

Advancing the Profession

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Introduction

In his discussion of professionalization, Greenwood¹ stated that one of the characteristics of a profession was a systematic body of theory, which required the application of the scientific method to the service situations encountered. He regarded the use of the scientific method as paramount to the development and sustenance of a profession noting that growth of the profession would occur with a "perpetual readiness to discard any portion of the system, no matter how time-honored it may be, with a formulation demonstrated to be more valid."¹ Given the nature of this research conference, the purpose of this paper is to address how to advance the dental hygiene profession through research.

In examining research needed in dental hygiene to advance the profession, it is important to consider oral health status from a global and national perspective. According to the World Health Organization:²

- Worldwide, 60-90% of school children and nearly 100% of adults have dental caries
- Severe periodontal disease is found in 15-20% of middle aged (35-44 years) adults
- About 30% of people aged 65-74 have no natural teeth
- Oral disease in children and adults is higher among poor and disadvantaged population groups
- Risk factors for oral diseases include an unhealthy diet, tobacco use, harmful alcohol use, poor oral hygiene, and social determinants

Further, the WHO states that most oral diseases require professional oral health care. However, due to limited availability or accessibility, the use of oral health services is markedly low among older people, people living in rural areas, and people with low income and education. To combat oral health diseases and inequalities, the WHO advocates for stimulating the development and implementation of community-based projects for oral health promotion and prevention of oral disease

with a focus on disadvantaged and poor population groups; advocating for a common risk factor approach to prevent oral and other chronic diseases; and, to provide technical support to countries to strengthen their oral health systems and integrate oral health into public health.²

From a national perspective, the oral health status of people in the United States is remarkably poor as illustrated in the following key bullet points.³⁻⁵

- Tooth decay is the most common chronic illness among school-aged children
- From 2007 to 2011, the percentage of persons aged 2 years and older who had a dental visit in the past 12 months decreased by approximately 6%
- Approximately 23% of children aged 2-11 years have at least one primary tooth with untreated decay
- In 2010, 22% of low-income adults had gone 5 years or more without a dental visit, or had never had a visit
- Nearly half (44%) of all Medicare beneficiaries report no dental visit in the past year, and 22% report they have not seen a dental provider in the last 5 years

Solutions proposed to address the oral health conditions of the public should be considered as one component of advancing the profession. Proposed solutions include using professionally applied fluoride gel and varnish treatments; placing dental sealants on permanent molars; providing early identification of those at high risk for oral disease and delivery of effective interventions; providing access to a dental home by the time a child is 1 year old; addressing oral health literacy; implementing and evaluating activities that have an impact on health behavior; facilitating collaboration between state public health and medical assistance departments and other groups to deliver preventive oral health care; and increasing the number of community health centers with an oral health component.^{3,4}

Table I: Research Agenda of the Patient-Centered Outcomes Research Institute⁸

Topic	Agenda
Assessment of prevention, diagnosis, and treatment options	Comparing the effectiveness of safety of alternative prevention, diagnosis, and treatment options to see which ones work best for different people with a particular health problem.
Improving health care systems	Comparing health system-level approaches to improving access, supporting patient self-care, innovative use of health information technology, coordinating care for complex conditions, and deploying workforce effectively.
Communication and dissemination research	Comparing approaches to providing comparative effectiveness research information, empowering people to ask for and use the information, and supporting shared decision making between patients and their providers
Addressing disparities	Identifying potential differences in prevention, diagnosis, or treatment effectiveness, or preferred clinical outcomes across patient populations and the healthcare required to achieve best outcomes in each population
Accelerating patient-centered outcomes research and methodological research	Improving the nation's capacity to conduct patient-centered outcomes research by building data infrastructure, improving analytic methods, and training researchers, patients, and other stakeholders to participate in this research.

Another avenue for advancing the profession is to consider the research agendas of key groups and how these agendas might influence the research agenda for the discipline of dental hygiene. Three research agendas reviewed included the WHO Global Oral Health Programme, the International Association of Dental Research-Global Oral Health Inequalities Research Agenda (IADR-GOHIRA[®]), and the Patient-Centered Outcomes Research Institute (PCORI).

The WHO Global Oral Health Programme focuses on multiple aspects of oral health research. Examples of topics within this agenda include the following.⁶

- Modifiable common risk factors to oral health and chronic disease, particularly the role of diet, nutrition and tobacco
- Oral health-general health interrelationships
- Inequality in oral health and disease and the impact of socio-behavioural risk factors
- Evidence in oral health care: clinical care and public health practice
- Translation of knowledge into clinical and public health practice and operational research on effectiveness of alternative community oral health programmes
- The IADR-GOHIRA[®] identified ten major areas of research. A sample of their research agenda follows⁷
- Develop and implement, in partnership with cognate evidence-based medical and dental organizations, a knowledge base that uses a standard set of reporting criteria and includes a registry of implementation trials

- Emphasize the importance of multi-disciplinary and translational research, seeking input from a range of social scientists and health professionals
- Develop disease prevention strategies based on broad social and environmental determinants of health, adopting upstream rather than downstream strategies
- Develop community-based regional-and country-level systems for oral health promotion and healthcare; recognizing previous experience and resource implications, and, where appropriate, emphasizing whole and at-risk populations.

The Patient-Centered Outcome Research Institute promotes five main areas as their research agenda. These areas include: assessment of prevention, diagnosis and treatment options; improving health care systems; communication and dissemination research; addressing disparities; and accelerating patient-centered outcomes research and methodological research.⁸ These categories are further defined in Table I.

To advance the dental hygiene profession, it is recommended that a new global dental hygiene research agenda be formulated based on the oral health status of the public, proposed solutions to the oral health crisis in the nation and the world, and other targeted research agendas. Specifically, it is recommended that this new dental hygiene research agenda be streamlined and focused specifically on improving the health of the public. Research should target the most vulnerable populations, address risk-based health pro-

motion and disease prevention strategies (such as caries, tobacco cessation, obesity, and human papillomavirus infection) and health literacy, and test new workforce models. Given the limited number of dental hygiene researchers and funding options available, this research agenda should promote a coordinated, collaborative effort creating teams of national and international dental hygiene researchers that can share resources, and broaden data collection using systematic metrics so findings are robust and meaningful. Further, this coordination of dental hygiene researchers

should focus on increasing partnerships among inter-professional groups, agencies and policy makers to promote and sustain research initiatives.

Advancing the profession of dental hygiene requires new initiatives and ways of thinking that are focused on key areas that can be effectively researched with the resources available. In doing so, the profession may realize a growth in the profession while simultaneously discovering methods that significantly improve the health of the public.

References

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