

The Evolving Pipeline of Hispanic Dentists in the United States: Practice and Policy Implications

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Presentation Outline

- Introductions and Overview – Beth Mertz
- Educational Pathways – Aubri Kottek
 - Q&A
- Licensing Pathways – Zeeshan Raja
 - Q&A
- Practice Models – Cynthia Wides
 - Q&A
- Conclusions and Wrap Up – Beth Mertz
- Questions & Discussion – All

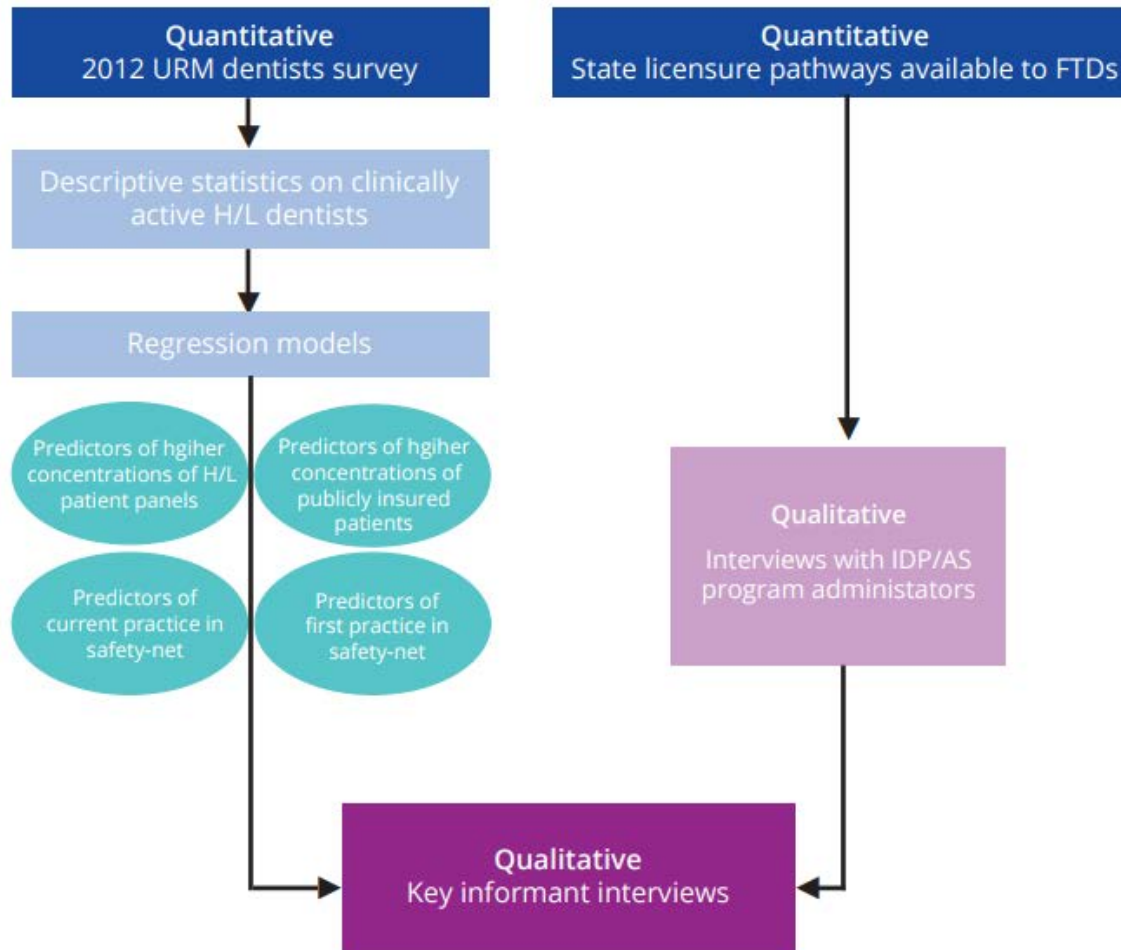
Study Background

- The H/L dentist workforce is disproportionately small compared with the rapidly growing and historically underserved H/L population
- Enrollment of H/L students in US dental schools increased from 5.4% in 2000 to 9.1% in 2016¹ but remains far below 17.1%, the proportion of the US population that is H/L
- Half of the H/L dentists in the US are foreign born, and about 1 in 4 are initially foreign-trained dentists
- Complicating the assessment of the H/L dentist pipeline are changing state licensure laws that have altered the pathways to practice for foreign-trained providers, and an increase in International Dentist Programs (IDP)

Research Questions

- To describe changing state licensure laws governing foreign-trained H/L dental graduates' pathways to establish practices in the US
- To define key indicators of H/L dentists' practice patterns, including geographic location, practice type, specialty, patient population and payer mix, and service to underserved populations
- To assess variance in practice patterns by 3 pathways to practice: (1) US trained, (2) foreign trained, and (3) foreign trained with IDP completion. We further examine the role of residency training in each of the 3 pathways
- To model predictors of service to minority and underserved populations in relation to demographics, training pathway, debt, and other related variables
- To assess the potential future impact of these changing pathways on H/L provider supply and distribution

Methodological Approach



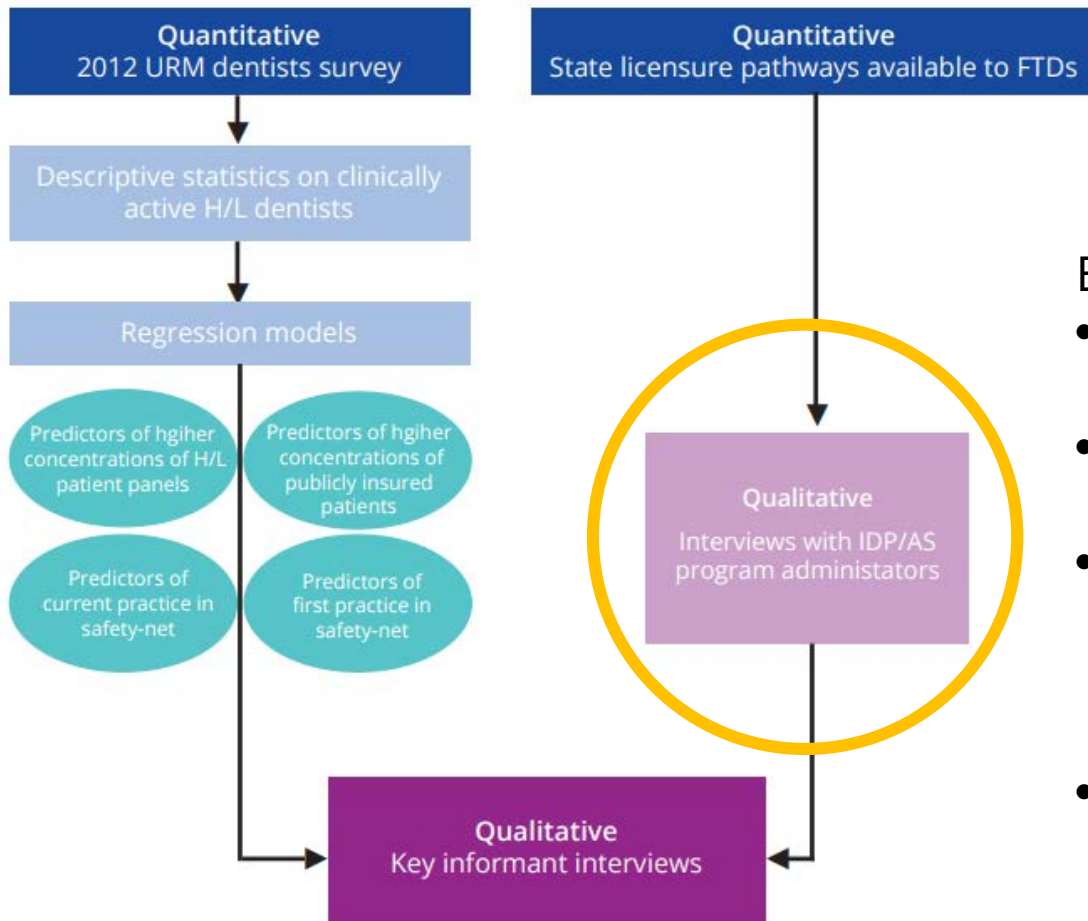
Changing Educational Pathways

Aubri Kottek

Goals

1. Assess the various educational pathways available to foreign-trained dentists (FTDs) in the US
2. Assess the drivers and impact of changing educational pathways on FTDs, including Hispanic/Latino (H/L) dentists

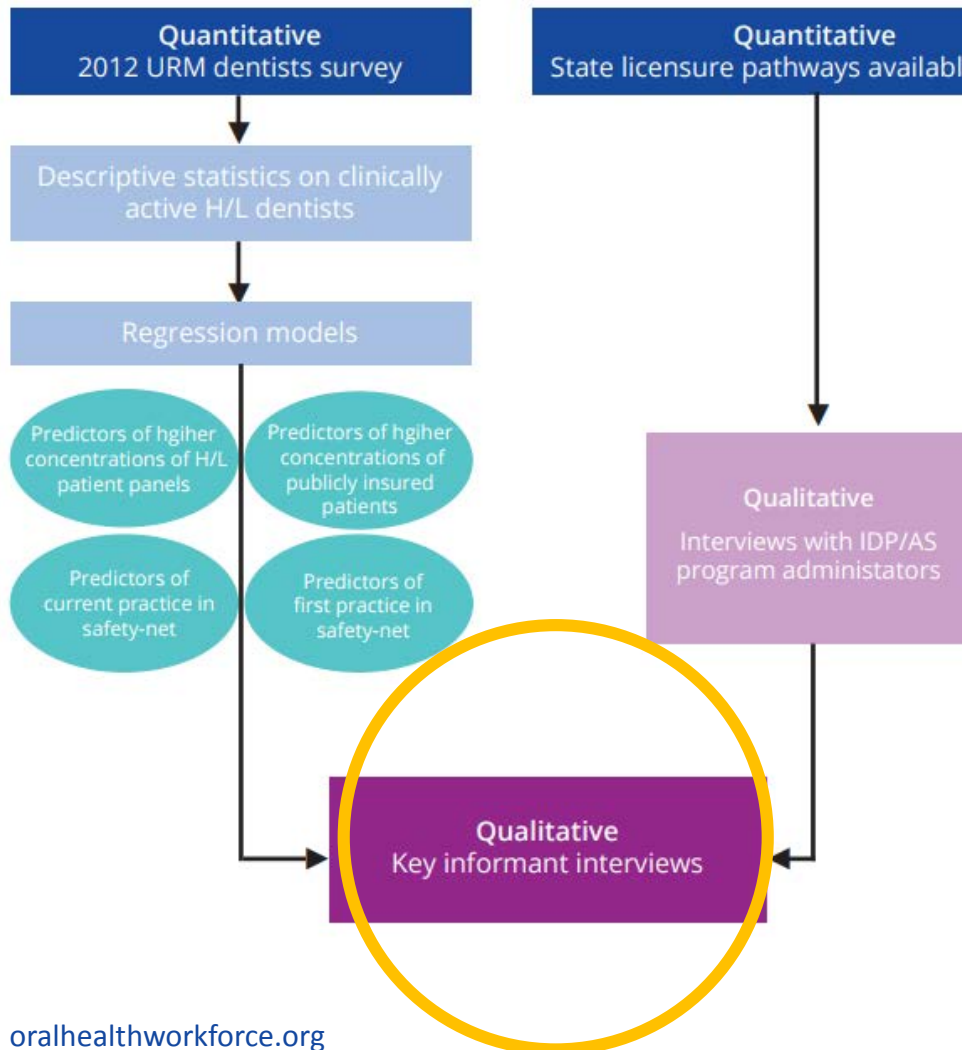
Methods



Educational Programs:

- List of IDP/AS programs (source: ADA, CAAPID)
- Email invitation to participate (two waves)
- Semi-structured interviews (n=8) or response to questions (n=4)
- Responses were analyzed for common themes

Methods



- Key Informant Interviews:
- Convenience sample
 - Email invitation to participate
 - Semi-structured interviews (n=3)
 - Interviews analyzed for common themes

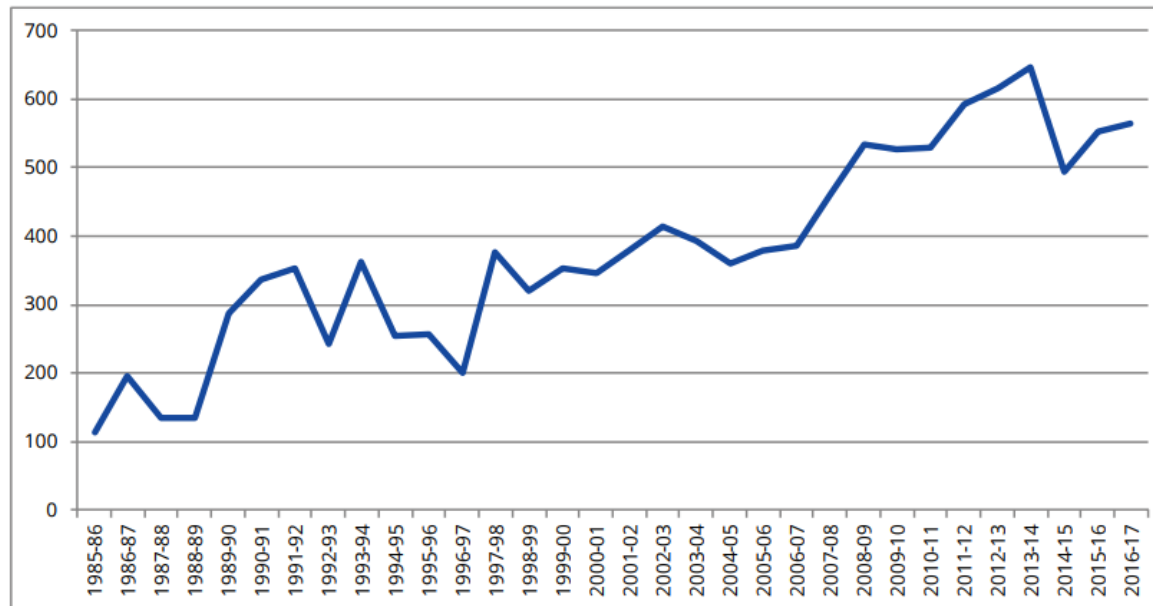
Findings - History

- CODA established in 1975 to ensure quality standards and competencies
- In late 1970s, states began requiring foreign-trained dentists (FTDs) to obtain dental degrees from CODA-accredited dental programs
- Dental schools responded with individualized placement
 - Time-consuming & resource-intensive
- As demand for licensure of FTDs grew, a more systematic approach was sought to ensure quality:
 - Pre-doctoral International Dentist Programs (IDP) or Advance Standing (AS) programs
 - Post-graduate residency training

Findings – Growth of IDP/AS

- IDP/AS programs share similar admissions criteria, consist of repeating 2-3 years of dental school, and result in a CODA-accredited degree (counted as domestically-trained)

Figure 2. Number of International Dental School Graduates Admitted With Advanced Standing to US Dental Schools, 1985-2017



Source: American Dental Association, Health Policy Institute, Surveys of Dental Education (various years).

IDP/AS Program Respondents (n=12)

Table 1. Select Information About IDP/AS and Residency Programs Available for FTDs^a

School	IDP/AS Program			Residencies for FTDs		
	Inception	Trend in Enrollment	2015-16 Class ^b	AEGD	GPR	Post-Doctoral ^c
Boston University	1970s	Increasing	84	Yes	No	Yes
University of Pennsylvania	1986	Steady	35	No	No	Yes
Rutgers University	2007	Increasing	28	No	Yes	Yes
University of Michigan	2005	Increasing	20	No	No	Yes
Tufts University	1956	Increasing	17	No	No	Yes
New York University	1990s	Decreasing	15	Yes	No	No
University of Minnesota	2007	Increasing	12	No	No	Yes
University of Texas Health Science Center at Houston	1970	Steady	2	No	No	Yes
University of California, San Francisco	2000	Increasing	28	No	No	No
Southern Illinois University Edwardsville	2014	Steady	6	No	No	No
Case Western Reserve University	2000	Decreasing	0	Yes	Yes	Yes
University of Florida	2000s	Steady	2	Yes	No	Yes

^a AEGD, Advanced Education in General Dentistry; FTDs, foreign-trained dentists; GPR, General Practice Residency; IDP/AS, international dentist program/advanced standing.

^b FTDs admitted to 2015-2016 D2 or D3 years, sourced from 2015-2016 Survey of Dental Education, ADA Health Policy Institute.¹⁸

^c CODA and non-CODA accredited post-doctoral specialty residency programs.

Summary

- IDP/AS programs launched in response to changing state licensure laws requiring CODA-accredited dental degrees for FTDs
- Despite typically being 2-year programs, tuition for IDP/AS programs ranges from \$135k - \$305k
- No tracking of FTDs in IDP/AS programs; no race/ethnicity, country of origin, or initial country of training data
 - Most individual programs have this information
 - Most applicants and accepted students are from South Asia, the Middle East, or countries experiencing political unrest
 - No specific strategies were found for recruitment of foreign-trained H/L dentists specifically
- US dental school enrollment figures have underestimated the pipeline of H/L dentists coming to practice as FTDs were not included in those counts

Changing Educational Pathways Questions?

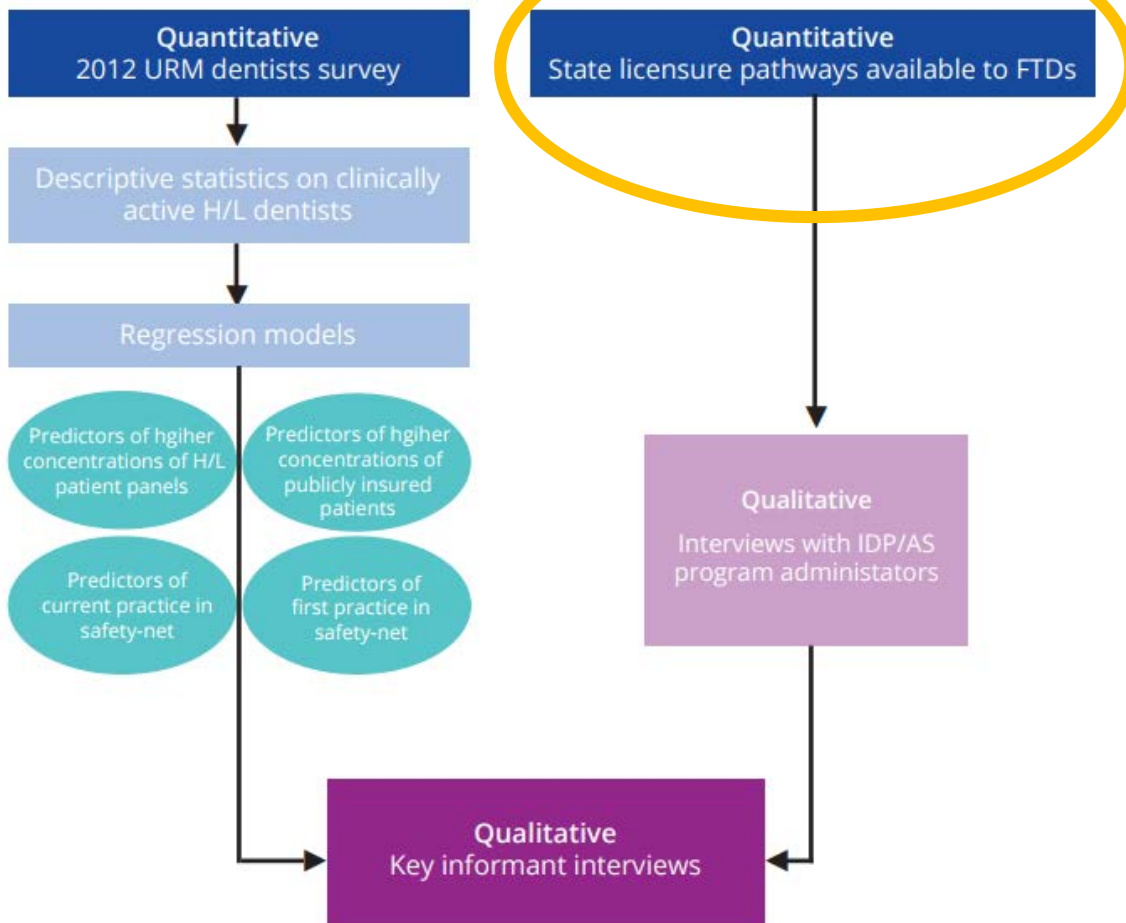
Changing Pathways to Licensure in the US

Zeeshan Raja

Goals

- Historically 1 in 4 Hispanic dentists is foreign trained. However state licensure laws governing foreign-trained dental graduates' pathways to establish practices in the US have been changing in ways that may affect this inflow of H/L dentists.
- The goal of this part of the study is to:
 - Describe the process of dental licensure
 - Review different pathways to dental licensure
 - Analyze different states' policies regarding dental licensure

Methods



Dental Licensure In US

- Licensure is required to practice dentistry in the US.
- In the United States, licensure requirements vary from state to state.
- All applicants must meet three basic requirements:
 - dental education,
 - written examination, and
 - clinical examination.
- State dental boards track current licenses, but do not always provide race/ethnic information on dentists in the state

State Dental Board (Board of Dental Examiners)

- Agency of state government created by the state legislature.
- Governs the qualifications for and the practice of dentistry within the state and implement dental practice act.
- The board's authority is limited to that granted by the state legislature and include:
 - establishment of qualifications for licensure,
 - issuance of licenses to qualified individuals,
 - establishment of standards of practice and conduct,
 - taking disciplinary action against those who engage in misconduct, and
 - promulgation of rules to enable the board to perform its duties.

Additional Licensure Requirements

- State boards may have additional requirements, such as:
 - a minimum age of 18 or 21 years old;
 - good moral character;
 - examination on the state practice act (jurisprudence);
 - proof of malpractice insurance;
 - current Basic Life Support (BLS) or cardiopulmonary resuscitation (CPR) certification;
 - specialty degree from a CODA accredited program;
 - specialty examination results or certificate;
 - background check;
 - fingerprint verification;
 - interview;
 - documentation of hepatitis B vaccination; or
 - courses in infection control, radiation safety or other specified topics.

Educational Requirement

- All States' educational requirements are satisfied by graduating from a dental school accredited by the ADA Commission on Dental Accreditation.
- Foreign Trained Dentists (FTD) or dentist graduating from non-accredited dental school must contact the state board where they wish to practice and obtain educational and licensure requirements.
- FTD are usually required to graduate from accredited dental education international dentist program (IDP) to earn DDS or DMD degree or ADA approved dental post graduate education or residency program.

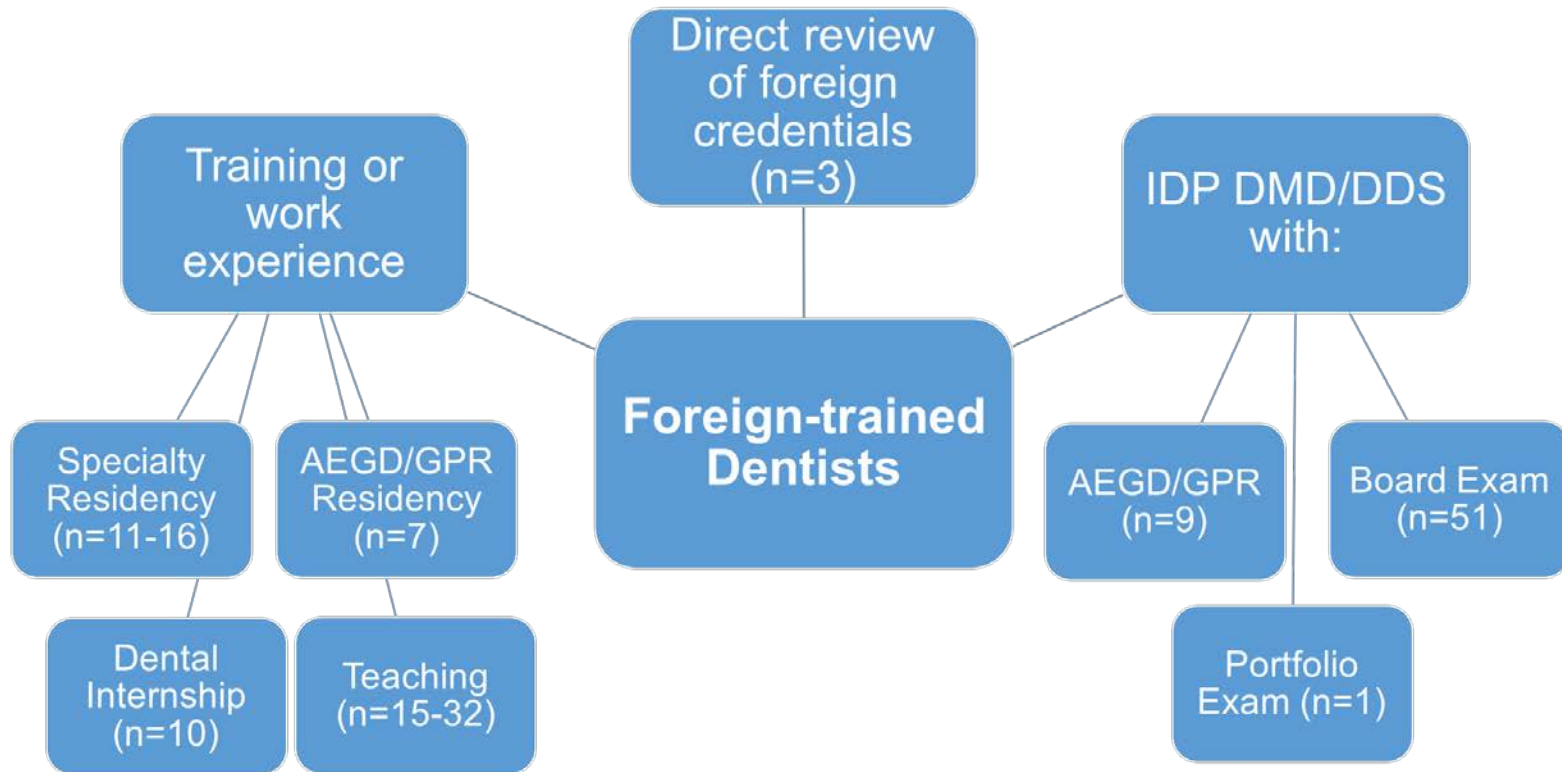
Written Requirement

- All licensing boards use the National Board Dental Examinations to satisfy a major portion of their written exam requirements.
- The National Board Examination Parts I and II are developed and administered by the ADA's Joint Commission on National Dental Examinations.
- The Joint Commission on NBDE will combine NBDE part 1 and part 2 into a singular Integrated National Board Dental Examination (INBDE) by 2020.

Clinical Requirement

- Clinical exam requirements vary by each state.
- Currently only Delaware administers its own clinical exam.
- The remaining boards contract that responsibility to one of the five regional testing agencies
 - Central Regional Dental Testing Services (CRDTS)
 - Commission on Dental Competency Assessment (CDCA, formerly NERB)
 - Council of Interstate Testing Agencies (CITA)
 - Southern Regional Testing Agency (SRTA)
 - Western Regional Examining Board (WREB)

Pathways to Practice for FTD



Pathways to Practice for FTD

- In every state, FTDs who complete a CODA-approved IDP/AS program leading to a DDS or DMD degree and who pass the Regional Testing Exam (RTE) are eligible for dental licensure.
- New York additionally requires all candidates (FTD and US trained) to complete at least 1 year of a clinical-based postdoctoral general practice residency in a hospital or dental facility.

California Pathways to Practice for FTD

- California offers portfolio examination in lieu of the RTE for all candidates who are educated in a California dental school.
- California also offers one year of ADA approved AEGD or GPR after IDP DDS in lieu of RTE.
- Universidad De La Salle Bajío's School of Dentistry in León, Guanajuato, Mexico, was first accredited by the Dental Board of California in 2002 and was reaccredited for 7 years in 2012.
 - The school maintains up to 5 spots for a US citizen to be admitted to dental school, as well as an IDP program that was accredited in 2008 and a domestic program for Mexican applicants.
 - This accreditation, allows graduates license eligibility only in California.
 - 183 graduates from this program have been licensed in CA, 50% of which are Hispanic/Latino.

AEGD / GPR

- 9 states allow license eligibility to FTDs who complete an IDP/AS program and an AEGD program or GPR in place of the RTE.
- In 7 states, FTDs may become eligible for licensure after completing an AEGD program or GPR without completion of an IDP/AS program.
- Florida has a 2-year certificate for practice in Florida only. After 2 years of AEGD certificate training, the candidate is eligible to obtain dental licensure in Florida.
- These states require a case-by-case review of the licensure application.

Post Graduate Residency

- 16 states allow FTDs to complete a postdoctoral program in one of the 9 ADA-recognized specialty areas without the completion of an IDP/AS program.
- These ADA recognized specialty disciplines include
 - Dental Public Health,
 - Endodontics,
 - Oral and Maxillofacial Pathology,
 - Oral and Maxillofacial Radiology,
 - Oral and Maxillofacial Surgery,
 - Orthodontics and Dento-facial Orthopedics,
 - Pediatric Dentistry,
 - Periodontics,
 - Prosthodontics

Teaching and Dental Internships

- 15 states allow FTDs to obtain dental licensure to practice with certain restrictions if they acquire a teaching or faculty position at an ADA-recognized and CODA-approved dental school.
 - Allows clinical practice in educational setting
- 10 states allow limited licensure as dental intern which is a limited license granted to a qualified dentist to perform all duties of a dentist as a dental intern in a hospital, dental infirmary or clinic, and/or school setting under the supervision of a licensed dentist.
 - Still need to pass state-based process for licensure if want to work independently

Reciprocity

- Reciprocity is available to all licensed dentists in the US whether their initial training was foreign or domestic after continuous practice for a specified period (ranging from 2 to 5 years) in another state, without additional didactic and clinical examinations.
- Various terms are used for the process of obtaining licensure in this way, including licensure by credentials, reciprocity, endorsement, or criteria. These are referred to collectively as reciprocity.
- After FTDs receive initial licensure, they may qualify for licensure in other states after a period of practice without incident.
- All states except Delaware, Florida, Hawaii, Nevada, and the Virgin Islands participate in license reciprocity.

Endorsement

- While states retain the ability to evaluate and accept the educational credentials of an FTD to give him or her a license to practice with additional didactic or clinical evaluation through a mechanism known as Endorsement.
- Was common in 1970s
- Currently used in only three states
 - Michigan
 - Indiana
 - New Jersey

Summary

- Completion of an IDP/AS program, completion of a postdoctoral specialty or postgraduate residency, and teaching in a CODA-accredited dental school are all common pathways to dental licensure
- States are continually seeking to balance the needs of dentists for flexible and reasonable licensure requirements against the needs of consumers for access to consistent, high-quality dental care.
- The licensing of FTDs has become more standardized in educational and testing requirements while at the same time becoming more flexible in allowing greater workforce movement among states.
- The measurable impact of these changes on the H/L dentist inflow is unclear given the absence of national tracking data by race or country of origin.

Licensure Pathway Questions?

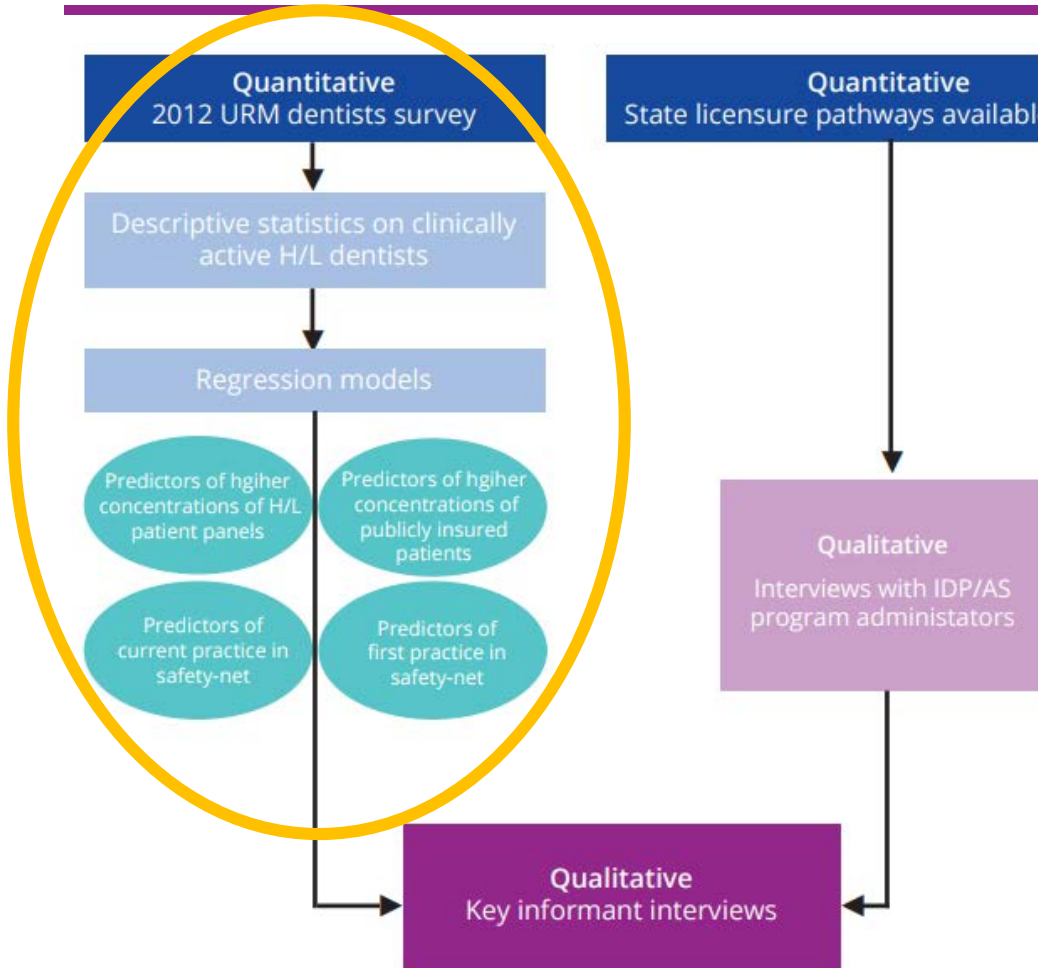
Implications of changing pathways on practice patterns

Cynthia Wides

Goals

- To assess variance in practice patterns by 3 pathways to practice: (1) US trained, (2) foreign trained, and (3) foreign trained with IDP completion. We further examine the role of residency training in each of the 3 pathways; and
- To model predictors of service to minority and underserved populations in relation to demographics, training pathway, debt, and other related variables.

Methods



Descriptive statistics were computed, followed by multivariate Poisson and logistic regressions to model the impact of training pathway on practice patterns.

Methods - Statistical Analysis

Data Source: 2012 national sample survey of URM dentists (response rate: 34%, n=1,489) in the U.S. and county-level Census data. H/L dentists' response rate was 35.4%, n=652 (weighted 5,784). Analysis based on 5,342 clinical H/L dentists.

Training Pathway Variables:

1. U.S.-trained = initial degree from CODA-accredited dental school
2. Foreign-trained dentist (FTD) = no degree from a CODA - accredited school
3. International Dentist Program (IDP) = initial degree from a foreign dental school followed by an IDP/AS program in a CODA-accredited school

Outcome Variables:

- Percent of H/L dentists' patients who are H/L (Poisson)
- Percent of H/L dentists' patients on public insurance (Poisson)
- Current employment in non-traditional setting -yes/no (Logistic)
- First job in non-traditional setting - yes/no (Logistic)

Other Independent Variables

Predicting Patient Population:

Age

Sex

Spanish speaking in practice

General practice

Practice owner

Medicaid context

Work in non-traditional setting

(i.e., corporate practice, government employment, public health corps, Indian Health Service, civil hire on Indian land, health center, hospital, armed forces, prison, educational institution, or industry)

County composition:

English proficiency

H/L population

Under poverty line

Covered by Medicaid

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Predicting Work in a Non-traditional Setting:

Age

Sex

Children <18

General practice

Completed residency

Medicaid context

First job in non-traditional setting

Educational debt

Personal motivations:

Income potential

Treat underserved population

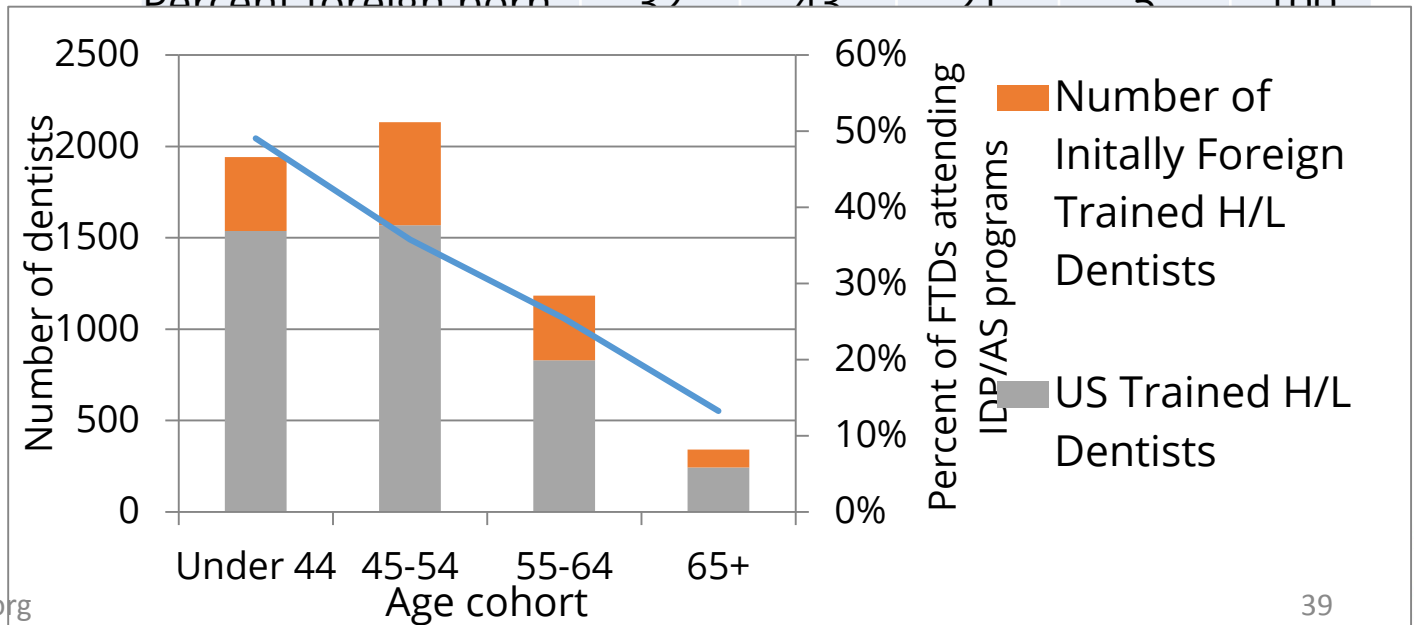
Work in language other than English

Descriptive Statistics

Professionally Active Hispanic/Latino Dentists in the US by Training Pathway and Age Cohort:

Age cohort	Under 44	45-54	55-64	65+	Total
N (weighted)	1,942	2,132	1,183	341	5,598
Percent US-trained	79	74	70	71	75
Percent foreign-trained	11	17	22	25	16
Percent IDP-trained	10	9	8	4	9
Percent in age cohort	35	38	21	6	100
Percent foreign born	32	42	21	5	100

Professionally Active H/L Dentists in the US by Training Pathway and Age Cohort :



Poisson Regression: Service to H/L Patients

Percent of H/L patients in practice (10% increment)

Independent Variables	IRR	95% CI
Age category (higher = older)	1.03	(0.984-1.069)
Gender (0=Male, 1=Female)	1.00	(0.912 - 1.090)
Spanish speaking in practice (1=yes)	1.14**	(1.027 - 1.273)
<i>Licensing Pathway (referent = US-trained)</i>		
IDP completed (1=yes)	1.41***	(1.182 - 1.674)
Foreign-trained only (1=yes)	1.07	(0.962 - 1.188)
General practice dentist (1=yes)	1.14**	(1.022 - 1.277)
Practice owner (1=yes)	1.04	(0.939 - 1.150)
Medicaid context (0=none; 1=limited 2=5+ dental services for adults)	1.16**	(1.034 - 1.304)
Employed in non-traditional practice (1=yes)	-	-
% Spanish/Creole in county v. proficient in English	0.99**	(0.987 - 0.998)
% H/L in county	1.01***	(1.012 - 1.015)
% in county under poverty line	-	-
% in county covered by Medicaid	-	-

Poisson Regression: Service to Publicly Insured Patients

Percent of public insurance patients in practice (10% increment)

Independent Variables	IRR	95% CI
Age category (higher = older)	0.99	(0.894 - 1.103)
Gender (0=Male, 1=Female)	1.07	(0.859 - 1.341)
Spanish speaking in practice (1=yes)	-	-
<i>Licensing Pathway (referent = US-trained)</i>		
IDP completed (1=yes)	1.33*	(0.955 - 1.849)
Foreign-trained only (1=yes)	1.28*	(0.996 - 1.635)
General practice dentist (1=yes)	-	-
Practice owner (1=yes)	0.70**	(0.528 - 0.921)
Medicaid context (0=none; 1=limited; 2=5+ dental services for adults.)	1.37***	(1.090 - 1.721)
Employed in non-traditional practice (1=yes)	1.60***	(1.185 - 2.167)
% Spanish/Creole in county v. proficient in English	-	-
% H/L in county	-	-
% in county under poverty line	1.03***	(1.009 - 1.045)
% in county covered by Medicaid	1.01	(0.941 - 1.079)

Un/Weighted Obs=432/3,599

F(9, 423)=10.66

Prob > F =0.0000

Logistic Regression: Current work in Non-Traditional Setting

Current work in non-traditional setting (1=yes)		
Independent Variables	OR	95% CI
Age category (higher = older)	0.47***	(0.334 -0.670)
Gender (0=Male, 1=Female)	1.17	(0.559-2.453)
Dependent child <18 (1=yes)	0.42**	(0.207-0.871)
Completed a residency (1=yes)	-	-
<i>Licensing Pathway (referent = US-trained)</i>		
IDP completed (1=yes)	-	-
Foreign-trained only (1=yes)	-	-
General practice dentist (1=yes)	0.40**	(0.199-0.793)
First job in non-traditional setting (1=yes)	17.18***	(8.490-34.763)
Educational debt (increments of \$50,000)	0.89*	(0.795-1.006)
Medicaid context (0=none; 1=limited; 2=5+ dental svc.)	1.81*	(0.102-1.960)
<i>Factors important to first job choice (self-reported; Likert scale 1=low, 5=high)</i>		
Income potential	-	-
Desire to treat underserved populations	-	-
Speaking another language in clinical practice	-	-
Un/Weighted Obs=564/4,655 F(7, 557)=12.88 Prob > F =0.0000		

Logistic Regression: First Job in Non-Traditional Setting

First job in non-traditional setting (1=yes)

Independent Variables	OR	95% CI
Age category (higher = older)	0.91	(0.683-1.209)
Gender (0=Male, 1=Female)	1.24	(0.739-2.093)
Dependent child <18 (1=yes)	-	-
Completed a residency (1=yes)	1.85**	(1.097-3.125)
<i>Licensing Pathway (referent = US-trained)</i>		
IDP completed (1=yes)	-	-
Foreign-trained only (1=yes)	-	-
General practice dentist (1=yes)	-	-
First job in non-traditional setting (1=yes)	-	-
Educational debt (increments of \$50,000)	-	-
Medicaid context (0=none; 1=limited; 2=5+ dental svc.)	-	-
<i>Factors important to first job choice (self-reported; Likert scale 1=low, 5=high)</i>		
Income potential	0.50***	(0.373-0.665)
Desire to treat underserved populations	1.63***	(1.267-2.105)
Speaking another language in clinical practice	0.60***	(0.482-0.746)

Summary

- Pathway to licensure has an impact on service to H/L patients and service to publicly insured patients, with IDP/AS increasing the likelihood of serving H/L and publically insured patients & FTD increasing likelihood of serving publically insured patients.
- Educational debt was tested in every model and was only significant in prediction of current work in a non-traditional setting.
- Early exposure (first job) in non-traditional settings are a strong predictor of future employment in non-traditional settings.
- Completing a residency is the strongest predictor of having had a first job in non-traditional settings.
- Personal motivations matter in choosing practice in a non-traditional settings.
- Medicaid adult dental benefits support treatment of public-insurance patients and work in a non-traditional setting.

Implications of changing pathways on practice patterns – Questions?

Wrap Up

Beth Mertz

Key Findings: H/L Dentist Pipeline

- Three-quarters of the H/L dentist workforce are initially US trained, while one-quarter are initially foreign-trained dentists (FTDs). Due to changes in license requirements, younger FTDs complete IDP/AS programs at higher rates than do older graduates, who historically could obtain licensure directly with their foreign credentials.
- US dental school enrollment numbers may have underestimated the pipeline of H/L dentists coming into practice, as FTDs were not included in those counts. Now that many FTDs complete IDP/AS programs and are thus counted as US graduates, the domestic numbers more accurately reflect the number of new H/L dentists entering the workforce.

Key Findings: H/L Dentist Pipeline

- Despite an increase in domestic dental school enrollment among H/L students, a large gap in parity remains between the proportion of the US population that is H/L and the proportion of the US dentist population that is H/L.
- Tracking workforce diversity is largely a retrospective endeavor, with little proactive information on applicants or on the immigrant pipeline from which to project future supply.

Key Findings: Foreign-Trained Hispanic/Latino Dentists

- All FTDs, including H/L FTDs, face increasingly rigid and expensive educational requirements in order to qualify for licensure. There is great variability among states in the educational and licensure pathways available to FTDs, but, as with all dentists, FTDs have greater freedom of movement within the US than in the past once they are licensed.
- Among H/L dentists, being initially foreign trained predicts greater service to H/L patients and to publicly insured patients.
- The cost of the necessary education and testing to obtain a license in the US is increasing for FTDs because of regulatory shifts, but the available data on practice patterns among FTDs do not reflect any impacts of this change on the practice patterns of these dentists.

Key Findings: Service to Underserved Populations Among Hispanic/Latino Dentists

- Among H/L dentists, the most important factor predicting service to publicly insured patients was their primary work setting, with those in nontraditional settings (e.g., safety net) providing greater service to this population.
- The biggest predictor of H/L dentists working in nontraditional settings was working in nontraditional settings in their first job.
- The biggest predictor of H/L dentists having had a first job in nontraditional settings was having completed a dental residency and being internally motivated to treat underserved patients
- Being an FTD or an FTD who completed an IDP/AS program did not predict current or initial work as a dentist in a nontraditional setting.

Questions?

Full report available at : www.oralhealthworkforce.org

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