Introduction:
The roles and responsibilities for practicing health professionals continue to evolve during the 21st Century. Scientific advances have, on the one hand, brought many more effective ways to diagnose, prevent and treat disease and, on the other hand, societal needs have brought many more calls from the public to close the gap in oral disease levels brought on by socioeconomic and cultural factors. While addressing the latter, e.g. to improve the oral health of those population groups that have not benefited from the overall improvement of oral health in the general population, requires multiple approaches from community prevention to improving literacy about oral health/disease; and from improving access to care to improving the financing of dental care by the government; and from assessing the adequacy of the workforce to building a team approach within the profession and interprofessionally to reach the underserved. In *Recreating Health Professional Practice for a New Century*,¹ a report that urges all schools of the health professions to update their curriculum so that graduates will be better prepared to deal with the demands of the 21st Century, it is recommended that dentistry closer integrate dental education with medical education and develop and expand roles for allied dental workers under the supervision of dentists. In effect, the recommendations in the late 1990s reflect earlier recommendations for dentistry and dental education to lessen its isolation in the health care arena by integrating into a team approach to care.

It has long been recognized that care can be improved and expanded through a team approach of different levels of practitioners working together. In dentistry, the team of professionals has changed from a solo dentist to a dentist supported by dental assistants, dental hygienists, dental laboratory technicians and office staff and is continuing to evolve with the addition of community dental health coordinators and dental therapists. Both of the latter are at various stages of development and experimentation in the United States. The Interprofessional Education Collaborative² has just issued a report on the core competencies for practitioners for interprofessional collaborative practice. The changes in the members of the dental team and interprofessional collaboration with other health professions to improve the health of the public will become important challenges for dental schools to assimilate into the education of dental students.

The field of dental education has already recognized the need to address these important trends that impact on the practice of dentistry. In 2008, the ADEA House of Delegates developed competencies for the “new general dentist”, which serves in part to “promote change and innovation in predoctoral dental school curricula” and “inform and recommend to the Commission on Dental Accreditation standards for predoctoral dental education.” Classifying the competencies into six domains, the recommendations are designed to “assist in the development of curriculum guidelines...for both foundation knowledge and clinical instruction.” One of the competencies identified which is of contemporary importance for future practitioners states that graduates must be competent to “participate with dental team members and other health care professionals in the management and health promotion for all patients” (4. Health Promotion 4.2).3

The purpose of this project is to determine factors that will make it possible for schools to assimilate and implement programs or courses that address intra and inter professional education.

Background Information:

In the 1970s and the 1980s, dental schools began a series of curriculum changes that were aimed at developing students’ abilities to work more efficiently with allied dental health workers. Dental Auxiliary Utilization programs and TEAM programs became commonplace. It was recognized and reported in “Dental Education in the United States 1976” 4 that these programs were designed “to teach dental students to organize and manage a multiple auxiliary dental team, utilizing expanded function auxiliaries and the concept of four-handed dentistry.” Almost all of the 59 dental schools reported that they already had a DAU program (54 schools) by then while 50 of the schools reported that they had a TEAM program (29) with an additional 21 schools indicating that they had a similar program or were in the planning stages of adding such a program or had experience with such a program in the past.

In short it appeared by 1976, schools recognized the importance of educating their students to become leaders and managers of multiple auxiliary dental teams. Interestingly, the 1976 study, one of the most comprehensive studies of the dental curriculum carried out in the United States, also reported that the curriculum in most schools had progressed beyond the traditional basic and clinical sciences to include opportunities for students to “occasionally” work with a number of other professionals (44 schools indicated physicians; 40 schools speech pathologists; 37 schools social workers; 33 schools psychologists and 26 schools pharmacists). An

earlier study of 448 Tufts Dental School graduates who had had DAU education found that such education influenced dentists’ decisions to employ dental assistants but that the actual utilization of assistants was modified by other factors such as the size of the office, and personal professional career style. This study reinforces the need to better link modes of clinical education with practice.

One area of instruction related to working in a team environment is the subject of personnel administration, however, by the mid 1980s, few hours were devoted to that subject, only a mean of 3.9 hours (range 0 to 28). The importance of leadership style in dental team management is important in operating a modern practice. Distinguishing from authoritative leadership in which the dentist makes all decisions as the central authority figure and free-rein leadership where the responsibility for management which does not place any one as responsible; participatory leadership is defined as the best approach for today’s practice. Recognizing the dentist as the overall leader, this form of leadership requires the practitioner to include staff in sharing in the responsibility and decision-making. However, providing such leadership depends on excellent communication skills in order for the team to work effectively. Quoting Hastings and Potter, Finkbeiner and Finkbeiner state that “simply put, leadership is influence. Leadership involves influencing others for good, rousing others to action and inspiring them to become the best they can be, as we work together toward common goals.” It becomes important therefore that in today’s complex practice world that students’ become educated in the attitudes and skills necessary to become effective leaders or members of teams of practitioners of various levels.

Kalenderian et al point out that leadership competence includes a broad set of skills including “relationship building, facilitation, negotiations, communication and development of emotional intelligence—skills that are currently not considered integral to the dental curriculum.” Coursework designed to introduce concepts of leadership were developed and tested. As a result of the coursework students were able to assess their level of leadership skills and develop a sense of self-awareness of their abilities in this domain. It is clear from this article that the coursework developed required faculty resources that might not be available at most dental schools.

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schools as was pointed out in the discussion and earlier.\textsuperscript{10} In addition including the development of new skills, it is also important to provide students with a basic understanding and appreciation of the roles of the members of the dental team as dental, dental hygiene and dental therapy students have differing perceptions about the roles and responsibilities of the other.\textsuperscript{11}

If dental schools graduates are to be prepared to become more effective leaders of teams of allied dental health workers and become effective members of interprofessional teams, it is important that students knowledge, skills and attitudes towards the different members of the dental team and the goals of interprofessional practice be developed. Few if any recent surveys of dental schools regarding their course offerings in subject matter related to interprofessional or dental team practice exist. Such information is necessary in order for the dental profession to become fully engaged in providing efficient quality oral health serve to the growing needs of the United States population and in joining the other health professions to better serve the public in the 21st Century.

Assessing the capacity of dental schools and allied dental health programs to respond to interprofessional education.

The report from the Interprofessional Collaborative Expert Panel and a companion report, Team-Based Competencies: Building a Shared Foundation for Education and Clinical Practice\textsuperscript{12} contain many specific practice and educational imperatives for assessing the capacity of dental schools’ awareness of issues related to interprofessional education and to determine their capacity to develop and implement relevant coursework for students. Drawing on information from these reports and other literature, the following is proposed: (1) to develop a questionnaire to go to all schools to determine their readiness to address interprofessional education and to better educate students to understand the roles of existing and emerging allied dental health workers and (2) based on the results of the questionnaire develop continuing education programs at the Annual ADEA meeting to assist schools in developing coursework and modes of instruction for interprofessional education and for training for the expanded use of the allied dental health team.

\textsuperscript{12} Conference Proceedings (February 16-27, 2011). Team-Based Competencies: Building a Shared Foundation for Education and Clinical Practice. Convened by the Health Resources and Services Administration, the Josiah Macy Jr. Foundation, the Robert Wood Johnson Foundation and the ABIM Foundation in collaboration with the Interprofessional Education Collaborative.
1. **Questionnaire Development:** Under the aegis of the ADEA Center for Educational Policy and Research, a draft questionnaire would be developed and field-tested with the advice and assistance of a group of ADEA members brought together electronically. The timetable for developing and field-testing the survey would be 3 to 6 months (July-December 2011). The schools would be surveyed during January-February 2012 and the advisory team brought together at the ADEA Annual Meeting 2012 to discuss and analyze the results.

2. **Development of CE programs:** Based on the information obtained from the survey, ADEA would identify informed leadership to develop CE programs to assist faculty develop curriculum to address interprofessional education and the further development of the dental team approach to care.