DENTAL HYGIENE CARE DELIVERY IN THE GLOBAL COMMUNITY

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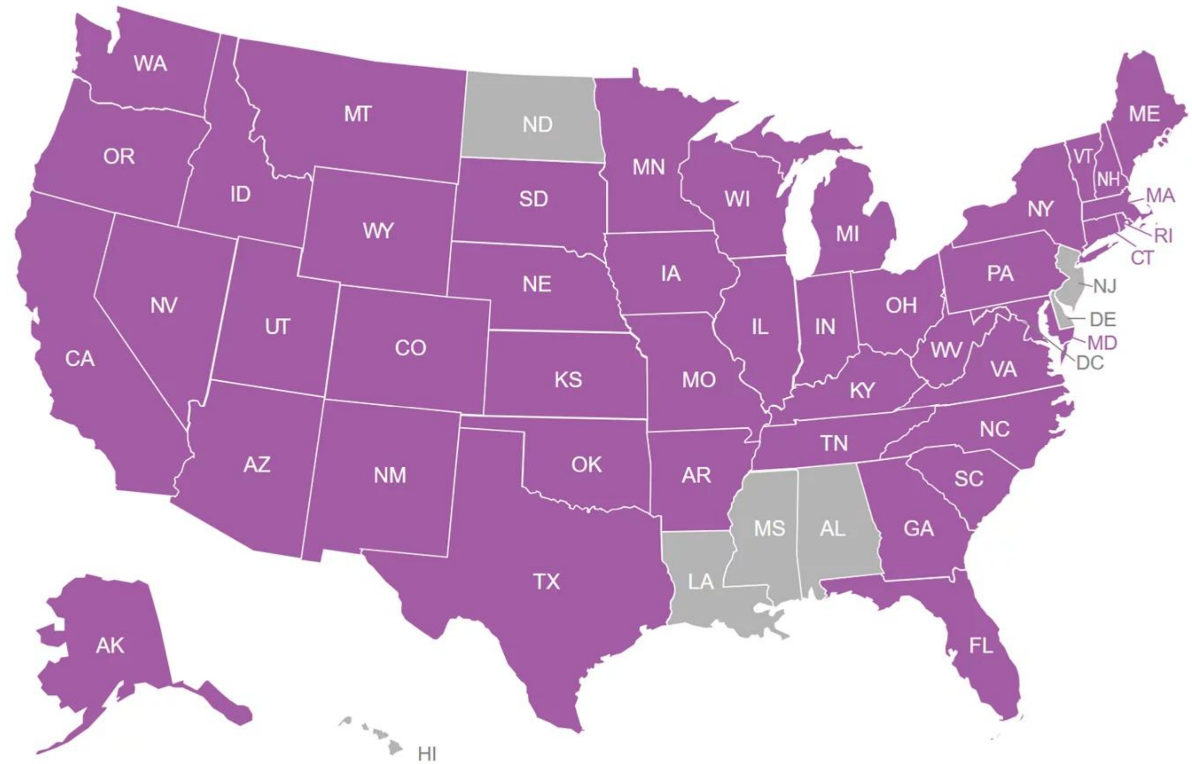
GLOBAL WORKFORCE IMBALANCE

DENTAL HYGIENISTS IN THE U.S.

- Education
- Scope of practice
- Role in prevention

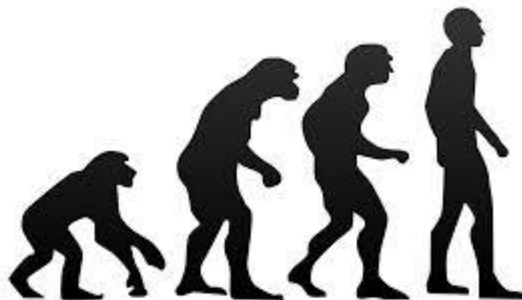


OBJECTIVES

1. Summarize the evolution of dental hygiene in countries outside the United States.
2. Identify major global oral health challenges.
3. Compare global workforce distribution patterns related to access to dental hygiene care.
4. Differentiate global dental hygiene education models, work roles, and regulatory structures.
5. Value the role of international professional organizations in promoting global oral health.

EVOLUTION OF DENTAL HYGIENE

- Relatively new profession
- Began at different times globally
- Influenced by public health needs
- Driven by emphasis on prevention
- Developed in response to workforce shortages



EDUCATION TIMELINE

Decade	Countries Introducing Dental Hygiene Education
1910s	United States
1920s	Norway
1940s	Great Britain, Japan
1950s	Canada, Nigeria
1960s	South Korea, Netherlands, Sweden
1970s	South Africa, Denmark, Switzerland, Australia, Finland, Italy, Israel, Hong Kong, Poland
1980s	Portugal, Spain, Jordan, Saudi Arabia
1990s	Hungary, Latvia, Lithuania, Czech Republic, New Zealand

EARLY VS. SLOW ADOPTION

Early Adoption

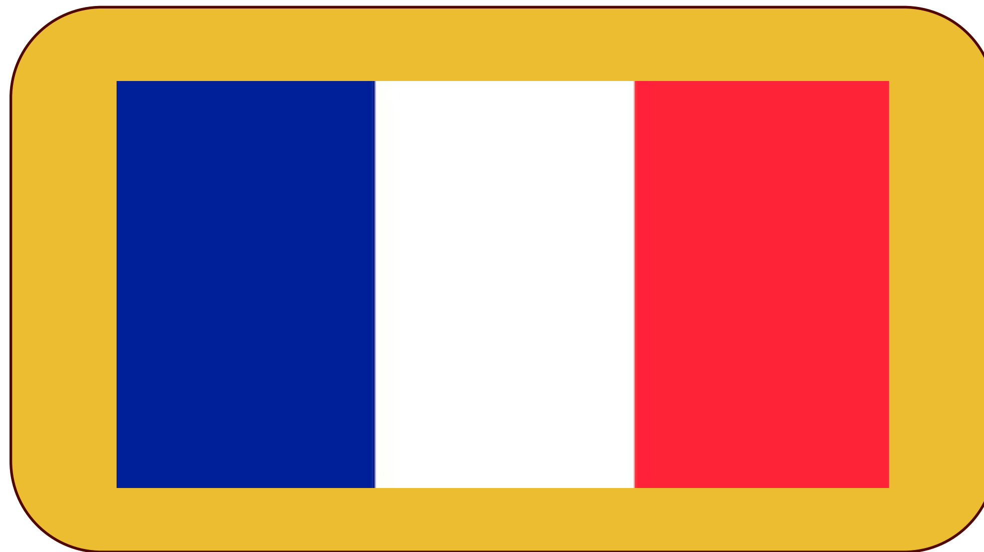
- Supported by strong public health systems
- Economically developed with resources for prevention
- Emphasized preventive philosophies in health care

Slow Adoption

- Prevention not prioritized within health systems
- Limited public health infrastructure
- Lack of educational resources and training programs
- Dentist-centered models of care dominate service delivery

NO DENTAL HYGIENE PROFESSION

- Preventive care delivered by dentists or assistants
- Limited investment in prevention
- Emphasis on treatment rather than prevention



EMERGING TRENDS

1. Growth of mid-level providers
2. Expansion of community-based prevention roles
3. Increasing global alignment with World Health Organization (WHO) prevention goals
4. Movement toward standardized education and competencies

GLOBAL ORAL HEALTH CHALLENGES

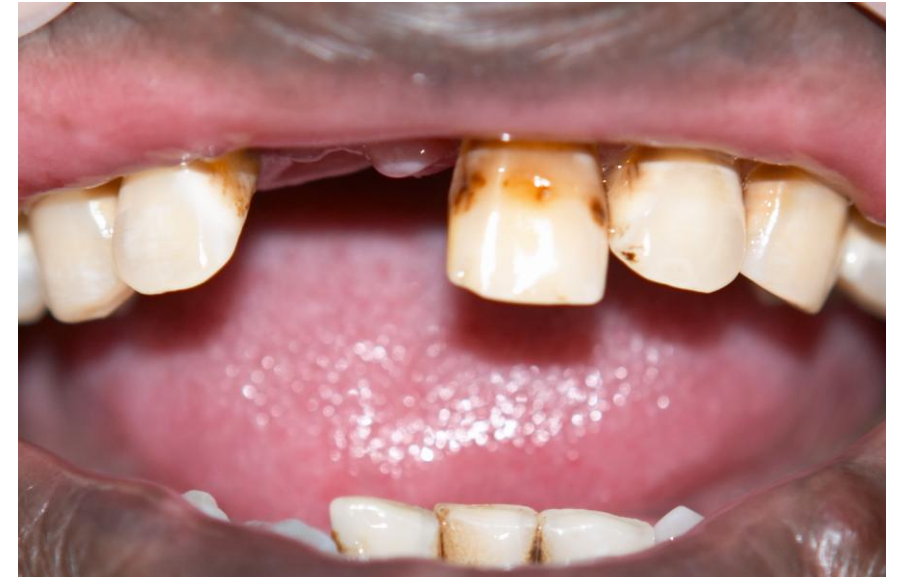
🦷 Caries Treatment Gap
- 90% unable to receive standardized care

⚠️ Untreated Disease
- High prevalence globally

🛡️ Limited Prevention
- Restricted access to preventive services

💢 Pain-Driven Care-Seeking
- Seek care only when symptomatic

SYSTEM-LEVEL CHALLENGES



- 💰 Economic Barriers
  - Cost limits utilization
- 🌐 Cultural Barriers
  - Beliefs and norms influence care-seeking
- 👥 Provider Distribution
  - Workforce concentrated in urban/wealthy regions
- 🏛️ Policy & Regulatory Gaps
  - Weak or absent policies limit system capacity and consistency

SOCIAL DETERMINANTS OF ORAL HEALTH

- Education
- Income
- Access to care
- Cultural beliefs
- Availability of resources
- Political stability & governance

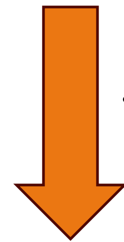
BREAKDOWN OF SOCIAL DETERMINANTS

- Access
  - Transportation
  - Clinics
- Cultural beliefs
  - Dietary norms
  - Gender norms
  - Alternative medicine
  - Prevention viewed as unnecessary
  - Understanding of prevention
- Availability
  - Fluoridated water
  - Toothpaste, toothbrush, floss

WORKFORCE DISTRIBUTION

Workforce Ratios

Strong / Limited / No Presence



influenced by

National priorities

Regulation & Scope

Education capacity

Economic resources

Infrastructure

Table 4–3 Estimated Ratios of Dental Hygienists to Dentists and to the Population

Country	Population (millions)	Dental Hygienists (number)	Ratio Dental Hygienists: Dentists	Ratio Dental Hygienists: Population
Australia	22.00	900	1:14	1:25,500
Austria	8.00	8	1:350	1:1,000,000
Canada	33.00	18,500	1:1	1:1800
Denmark	5.50	1800	1:3	1:3100
Fiji	0.80	50	1:1	1:16,000
Germany	82.00	150	1:300	1:550,000
Hungary	10.50	900	1:5	1:10,400
Ireland	4.25	300	1:8	1:14,000
Italy	60.00	3000	1:12	1:20,000
Israel	7.20	1030	1:8	1:6700
Japan	127.00	150,000	1:1	1:846
Latvia	2.30	200	1:80	1:11,000
Netherlands	16.50	2000	1:30	1:8000
New Zealand	4.30	250	1:90	1:17,000
Norway	4.50	1200	1:50	1:3700
Portugal	11.00	340	1:15	1:32,000
Slovakia	5.50	300	1:11	1:18,000
South Africa	48.00	2000	1:2.5	1:24,000
South Korea	49.00	31,000	1:0.5	1:1500
Sweden	9.00	3200	1:20	1:2800
Switzerland	7.50	1700	1:2.5	1:4100
United Kingdom	60.00	4500	1:80	1:13,300
United States	300.00	180,000	1:0.9	1:1700

Sources: Luciak-Donsberger C. Questionnaire presented to delegates of the IFDH and representatives of CECDO, 2007–2008; FDI and WHO databanks.

DENTAL HYGIENIST VS. POPULATION

High ratio

- Japan 1:846
- South Korea 1:1500
- United States 1:1700
- Canada 1:1800

Low ratio

- Austria 1:1,000,000
- Germany 1:550,000

IMPACT ON ACCESS TO CARE

Less dental hygienists=

1) Fewer preventive services
2) Higher disease rates
3) Greater burden on dentists
4) Longer wait times for services
5) Limited school-based prevention
6) Reduced availability of community-based programs

EDUCATION, ROLES, AND REGULATION

EDUCATION MODELS

Post-graduate specialization

Bachelor's degree

Associate degree

Certificate programs

Average duration: 3 years

DENTAL HYGIENE ROLES

98% of all dental hygienists are women.

Primary Providers	**Restricted Roles**	**No Roles**
Norway	Japan	France

Public Health Roles	**Community Outreach**
Finland Sweden	Nepal Dominican Republic

SCOPE OF PRACTICE

Autonomy Levels

- Independent practice
- Independent referred practice
- General supervision
- Direct supervision

Preventive Services

- Limited
- Expanded

REGULATORY STRUCTURES

1. National
   unified standards & consistent scope
2. Regional/provincial
   scope varies by region
3. Dentist-controlled systems
   limited autonomy; supervision required
4. No regulation
   untrained providers; safety concerns

OTHER GLOBAL ORAL HEALTH PROVIDERS

Dental Therapists

- Preventive & restorative care
- Primarily treat children; some adult scope
- Expand access in underserved regions
- Similar to dental nurses
- Common in
  - United Kingdom
  - Australia
  - Canada
  - Nigeria

Oral Health Therapists

- Dual-qualified in dental therapy & dental hygiene
- Provide primary oral health care for all ages
- Broadest scope
- Common in Australia

Oral Health Educators

- Basic oral health awareness
- Common in developing countries
  - Poor populations
  - Remote areas

INTERNATIONAL ORGANIZATIONS

Why do they matter?

Support	Promote	Provide	Strengthen
Collaboration	Prevention & Oral health	Education & Research	Global recognition of profession

GLOBAL ORGANIZATIONS

- World Health Organization (WHO)
  - Oral health policy, surveillance, & strategy
- FDI World Dental Organization
  - Fédération Dentaire Internationale (FDI)
  - Founded in 1900
  - Advocacy & standards
- International Association for Dental Research (IADR)
  - International Association for Dental, Oral, and Craniofacial Research
  - Advance research
- International Federation of Dental Hygienists (IFDH)
  - Formed in 1986
  - Professional representation
  - Publishes the *International Journal of Dental Hygiene*

REGIONAL ORGANIZATIONS

- European Dental Hygienists Federation (EDHF)
  - Advocacy & standards
- Council of European Dentists (CED)
  - Policy & regulation
- Council of European Chief Dental Officers (CECDO)
  - Promote policy
- European Federation of Periodontology (EFP)
  - Periodontal guidelines
  - Education & training
  - Promote periodontal health

IMPACT OF ORGANIZATIONS

System-Level Impact

✓ Workforce development

✓ Standard setting

Policy & Public Health Impact

✓ Advocacy (prevention)

✓ Global oral health initiatives

Nearly

3.5 billion

people worldwide affected by oral diseases

people affected living in low- and middle-income countries

World Health Organization

SUMMARY

- Countries differ in dental hygiene **education models**, including program length and training pathways.
- Workforce distribution and **access to care** vary globally based on provider availability and system resources.
- Professional **roles and scopes of practice** differ, shaping what services hygienists can provide and how independently they can work.
- Global organizations offer **leadership**, set **standards**, and **support** international collaboration in oral health.
- Regional organizations coordinate **policy**, strengthen **professional standards**, and guide **research** within specific areas of the world.