Bibliometric Review: Identifying Evolving and Emergent Regulatory Trends

Co-word analysis identifies nouns and noun clauses that appear in the title, abstract, or keywords of papers. Groups of co-words that appear in publications in similar patterns can be clustered together using a multidimensional scaling technique to generate groups of words that are individually and collectively examined to identify themes. To help identify the groups of words, the words may be

D

As themes were identified, the literature associated with them was examined for evolving trends to be documented. A modified framework was used to document in a matrix format the evolution of the trends across early, consolidated, and early 21st century time frames, and the consequent emergent trends of today. It was not possible to locate these trends to a specific date in time since regulation has been introduced and has evolved at a different pace across the various jurisdictions. Nonetheless, the stages of evolution should be thought of as progressive over time. In addition, themes are grouped under general category headings in order to locate like-with-like issues.

Twenty-five emergent trends were identified as a result of the bibliometric analysis. (See Table 1.2.) They can be clustered under seven major categories: Governance, Purpose and Processes, Licensees/Registrants, Workforce, Education, Fitness for Practice, and Technology and Education.

C

G

Four themes are classified under the category of Governance: nature of the regulator; character of the board; members of the regulatory board; and accountability.

N

According to the literature on occupational licensing, the *nature of the regulator* can be traced back to trade guilds; indeed, some authors contend that some regulators continue to pursue professional interest rather than one that protects the public (Kleiner & Krueger, 2008). From these guilds emerged self-regulatory bodies that focused on a specific discipline and were granted their authority under statute. Recently, these independent bodies have, in some cases, been brought together under umbrella arrangements, in which the degree of autonomy of any one discipline has frequently been delimited. It has been argued, often in the absence of any evidence, that such arrangements are more efficient and effective (Rachlis & Kushner, 1994). However, existing evidence points toward the independent board structure as being more efficient and effective (Benton, Brekken, Ridenour, & Thomas, 2016; Maggetti, 2010). Indeed, in the wider regulatory literature, the OECD (2016, 2017) has argued strongly for greater independence. Irrespective of the organi ational accountabilities, regulatory boards today are increasingly held to account via performance measures that entail systematic and frequent reviews frequently accompanied by some form of independent oversight.

C

Over time, the *character of the board* has changed. Initially, boards ver t& 0 -1.238lipff-reguapts to8lieratubers of the re
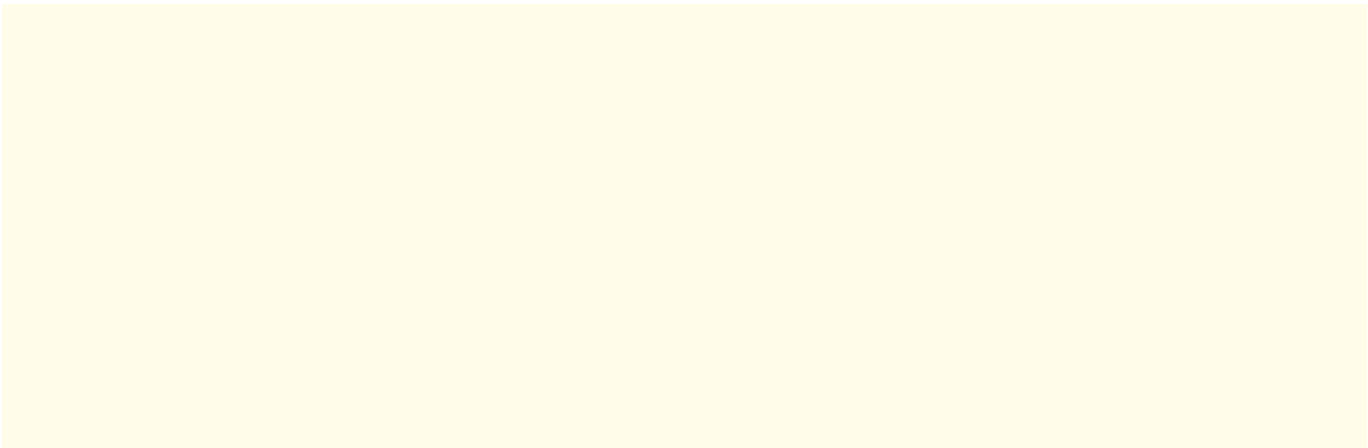
Purpose and Processes

Four themes are classified under the category of Purpose and Processes: decision making; process of regulation; protecting the public; and organizational drive.

Decision Making

Decision making has changed significantly over the years, from a model that was cloaked in mystery to one that that has been increasingly systematized and is now moving toward a set of agreed principles. This shift has resulted in more reliable and consistent decision mak-

travel nursing), there has been a casuali ation of the workforce, which is further complicated by the multigenerational nature of today's workforce. Individuals may enter the profession as a second or subsequent career, do not see the profession as a job for life, or are more interested in striking a sound life-work balance.

W

With the increased complexity of the workforce, the need for *workforce and educational planning* has also increased. Initially, regulators did not have a role in workforce planning; even as the need for such planning was recogni ed, the planning was frequently fragmented and incomplete. The WHO (2016b) world health report highlights the need to improve workforce and educational planning if peaks and troughs, both across and between jurisdictions, were to be avoided. The WHO report has triggered more comprehensive and coordinated planning, first at institutional levels, and more recently as part of national and regional economies. Regulators have been increasingly invited to participate in such dialogue, as their live registers contribute valuable human resources for health data.

E

Five themes are classified under the category of Education: setting standards; curriculum content; accreditation of institutions and programs; learning; and pedagogy.

S

The process of *setting standards* has evolved over the years and has accompanied a transition from a model of training based on the apprentice model to one based on a partnership between service and education. In many parts of the world, the standard-setting process is moving from a model focused on knowledge and skill content to one based on competence. As health care knowledge grows, this model of competence also needs to grow, with an even greater focus on higher-level competencies specifically related to judgment and decision making (Dickison et al., 2016).

C

Initially, *curriculum content* varied from school to school. As regulatory bodies developed and implemented their standards and associated accreditation processes, curriculum content became more uniform within jurisdictions. As knowledge of health needs increases, regulators are tasked with ensuring that curriculum content includes material relevant to jurisdictions' population health needs; as a result, variation from one jurisdiction/country to another does occur. However, with increased mobility, the need to globally calibrate these differences has increased. By calibrating the differences, gaps that may occur as a practitioner moves from one jurisdiction to another can be identified and addressed. Furthermore, events such as the Ebola outbreak and its subsequent spread to different parts of the world have highlighted the need to harmoni e curricula whenever possible to enable the deployment of additional practitioners to hot spots when necessary.

A

Initially, the regulator was not involved in the *accreditation of institutions and programs*, but as the need to standardi e and ensure the competence of those entering the register increased, stand-alone accreditation by the regulator was introduced. As nursing education moved into the higher education sector, a degree of overlap between the processes of the regulators and educational institutional accreditors appeared. These parallel systems frequently resulted in the same information being requested and collected more than once, albeit in different formats, demonstrating the need to capture data once and then use it many times in order to pursue a more effective, efficient, valid, and reliable approach.

L

Since the inception of regulatory boards, the level of knowledge has risen dramatically, indicating that the nature of *learning* had to change. There was a time when education and learning occurred at the start of a career. However, as nursing knowledge expanded and treatment options increased so did the need for additional top-up courses. As the years passed, it became obvious that a shift in the philosophy of learning was needed from a philosophy of once in a lifetime to one of lifelong learning and continuing education. More recently, nurse educators have come to reali e that education is insufficient if competence cannot be maintained; therefore, regulatory bodies now need to develop systems that pursue and ensure continuing competence.

P

Major changes have taken place in relation to *pedagogy*. Indeed, it is fair to say that the model has moved from a pedagogic model to an andragogic model. Initially, an approach where the learner was dependent on the teacher, where the learner was told what to do and pursued a period of apprenticeship was the norm. Since those early days, a series of educational reforms encouraged self-directed adult learning, and technological advances now play a central role. Technology and new learning modalities help learners equip themselves with the necessary competence to pursue lifelong learning. Blended learning and problem-based scenarios facilitate attainment of the necessary competencies from peer interaction as much as from teacher direction.

a 5-year or more-frequent basis. This process required the completion of paper-based documents that had to be presented or returned