CENTER
FOR THE HEALTH PROFESSIONS

Alternative practice patterns of dental hygienists

Beth Mertz, PhD, MA
Cynthia Wides, MA
Joanne Spetz, PhD

May 2, 2012

National Oral Health Conference

Background

- Access to dental care is problematic, oral health disparities are significant
- Workforce recruitment and retention in underserved communities
  - Focus primarily on MD, NP and DDS
- Expansion of dental hygiene scope of practice and reduction of supervision requirements
  - California has independent hygiene practice by Registered Dental Hygienists in Alternative Practice, also public health practice
- Increasing focus on prevention strategies in health care
  - development of evidenced based protocols for prevention in dentistry

Research Objectives

- To better understand how to leverage trends in the workforce and environment to improve access to preventive dental care
- Little information is available on the practice patterns of dental hygienists (DH) or their motivations to practice in non-traditional settings.
- This study seeks to explore the personal, professional, and structural predictors of dental hygiene practice in non-traditional settings.

Methods

- Stratified random sample survey of licensed hygienists (DHs) in California (2005-2006)
- Measurement of non-traditional practice settings (NTS) [73% overall response rate]

	Group 1	Group 2	Group 3
Sample Size (weighted)	N=88 (279)	N=273 (1219)	N=88 (101)
Description	DHs reporting paid employment in a NTS as a primary practice setting	DHs reporting any work (paid or unpaid) in an NTS, but NOT as a primary practice setting	DHs with a license in Alternative Practice (RDHAP)

Descriptive Statistics

	Group 1	Group 2	Group 3	Total Pop.
N (Weighted)	279	1,219	101	11,022
Age (years)	Percent	Percent	Percent	Percent
Under 35	15	18	11	19
35-44	32	28	28	30
45-54	38	36	40	33
55-64	12	17	19	16
65 & over	3	2	2	2
Sex				
Female	95	96	96	98
Race				
URM	15	15	29	14
Marital Status				
Unmarried	45	28	35	28
Children				
No children or oldest over 18	66	61	75	58
Oldest child: 13-18	19	14	11	16
Oldest child: 0-12	14	25	14	26

Descriptive Statistics (continued)

	Group 1	Group 2	Group 3	Total Pop.
Metro Statistical Area (MSA) of RDH education program				
Urban	97	98	100	97
Hygiene Association				
Member	47	41	79	36
Highest degree:				
Associate or Certification	53	50	31	53
BA	40	43	56	44
MA or PhD	7	8	13	4
License Type				
RDH	92	96	n/a	99
RDHAP	9	4	100	1

Non-Traditional vs. Traditional Settings

	Non-Traditional Setting	Traditional Settings
Percent of Reported Settings	3%	97%
Distribution of NTS		
Hospital	5%	
Indian Health Center	16%	
Military/VA	8%	
Nursing/LTC Home	12%	
Prison	1%	
Public, Rural or Community Health Center	31%	
Schools	16%	
Other	11%	
Average Hourly Wage	$41.22	$45.36
Benefits Provided? - yes	55%	49%
Consultations with other providers -yes	73%	68%
Average tenure at site	5.5 years	8.0 years

Predictive Model

- Personal Characteristics
  - Age, sex, race (URM), marital status, presence of children in the home
- Professional Characteristics
  - Location of training (urban/rural), educational level (AA vs BA+), contributors to job satisfaction (autonomy, income, advancement), professional preference (work with underserved communities, other types of health professions)
- Structural Indicators
  - Membership in association, RDHAP License

Model 1a & 1b: NTS as Paid Primary Employment Site

Variables	Model 1a Odds Ratio & (SE)	Model 1b Odds Ratio & (SE)
Sample	*DH and AP*	*DH only*
Unmarried/Divorced	2.93*** (1.08)	3.06*** (1.17)
Contributors to Job Satisfaction: Autonomy	2.14* (0.95)	2.16* (1.00)
Advancement/Growth	0.47** (0.17)	0.46** (.017)
Professional Preferences:		
Work with underserved	1.99* (0.78)	2.00* (0.79)
Interdisciplinary setting	3.08** (1.64)	3.04** (1.63)
RDHAP License	4.33*** (2.05)	N/A
Constant	0.0003* (0.001)	0.0003* (0.001)
Observations	1737	1673
Population	8615	8545
Degrees of Freedom	15	14
F statistic	4.813	3.323

Note: Only significant variables are displayed in table

Model 2a & 2b: NTS, but not as paid primary employment

Variables	Model 2a Odds Ratio & (SE)	Model 2b Odds Ratio & (SE)
Sample	*DH and AP*	*DH only*
Unmarried/Divorced	-	-
Contributors to Job Satisfaction: Autonomy Advancement/Growth	1.59* (0.42) -	1.58* (0.42) -
Professional Preferences: Work with underserved Interdisciplinary setting	 2.71*** (0.54) 2.07*** (0.53)	 2.70*** (0.54) 2.06*** (0.52)
RDHAP License	6.35*** (2.14)	N/A
Constant	0.031** (0.05)	0.029** (0.05)
Observations Population Degrees of Freedom F statistic	1558 7864 15 7.765	1512 7814 14 4.610

Note: Only significant variables are displayed in table

Model 3: Predictors of RDHAP license

Variables		Model 3a Odds Ratio & (SE)
Sample		*DH and AP*
	Race/Ethnicity (URM)	2.23** (0.71)
	Presence of children in house	1.59** (0.30)
	Highest Education Attained (MA+)	2.63**(1.15)
Contributors to Job Satisfaction:	Autonomy	-
	Advancement/Growth	2.15** (0.70)
	Income	0.36** (0.16)
Professional Preferences:	Work with underserved	9.49*** (3.41)
	Interdisciplinary setting	4.29*** (2.20)
	Constant	0.031** (0.05)
Observations		1558
Population		7864
Degrees of Freedom		15
F statistic		7.765

Note: Only significant variables are displayed in table

Discussion

- RDHAP licensure is strongest predictor of any type of work in NTS
  - URM status, no children in home, and higher educational attainment all predict RDHAP
- Hygienists who are married, or with young children at home, are less likely to work in NTS
- Personal preferences for autonomy, working with underserved, and inter-professional work are all positive predictors of work in an NTS

Conclusions

- The dental hygiene workforce can play an important role in improving access to preventive dental services for underserved populations. Yet,
  - Relatively few providers work in non-traditional settings
  - Those that do are highly motivated to work outside traditional settings, have personal characteristics that encourage that, but face significant structural barriers
  - Scope of practice changes do not by themselves translate into new opportunities for providers who are primarily employed by others

Recommendations

- If access to preventive dental care is a priority for policy makers, then they should work to expand employment opportunities for dental hygienists in NTS such as public health, primary care, and other interdisciplinary settings.
- Educators can increase the hygiene workforce willing and able to work in NTS through recruitment of students with characteristics and preferences for this type of work, and through educational experiences with underserved populations.

Beth Mertz, PhD, MA
Assistant Professor in Residence, School of Dentistry & School of Nursing
Sr. Research Faculty, Center for the Health Professions
University of California, San Francisco
3333 California Street, Suite 410
San Francisco, CA 94118
Phone: 415/502-7934
bmertz@thecenter.ucsf.edu
http://futurehealth.ucsf.edu

Primary Funding Source: Funding provided by National Institute of Dental & Craniofacial Research Award # P30DE020752.