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Dental hygiene regulation: a global perspective

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Abstract: Occupational regulation of health personnel is important to professional associations and their members, the public that relies on their services and the regulatory agencies responsible for their conduct. There is increasing interest in ensuring that dental hygiene regulation fosters the continuing evolution of the profession and its contribution to oral health. The keynote address for the 2007 Regulatory Forum on Dental Hygiene, this paper discusses the rationale for and issues pertaining to occupational regulation, outlines the evolvement of dental hygiene and identifies regulatory options for the profession. Professional regulation exists to ensure public safety, health and welfare. However, negative political-economic side effects coupled with environmental pressures have resulted in increased scrutiny for health professionals. One such profession is dental hygiene. Its evolution has been dramatic, in particular over the past few decades, as illustrated by its rapidly increasing numbers and broader distribution globally, gradual shift to the baccalaureate as the entry-level educational requirement and increase in postgraduate programs and expanding scope of practice and increased professional autonomy. Regulatory changes have been more gradual. Regulation is mandatory for the vast majority of dental hygienists. Of the options available, the practice act – the most rigorous type, is predominant. Globally, regulation tends to be administered directly by the government (n = 9 countries) more so than indirectly through a dental board (n = 4) or self-regulation (n = 3). Whether regulated directly or indirectly, dental hygienists increasingly are seeking a greater role in shaping their professional future. Self-regulation, its responsibilities, misperceptions and challenges, is examined as an option.

Key words: dental hygienist; international profile; occupational regulation; professional regulation; self-regulation

Introduction

The following paper is based on the keynote address presented by the author, Dr Patricia Johnson, to the Regulatory Forum on Dental Hygiene, following which representatives described the regulatory situation for their respective countries. Organized by the College of Dental Hygienists of Ontario, the Forum was held in conjunction with the 17th International Symposium on Dental Hygiene in Toronto, Canada, July 2007.

Occupational regulation of health personnel is of great importance to professional associations and to members they represent. It is of similar importance to the public that relies on the services provided by those professionals and the regulatory agencies responsible for their conduct. There is increasing interest in ensuring that dental hygiene regulation fosters the continuing evolution of the profession and its contribution to oral health.

As the keynote address for the 2007 Regulatory Forum on Dental Hygiene, this paper briefly discusses the rationale for and issues pertaining to occupational regulation, outlines the continuing evolvement of dental hygiene and identifies regulatory options for the profession. The context envisions dental hygiene as a global profession bound by viable, dynamic and appropriate systems of regulation and focused on providing access to safe, competent care for all members of society. This vision reflects concepts and values common to many professions including nursing (1). The fundamental question to be addressed is not whether to regulate dental hygiene because with few exceptions, it is regulated in all countries where it is established (2). Rather, the question is how best to regulate it.

Professional regulation

The purpose of professional regulation is twofold – (i) to ensure the safety, health and welfare of the client and (ii) to protect the public from harm. These purposes are best accomplished through the regulation of professional conduct and competence. Specific to healthcare professionals, the rationale is that effective regulation maximizes positive health outcomes (3).

Several overlapping terms exist to identify programs that are based on meeting some predefined standards and confer recognition to individuals and organizations. These terms include credentialing, occupational credentialing, occupational regulation, professional governance and professional regulation. The term typically used when referring to dental hygiene and similar healthcare occupations is *professional regulation*.

Objectives

The literature cites four primary objectives for professional regulation (4–7). The first involves *information asymmetry*, wherein access to information about the nature and quality of services is not equal between practitioner and consumer. Even with the internet, it can be difficult for the most adept consumer to collect and evaluate what is often highly technical information. Secondly, regulatory boards *provide a forum* to deal with consumer complaints and hear citizen concerns - that is, they can serve as an objective third party. The third objective involves the *risk of secondary harm* whereby regulation is an attempt to safeguard against indirect harm to multiple persons. For example, a practitioner who has not remained competent and thus fails to identify an infectious disorder may contribute to the spread of the disease. The fourth objective involves the *bundling of services* under regulation that provides some assurance that a healthcare institution and its employees have met government-set requirements to practice.

Regulatory issues

While on one hand, professional regulation enhances public safety, improves patient care and ensures minimum standards for professionals, it also has less desirable social, political and economic impacts (4, 7–9). As Teske has stated, 'Regulation is one of the most important activities that governments perform because it constrains and shapes the important decisions that economic actors make. Whether regulation is prominent … or behind the scenes … its political-economic effects are important and pervasive throughout the economy' (9).

Impacts

In addition to conferring political and economic power on the members of the regulated profession as Rops has indicated (7), professional regulation can decrease the availability of professionals and restrict consumer choice; result in higher salaries to professionals and higher costs to consumers of services; increase professional prestige for the regulated profession; incite turf issues among the professions; limit practitioner mobility from state-to-state and country-to-country; exclude qualified professionals from practice; restrict healthcare facilities in the optimum use of personnel; and establish rigid standards and restrain innovations in a fast-changing environment. These side effects may be further compounded in jurisdictions where dental hygiene is subject to the regulatory control of organized dentistry.

Environmental pressures

Coupled with these negative side effects are changing environmental forces which impact professional regulation. Political-economic factors include the increasing mobility of professionals and the need to address regulatory border barriers, growing trade in health services among countries, ongoing health sector reforms in many countries including Canada, Ireland, the United Kingdom and the United States (10–13) and challenges to professional regulation including 'turf wars' between established and emerging professions. Socio-demographic factors include the paradigm shift in emphasis from treatment to wellness and prevention – traditionally the service focus of the dental hygienist. They also include a greater public interest globally in the quality of health services, changing consumer expectations both for oral health and access to services and gender-specific issues regarding career expectations. Oral health-related factors include the reduction in caries and tooth loss, in particular among populations in the more developed countries, the concomitant increased need for periodontal treatment including dental hygiene services and heightened recognition of the role of oral inflammatory processes as a contributor to heart and other conditions. Service delivery factors include an increased emphasis on cost containment and improved technical efficiency in the production of services, specialized dental hygiene practice and greater professional autonomy for dental hygienists. Social equity factors include an increased focus on improving access to services for currently underserved groups in our society and acceptance of oral health as a part of total health.

Outcomes

These negative side effects and environmental forces have led to increased scrutiny of regulation for healthcare professionals worldwide. The Regulatory Forum on Dental Hygiene with its broad international representation is but one example. The existence of regulatory barriers and lack of appropriate regulation for oral healthcare professionals are being increasingly acknowledged, together with the fact that these barriers and inadequacies impede many desired changes (3, 8, 11–13).

Evolution of dental hygiene

Within this complex and ever-changing environment, dental hygiene has evolved into a major asset of the oral health sector. In this section, trends and changes in the profession are examined using information primarily obtained, over the period since 1987, from national dental hygienists' associations, as part of the longitudinal International Profiles of Dental Hygiene Study – *the Profile* (2, 14).

Background

Dental hygiene has existed as an occupation for 100 years. First established in the United States in 1907, the profession was introduced into another four countries by 1950 and then expanded to over 30 countries during the second half of the twientieth century. A system to legally recognize and regulate dental hygiene existed for 20 of 23 countries examined; for 11 countries, the necessary legislation had been enacted within 4 years of the profession's inception. Dental hygiene remains unregulated in Austria, Germany and Slovakia.

The profession continues to be predominately female, comprising over 95% of the dental hygiene workforce. This composition had implications in terms of determining the method of regulation for dental hygienists. As has been widely noted, they were initially perceived as auxiliaries working under the direct supervision of a typically male dentist and self-regulation was considered 'inappropriate'.

Supply

The supply of dental hygienists has increased rapidly. By 2006, there were over 311000 dental hygienists globally currently authorized to practice. The greatest rate of increase was observed for Italy (a remarkable 2208% over 18 years), followed more distantly by Australia, Canada and Japan.

The dramatic increase in supply is illustrated by corresponding changes in both dental hygienist:population and dental hygienist:dentist ratios. For example, in Australia, the dental hygienist: population ratio changed from 1:98000 in 1987 to 1:27700 by 2006 – an almost fourfold improvement. Not surprisingly, the greatest change was observed for Italy – from 1:386666 to 1:19300 over the same period. This pattern of improved dental hygienist:population ratios was consistent across all countries investigated. In addition, during this same period, the numbers of dental hygienists increased faster than the numbers of dentists. Once again, the greatest change by far was observed for Italy – from a dental hygienist:dentist ratio of 1:169 in 1987 to 1:12 by 2006. While Austria, Germany and Slovakia have comparatively few dental hygienists, an increase in supply is expected and efforts have been initiated to attain the regulatory processes and structures required to ensure both public safety and optimal utilization of the profession.

Not only has the dental hygiene supply increased dramatically but rate of participation in the workforce also is very high. In 2006, eight out of ten dental hygienists overall were working in the field and over one-half worked full time, a pattern that has been constant since the 1980s. Given that the greatest proportion of dental hygienists are women in their child-bearing and child-rearing years, this level of full-time work is remarkable.

Practice

Looking now at dental hygiene practice, a remarkable similarity is apparent worldwide. As expected, the vast majority works as clinicians. Of 28 clinical procedures investigated in 2006, 23 were within the legislated scope of practice for at least 15 of the 18 countries examined (the three countries where dental hygiene is not yet legally established were excluded from the analysis). The dental hygiene scope of practice expanded over the 20-year period investigated, as evidenced by the steady increase in the number of procedures reported. This similarity prevailed over time; of the four dimensions investigated, namely, assessment, planning, prevention and therapeutic services, variance remains greatest for the fourth category.

Dental hygiene also has evolved in terms of professional autonomy. Over the past 20 years, there has been a marked reduction in the required level of supervision and a corresponding increase in decision-making responsibility for the dental hygienist. Not only has collaborative practice superseded the more traditional 'dentist as supervisor and decision-maker' model, but there also has been a marked increase in independent practice. The opportunity for dental hygienists to work independent of a dentist and to own and operate their own practice was reported for one-half of the countries and is expected to continue (*2*).

The evolution of dental hygiene practice to meet demands for both more comprehensive care and improved efficiency in the production of services indicates that for some countries at least, regulatory processes have become more responsive to societal pressures and needs. Changes in scope of practice and professional autonomy tend to correlate with the attainment of self-regulation or, in the case of direct regulation, greater voice for dental hygiene on the corresponding government board. The continuing uniformity in scope of practice raises the possibility of establishing international standards for dental hygiene regulation and practice. In addition, development of a generic/model dental hygiene practice act may prove useful as more jurisdictions grapple with the need for change.

Education

The continuing evolution of dental hygiene is associated closely with change in educational preparation, which in turn is linked to regulation of the profession. That is, educational programs are expected to prepare dental hygienists to meet the standards of practice established by the regulatory authority. At the same time, the regulatory process should be dynamic and responsive to advances in the educational preparation of dental hygienists.

Formal entry-level training programs exist for all 25 countries in the Profile database, with the exception of Austria and Germany where they are proposed. Growth in both number and size of entry-level programs accounts in large part for the marked increase in supply of dental hygienists and for changing population and dentist ratios. Entry-level curricula continues to be expanded, lengthened and modified to incorporate knowledge and skills necessary to provide a broader range of services to a changing population. There has been a gradual shift to the baccalaureate as the entry-level requirement to practice. By 2006, 15 of 18 countries had at least one entry-level baccalaureate program and many countries reportedly are phasing out the shorter diploma program altogether.

Equally remarkable has been the increase in postgraduate programs to prepare dental hygienists for advanced career opportunities in academia, research and administration and postdiploma/postdegree certificate programs in specialized clinical procedures. Further, with the increased emphasis on quality assurance, there is renewed focus on continuing quality improvement activities and programs for continuing education.

Need for effective regulation

This overview of the evolvement of dental hygiene illustrates that, in terms of healthcare policy and programs, the profession constitutes a solid asset. Programs can be built around a workforce like this one, provided the necessary regulatory processes are in place to ensure the profession can meet its full potential as a cost-effective provider of quality, safe and essential oral health services. While it would appear that dental hygienists are well prepared to play an increased role in healthcare, the question remains – is the regulatory process both enabling and adequate both for today's reality and future directions?

Regulatory options

A variety of options exist for professional regulation. All methods typically involve the awarding of a credential to

recognize individuals or organizations that meet some predefined standards. The primary issue is public safety. If a credential is deemed mandatory, then government involvement is required. As noted previously, regulation for dental hygienists always has been mandatory for the vast majority of countries.

Government regulation

Mandatory regulation is based on law and accomplished typically through one of three types of governmental legislative acts. As has been noted in a governmental report produced in Ireland, 'Unlike systems of voluntary registration, it is a legally binding process: all persons wishing to practice must be registered and can be prosecuted for practicing if not registered' (15). Variations do exist whereby a government can customize the legislation or use alternative legislative actions to achieve desired regulatory effects. Also, the terminology may vary somewhat from country to country but the basic principles typically are consistent. The following descriptions have been derived from a number of sources (e.g. 4–9).

Practice acts

Often referred to as *licensure*, practice acts grant to individuals the authority to engage in defined tasks (that is, they specify a scope of practice) and prohibit persons not registered under the practice act from engaging in those tasks or from using the designated occupational title. Regarding dental hygiene, registration under the relevant practice act grants authority to a dental hygienist to perform subgingival debridement or scaling, for example, and prohibits other individuals from doing so unless the law has defined the procedure as part of their occupation's scope of practice. In addition, the practice act provides for eligibility requirements for applicants; these usually involve formal education, standards of practice, registration examination, title protection, authority to take disciplinary action and other criteria. A practice act is the most restrictive form of regulation and is used most often when there is significant risk of harm to the public if a non-qualified individual performs the activities.

A subsection to a practice act may exist for the purpose of regulating another occupation, members of which are restricted to work under the supervision or direction of the already registered/licensed occupation. This method existed for dental hygiene under the Dentistry Act in a number of countries. The subsection may require individuals who perform the specified tasks to be certified and/or comply with specified standards of practice. While it rarely involves licensure for the supervised occupation, dental hygiene was an exception. This method gradually is being phased out as the profession increasingly attains self-regulatory status through a Dental Hygiene Act.

Title protection acts

Often termed *statutory certification*, title protection acts grant to individuals the authority to use a protected occupational title but do not include a legal scope of practice. Minimum requirements for applicants are specified under a Title Act and those eligible may also have to take a certification examination. While non-certified individuals may still practice, they may not use the protected title. Title acts typically are used when the public needs assistance in identifying competent practitioners but where the risks to health and safety are not considered to be severe enough to justify licensure.

Registration acts

Also termed *statutory registration*, registration acts require individuals who perform certain tasks to list their names, addresses and qualifications with a designated government agency. The law typically does not require the applicant to meet any predetermined standards or to pass an examination. Registration is used when the threat to public health, safety or welfare exists but is considered to be relatively minimal. It permits the government agency to revoke registration in response to complaints from the public, thus preventing the individual from practicing. It also assists employers to select suitably qualified personnel.

Voluntary regulation

Where governmental regulation is deemed unnecessary for public health and safety, professional associations and trade groups may establish their own programs to grant recognition to individuals who have met predetermined professional qualifications. These non-governmental credentialing programs are always voluntary. There are three basic program types.

Professional certification

Professional certification typically involves both eligibility requirements (such as formal education and experience) and an assessment covering a broad area of current knowledge and skills as well as ongoing requirements such as continuing education, re-testing and renewal fees to maintain the certification. Although voluntary, professional certification may become

quasi-mandatory if it is important for employment or career advancement.

Curriculum-based certificate

A curriculum-based certificate is attained through successful completion of a comprehensive training program of limited duration and on a focused area of knowledge and skills. In contrast to professional certification, this program usually does not have ongoing requirements, does not result in an initial designation and the certificate cannot be revoked.

Accreditation

Accreditation is a voluntary process whereby a non-governmental entity grants a time-limited recognition to an organization after verifying that it has met predetermined, standardized criteria. Accreditation is considered quasi-mandatory for health-care educational programs such as dental hygiene whose graduates must meet eligibility requirements for professional regulation.

Regulation for dental hygiene

Regarding dental hygiene, governmental regulation has existed since its earliest years. The actual type varies widely (2). Licensure through a practice act is predominant, being reported for nine of eighteen countries examined, namely, Australia, Canada, Ireland, Japan, Korea, New Zealand, South Africa, United Kingdom and United States. Either statutory certification or statutory registration was reported for the remainder, namely, Denmark, Finland, Israel, Italy, Latvia (varies depending on type of workplace), the Netherlands, Norway, Sweden and Switzerland. As noted previously, in Austria, Germany and Slovakia, dental hygienists were not regulated.

Regulating body

Once a decision is made for mandatory regulation of an occupation, the next step is to determine the type of government entity that will be authorized to regulate the profession - that is, be responsible for implementing the legislation and administering the regulatory process. Specific to dental hygiene, the role of the regulating body is to:

1 oversee the general application of relevant health care laws, including the defined scope of dental hygiene practice and protection of the *dental hygienist* title;

2 help update and develop regulations to define appropriate conduct by dental hygienists and clarify what the consumer may expect. This usually includes a code of ethics and standards for practice;

3 continually review required credentials for the dental hygienist to practice safely, effectively and ethically, including the establishment and updating of continuing competence requirements;

4 establish a complaint resolution process with which it can investigate consumer complaints;

5 apply appropriate disciplinary action to or require retraining of members as necessary;

6 strive for national and global standards that enable mobility of the profession;

7 function in the larger regulatory community to assist other professions or jurisdictions affected by dental hygiene;

8 using evidence-based information, continuously innovate towards best practice in regulatory policy.

There are three types of regulating body. All exist for dental hygiene.

Government agency

Implementation may be accomplished directly through a government agency, with representatives of the regulated occupation serving on the relevant government board or committee. Where several related occupations, such as dentistry, dental hygiene and other oral health-related professions, are regulated through the same committee, dentistry may be the strongest 'player'. Direct regulation is predominant for dental hygiene, being cited for 11 of 18 countries, namely, Denmark, Finland, Israel, Italy, Japan, Korea, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom as well as the three northern territories of Canada.

Self-regulation

Under *self-regulation*, the government delegates authority to the regulated occupation itself, which in turn assumes responsibility and accountability for the actions of its members. The self-governing board or council may include, in addition to non-paid professional members, one or more government appointed public representatives. Self-regulation for dental hygiene was reported for Latvia, South Africa and majority of jurisdictions (comprising 95.0% of dental hygienists) in Canada. The concept of self-regulation is explored more fully in a following section.

Indirect regulation

A third, relatively rare option – *indirect regulation* – involves the delegation of responsibility for and control of one occupation to a second occupation. The indirect regulation of dental hygienists through a Dental Act administered by a Dental Board that consists primarily of dentists was reported for five countries, namely, Australia, Ireland, New Zealand, the United States and four provinces in Canada that collectively account for less than 5% of the country's dental hygienists. Although dental hygiene representatives reportedly serve on the Dental Boards, voting rights were cited for Australia, New Zealand and the United States only.

Dental hygiene as a self-regulating profession

The concept of self-regulation for dental hygiene is of increasing interest to the profession, policy and program planners and others involved in the organization and delivery of oral health-care services. Under self-regulation, dental hygiene is recognized as a distinct profession, one that possesses a specialized body of knowledge, is under a duty of service to apply that knowledge and provides a unique service that the public is unable to provide for themselves. It is both responsible and held accountable for the practice of its members. At the same time, those members have a greater voice in the governance of their profession as the governing board is composed primarily of dental hygienists. The basic premise is that, as with other self-regulated professions, dental hygienists possess the knowledge, skill and judgment to best regulate the profession. Thus dental hygienists are involved in establishing a legislated scope of practice, defining educational qualifications and other requirements for entry to practice, developing and updating standards of ethical and competent practice and establishing and maintaining systems of accountability. As such, self-regulation is fundamental to the evolution of processes that define and re-define the profession. Several major protocols required for self-regulation already exist (2). A code of ethics was reported for 16 of 19 national dental hygienists associations, criteria and standards for clinical dental hygiene practice for ten and an infection control protocol for eight. For eleven of the nineteen countries, all three protocols either existed or were close to implementation.

Misperceptions

Several misconceptions persist about the concept and significance of self-regulation. First, self-regulation is a privilege not a right; the primary purpose is advocacy for and protection of the public interest. Second, self-regulation is not synonymous with independent practice. That is, it does not automatically confer the privilege for a dental hygienist to practice free of direct or indirect supervision of a licensed dentist or in an independent practice setting. In fact, findings from the Profile study indicate that independent dental hygiene practice is more likely to exist where dental hygiene is regulated directly through a government agency compared with indirectly through a dental or dental hygiene board. Third, under self-regulation, the legislated scope of dental hygiene practice is not automatically extended to include diagnosis, for example, of dental caries or self-initiation of debridement and other traditional dental hygiene procedures. Fourth, self-regulation does not necessarily change historical dynamics with dentistry. As McKeown *et al.* observed (17), self-regulation 'is critical to the viability and development of the profession. It is the central event that provides the backdrop for effecting change'. They also noted that 'Although the majority of dental hygienists in Canada are self-regulated, the 'agonism', the 'tug of war' continues between dental hygiene and dentistry' (16). Additional misperceptions include possible dissolution of the 'dental team', compromised client safety and increased income generating potential for the dental hygienist.

Challenges

Self-regulation presents several challenges that merit consideration. First, under self-regulation, dental hygienists must accept that their regulatory agency has an exclusive commitment to the best interests of the public and that the public 'morally owns' the regulatory process. The regulatory body cannot be a dual purpose organization that attempts to combine both regulation and advocacy of the profession, regardless that dental hygienists support the regulatory agency financially through their annual registration and other fees and elect the majority of the members of the governing board. To minimize conflict with the separate professional association, the regulatory board should articulate its explicit organizational vision, goals and objectives. These statements will serve to distinguish the regulatory board's roles from those of the professional association, help keep the regulatory agency focused and facilitate future planning in a rapidly changing environment. A second challenge involves the costs associated with self-regulation. Regulation requires adequate funding because of its complexity and higher expectations for due process. Can the profession self-fund? A third challenge concerns the likely

need to manage turf battles between competing professional groups partly because of an overlap in technical competencies and in defined scopes of practice. Despite the challenges, interest in dental hygiene self-regulation is growing, as evidenced by responses to the successive Profile surveys and participation in the recent Regulatory Forum.

Future directions

Over the twentieth century, dental hygiene became established worldwide and gradually evolved from its initial roots as an auxiliary to dentistry to become increasingly autonomous. The answer to the question of *how best to regulate dental hygiene?* will vary depending, to a large extent, on the governmental system and political-economic dynamics within a country and the self-perception of its dental hygiene profession. The discourse is warming up as dental hygienists nationally and internationally make the opportunity, through conferences, workshops, publications and dialogue, to share their knowledge and experiences, identify goals, objectives and preferred options and discuss potential strategies to achieve effective regulation of the profession, in the public interest.

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