time. The 9.5 hours previously available for smoking was freed up for additional programming to support the maternal-child relationship, and staff consciously worked to identify activities to replace smoking. Staff noted that during short breaks in the program day, there was noticeable conflict in the women as to whether they would visit their child in the child care area or step over to the smoking area for a smoke break. Staff voiced their awareness of how the maternal preoccupation with smoking took the clients away from their children, and how that behavior so conflicted with the program's mission of reunification that it also acted as a motivator for staff:

... there also is the practical aspect that the parents, when they're smoking, are disengaged. And it's the opposite of what we want for children. We want children to have available parents, who are modeling healthy behaviors and who are very attentive to them in their early years and can give them a really good start. It [smoking] interferes with that. (Therapist)

... when I give them information about the things that they could be doing, it's like a space has been provided for that, in which to do those things . . . I think when you've taken out the "I have to have a cigarette" . . . then that does open up the possibility of "I'm going to play ball with my kid," or sit down and do a puzzle with them, or read to them, or just hold them while they're crying. (Child Care Director)

## DISCUSSION

Results of the current study of organizational change at WRS are consistent with Simpson's (2002) conceptual model of step-wise change (exposure, adoption, implementation and practice), and research on the role of opinion leaders (Simpson & Flynn 2007; Amodeo, Ellis & Samet 2006; Backer, David & Saucy 1995; Backer 1991), and effects of staff openness to change on innovation (Stuyt, Order-Connors & Ziedonis 2003). The process began with the ED's turning point experience and her declaration of "smoke-free grounds" (Zedonis et al. 2006), eliminating the most basic barrier to addressing tobacco dependence: tolerance and

space for client and staff smoking. The program's exposure phase involved ED "self-study" (Simpson 2002), the transition to smoke-free, training by the FNP, and provision of valuable support from outside resources; these actions laid the foundation for subsequent clinical practice and policy integration to address tobacco use. Adoption, as construed in the Simpson model, is the period of intention to try the innovation and involves discussion and exploration of its appropriateness; this occurred in the WRS process of change in the extensive conversations with staff conducted on the merits and methods of integrating a program of tobacco dependence treatment. The implementation (period of trial usage) and practice (regular use of the innovation) stages of tobacco treatment innovation were more conflated at WRS, carried out simultaneously in an already-committed trial-and-error spirit, and adapting Rustin's model of tobacco-related organizational change (Rustin 1998) to the perinatal setting. Here WRS exhibited reinvention, characterized by innovation with "selective rejection" (Rogers 2003) of those elements less suited to the population and the environment.

The ED and FNP were opinion leaders, as they had exposure to mass media, contacts with change agents (Rogers 2003), and were "people on the edge," bringing new information inside the boundaries of the program (Burt 1999). During the reinvention phase, though resolute in the change, respondents described the feeling of tolerating the anxious "high-wire" frame of mind that innovation produced. Higher educational levels and professionalism of staff may have also contributed to the absorptive capacity and knowledge application at WRS (Knudsen & Roman 2004; Cohen & Levinthal 1990). This study also adds to knowledge about organizational change in the finding that the program's clarity of mission, expressed in perinatal-specific motivators for change, influenced the adoption of tobacco-related clinical practice and policy.

Having roots in the legacy of gender-responsive social model programming for women in California with a record of service to marginalized women may also have contributed to the program's capacity for innovation. As change agents 25 years later, WRS staff also broadly communicated their philosophical stance that tobacco is a mood-altering drug with direct and deadly consequences for women and their children, having equal status with other primary drugs of abuse, and stated that dependence is a treatable diagnosis. Steps taken in 1999 at WRS to create a smoke-free environment and offer free nicotine replacement therapy were also innovative. Recent research indicates that smoke-free workplace policies are nine times more cost-effective per new nonsmoker than free NRT programs, even when the goal is to promote smoking cessation in individuals (Ong & Glantz 2005).

In this story of organizational change, technical assistance from the ATODP Network and funding from FIRST

5 Sonoma County for smoking cessation provided support for WRS innovation. Funded by the California Tobacco Tax and Health Promotion Act of 1988 (Proposition 99) and the California Children and Families Act of 1998 (Proposition 10) was essential. The ATODP Network remains active in Alameda County, providing information and support on tobacco and smoking cessation to alcohol and other drug treatment providers. The Network applies a social norm change approach, the theoretical backbone of tobacco control policy in California, working to create a "social milieu and legal climate in which tobacco becomes less desirable, less acceptable, and less accessible" (California Department of Health Services 1998; Gerard 2007). FIRST 5 programs, also supported by tobacco tax monies, focus on promoting, supporting, and improving the development and health of children newborn to five years of age. Continued funding and availability of like resources for training and advice is needed to influence staff attitudes, promote child health, and support adoption of nicotine dependence treatment technology (Zedonis et al. 2006). Other perinatal-specific technology utilized by WRS included nicotine replacement therapy and counseling. When included as covered benefits under Medicaid, these tools have been shown to influence quitting and continued cessation (Petersen et al. 2006), demonstrating the need for states to provide the highest level of Medicaid service coverage with the expectation of reductions in maternal smoking and improvements in fetal and neonatal health.

Perinatal drug-dependent women represent a hard-to-reach high-risk group of committed smokers with late entry to prenatal care (Jessup et al. 2003; Brindis, Clayson & Berkowitz 1994), complex health and social histories prioritized over smoking, who may not receive smoking cessation interventions from obstetric providers (Floyd et al. 2001). Innovation to address smoking in this population of women is needed, and gender-specific drug treatment programs, with demonstrated success in supporting behavioral change, are natural and potentially powerful partners. The centrality of women's gender-specific health needs has been recognized in women's treatment and recovery from addiction, yet tobacco addiction and its treatment continue in the status of afterthought at best, and at worst, face denial and active resistance. Controversy and mythology concerning risks to recovery from tobacco treatment, even for pregnant and post-partum women, prevent integration of smoking cessation at the level of inclusion of other treatments for obvious threats to health. Findings from this study suggest that models for treatment of nicotine dependence can be imported into a perinatal setting and implemented in a step-wise fashion.

Tobacco dependence treatment should be included in gender-responsive treatment models, just as the call for integration of trauma-responsive programming (SAMHSA 2004) engenders expansion of services for women with co-occurring disorders. Smoking and its close association

with depression and other mental health problems (Goodwin, Keyes & Simuro 2007; Solomon et al. 2007) make integration of smoking cessation and nicotine treatment into all drug abuse treatment services for women essential. Current high rates of methamphetamine (NIDA 2006) and other smokable drug use by women and research findings on reductions in drug relapse with smoking cessation (Richter & Arnstein 2006; Bobo et al. 1986) also suggest the need for adoption of smoking interventions, as noted by Sees and Clark (1993: 191): "The whole process of using smokable drugs is so similar [to smoking] that failure to address all smokable drugs, including cigarette smoking, may predispose the client to relapse."

### LIMITATIONS AND FUTURE RESEARCH

Results of this qualitative study are derived from examination of a single program and generalize only to that program. Sample selection was also limited to WRS staff members employed at the program at the time the study was conducted, and although all but one member were present for the program's integration of nicotine treatment in 2002, recall bias and pro-innovation bias (Rogers 2003) may have altered or omitted significant facts of the story of organizational change as reported by the respondents.

Having financial resources has been identified as a stimulant for organizational change (Rogers 1995) and should also be acknowledged as one factor influencing the ability of WRS to initiate some of the initial change activities. The story of change at WRS may have been expanded had clients, community stakeholders, and regional treatment colleagues

been included as respondents. In addition, this case study examined one program's process of change regarding innovation of tobacco-related clinical policies and practice, and therefore the interpretation of data is not intended to apply to other efforts at integration of other clinical interventions into perinatal drug abuse treatment or into other settings.

The study findings suggest areas of inquiry for future research on integration of tobacco-related innovation in drug abuse treatment. Theoretical models of organizational change do not specifically conceptualize stigma or controversy attached to an innovation, therefore development of theoretical models that account for the status of an innovation as disputed would be especially relevant for understanding how organizations and individuals interact with controversial technology or tools.

While educational level has been described as positively affecting innovation (Knudsen & Roman 2004), it would be useful to understand the effects of role diversity on organizational change. Finally, research on the impact of elimination of environmental tobacco smoke and nicotine treatment on pediatric respiratory status of children in residential drug abuse treatment settings could have significant implications for improved health status and cost reduction. Pregnancy is a "window of opportunity" for positive behavioral change and motivational interventions with drug-dependent women who have concerns about infant health and their own status as caring mothers (Jessup et al. 2003; Orleans et al. 2000). Lessons learned from the WRS story of change may inform and prepare others for the task of integration of tobacco-related innovation for pregnant and parenting women and their children.

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