Quality Assurance and Risk Management: A Survey of Dental Schools and Recommendations for Integrated Program Management


Abstract: Quality assurance (QA) and risk management (RM) programs are intended to improve patient care, meet accreditation standards, and ensure compliance with liability insurance policies. The purpose of this project was to obtain and disseminate information on whether dental schools integrate QA and RM and what mechanisms have been most effective in measuring accomplishments in these programs. All sixty-five U.S. and Canadian dental schools were sent a twenty-nine-item survey, and forty-six (71 percent) schools responded. The main findings are as follows: 66 percent had a written QA program combined with a QA committee; 95 percent received administrative support; there was wide variation in the makeup of the QA committee; many institutions reported significant changes resulting from the QA program; and over half of the respondents merged QA and RM in some fashion. To develop or maintain an effective QA/RM program, the authors propose the following: obtain active support from the dean; develop goals and mission/vision statements; include trained personnel on the committee; establish wide levels of involvement in the QA program; develop QA measurements to ensure compliance with institutionally developed standards of patient care; and establish continuous cycles of improvement.

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Methods

Institutional Review Board Exemption was granted for this project (21.023 Exempt). A two-page survey containing twenty-nine questions related to quality assurance and risk management practices was sent to the deans of all sixty-five dental schools in the United States and Canada (Exhibit 1). The survey contained a combination of yes/no, checkbox, and narrative response questions. Survey recipients were asked to provide relevant documents related to quality assurance and risk management programs at their respective institutions.

The survey was divided into two sections. The first section focused on quality assurance practices. This section was further broken down into areas of program background, methods of quality assurance, and accreditation. The second section requested information regarding risk management and integration of risk management and quality assurance. The survey was developed by the authors and tested by members of the institution with knowledge of QA and RM practices.
Exhibit 1. Quality Assurance and Risk Management questionnaire

**SECTION 1: QUALITY ASSURANCE**

1. Do you have a quality assurance program?
   If YES, do you have a: *(Please check one box)*
   - Formal written program and committee. *(please provide a written copy)*
   - Written program, no committee. *(please provide a written copy)*
   - Committee, no written program.
   - No committee, no written program, but individual or department responsibility.

   If answered YES, skip to question 3
   if NO,

2. Do you plan to establish a QA committee in the next 18 months?  □ YES □ NO
   (skip to question 20)

**A. Quality Assurance Program Background**

3. When was your quality assurance program established? ______________________

4. Is one individual responsible for QA oversight?  □ YES □ NO

5. Is one department responsible for QA oversight?  □ YES □ NO

6. Why did you start your QA program? __________________________________________

7. Does your committee have a written mission?  □ YES □ NO
   *(please provide a written copy)*

8. How many times has the committee met in the past twelve months? ______

9. What is the size of your QA committee? (2-5, 6-10, etc.)_____ Members.

10. Committee membership: *titles and roles* ___________________________

11. Does your QA program involve all levels of the organization? □ YES □ NO

12. Does your top administrator (Dean) demonstrate support for the QA program?
   □ YES □ NO  If yes, how is this support demonstrated? __________________________

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Exhibit 1. Quality Assurance and Risk Management questionnaire, cont.

B. Methods of Quality Assurance

13. Do you use surveys for QA? □ YES □ NO
   *(please provide a written copy)*

14. Do you use computerized data tracking and analysis for QA? □ YES □ NO
   *(please provide a written copy)*

15. Have you made changes as a result of findings from the QA process? List
    representative samples.

16. Do you use any models of continuous cycles of improvement in your QA program? (i.e., GEAR cycles, CQI) □ YES □ NO

17. What is your most effective measurement tool for QA? *(Please check one box)*
   □ Survey
   □ Report
   □ Interview

18. Of deficiencies identified through QA, what percentage have had successfully
    implemented changes?

19. How long does it take to implement change once a deficiency is recognized?
    __________ to __________ weeks.

C. Quality Assurance and Accreditation

20. What year is your next accreditation visit?

21. Are you aware of the new QA standards for accreditation? □ YES □ NO
    *(may exclude Canadian schools)*

SECTION 2: RISK MANAGEMENT

1. Do you have a risk management program? □ YES □ NO
2. Do you have a risk management committee? □ YES □ NO
3. Is one person responsible for risk management? □ YES □ NO
4. Is one department responsible for risk management? □ YES □ NO
5. Are risk management and quality assurance integrated? □ YES □ NO
6. Do you use risk management data for quality assurance endeavors? □ YES □ NO
7. Do you use quality assurance data for risk management endeavors? □ YES □ NO
8. Do you use computerized data tracking and analysis for risk management? □ YES □ NO
The survey and cover letter were emailed in early December 2000 to all dental school deans. The list of deans was derived from the 2000 ADEA Directory of Institutional Members. Follow-up included survey mailings to all nonrespondents at two weeks, six weeks, and ten weeks following the initial email. One additional email survey was sent four weeks following the last mailing. Surveys received as of May 1, 2001, were included in the analysis and presentation of results.

All survey responses were entered into a Microsoft Access database we developed for this project. Analysis of yes/no and checkbox answers was conducted using Microsoft Excel software.

Results

The total response rate was 71 percent (forty-six out of sixty-five schools). The surveys were completed by the deans themselves, associate deans, or quality assurance officers, among others. Of the survey responses received, 56 percent attached documentation of their individual programs for quality assurance and/or risk management. Not all questions were answered on every survey received.

Eighty-three percent of the respondents currently have a quality assurance program, and all of the respondents who do not currently have a quality assurance program indicated that they intend to develop one within the next eighteen months.

In response to a question about why a QA program was started, the respondents who currently have such a program gave answers that fit into four main categories. Some schools included more than one category in their response. The results are as follows:

- 39 percent, for accreditation or other organizational compliance;
- 39 percent, to improve patient care and/or patient satisfaction;
- 13 percent, to improve student education; and
- 8 percent, the program just developed over time.

The institutions employed a variety of methods for formalization of their programs. These included a written program (documents that describe the QA protocol and format) and committee, a written program with no committee, a committee with no written program, and individual or department responsibility (Figure 1). Most schools (66 percent) had a written program combined with a quality assurance committee.

Seventy-two percent of the dental schools answered the question “What is your most effective measurement tool for QA?” The survey did not permit a narrative, but asked the respondents to select from the choices of reports, interviews, or surveys (Figure 2). Of the schools that responded, 55 percent selected surveys, and 39 percent indicated reports were most effective.

We attempted to discover general background information regarding QA programs within the dental schools. Five ques-
tions covering program operation and management were incorporated into the survey. These questions asked if one person or one department was responsible for QA, if there was a written mission statement for QA, if all levels of the organization were involved, and if the program received administrative support (for example, funding, additional staffing, dean’s membership on the QA committee, etc.) (Figure 3). Ninety-five percent of respondents reported that they received administrative support of some kind, although this support did not necessarily come directly from the dean.

Four questions on the survey attempted to determine which methods of data collection were used most often to support the quality assurance program. Eighty-nine percent reported that they used surveys while only 37 percent used continuous cycles of improvement (Figure 4). Continuous cycles of improvement create a system of measurement, change, and remeasurement to ensure that changes have the desired effect.

In spite of the fact that current ADA accreditation standards require quality assurance efforts, 25 percent of the respondents were not aware of what those standards demand. Several schools have a number of years until their next accreditation site visit and have not yet begun preparation for renewal of accreditation (Figure 5). The year of next accreditation did not correlate to knowledge of standards for quality assurance. Forty-eight percent of the schools will not have their next accreditation site visit until 2004 or later. Five of the schools with site visits from 2001 to 2003 were not aware of the standard. Five of the schools scheduled for accreditation from 2004 to 2007 also responded that they were not aware of the requirement for quality assurance.

Respondents were asked to provide a list of all members of the Quality Assurance Committee at their schools. There was wide variety in the makeup of these committees:

- 78 percent had the clinical dean on the committee,
- 56 percent had at least one clinical faculty member,
- 53 percent had at least one student,
- 37 percent had the clinic director, and
- 31 percent had at least one clinic chairperson on the committee.

Other individuals named as members of the quality assurance committee included residents, group practice administrators, infection control directors, and quality assurance directors.

When asked to provide information about support from the dean, 78 percent of the
schools responded that their dean directly supported the quality assurance program. A wide variety of methods were cited for demonstration of that support. Twenty-two percent of the schools responded that the dean showed support for the recommendations of the committee. Seventeen percent cited provision of resources (financial and personnel) as a means of support. Nine percent of schools indicated that the dean worked closely with the committee. Thirty-five percent of the schools cited multiple ways in which the dean supported quality assurance efforts within their institutions.

Respondents were asked to provide descriptions of changes that had been made at their schools as a result of findings from the quality assurance process. Examples of these changes (and the percentages who responded affirmatively) included improvements to the chart management system (50 percent), improvements to specific departmental protocol (28 percent), and changes made to the recall and infection control programs (16 percent). Exit interviews, patient surveys, laboratory modifications, and unusual occurrences (clinical incidents considered outside the range of normal like a swallowed crown, wrong tooth treated, or broken instrument) were also cited as examples of change.

The final section of the survey determined if respondents had a risk management program and whether it was integrated with quality assurance (Figure 6). Three-fourths of the respondents had a risk management program. A variety of methods were used to manage the program. The survey did not allow narrative answers for any of the questions in this section.

No method of risk management emerged as the favored approach. More than half of the programs merge their risk management and quality assurance activities. No strong trend emerged that would indicate a decisive preference for computer data tracking in the schools’ risk management and quality assurance efforts.

**Discussion**

Quality assurance is a necessity for all dental school programs. This survey demonstrates that the methods used to collect and analyze data, review processes, implement system improvements, and address issues of patient satisfaction are nearly as varied as the number of schools. Management of the quality assurance programs is not universally standardized (see Figure 3). The most consistent factor for management was the support from the dean.
The two most common reasons cited for instituting a quality assurance program were accreditation compliance (33 percent of respondents) and improvement to patient care (20 percent). These are similar reasons since the primary goal of the accreditation standard is improved patient care. Feedback from the institutions suggested some difficulty in reaching these goals. Many schools described uncertainty in what the accreditation standard requires. Difficulties in instituting appropriate changes and measuring for improvements were also cited. A review of the narrative feedback indicated that certain schools were unable to describe actual improvements to patient care. It appears from this data that it is difficult for institutions to demonstrate that improved patient care has resulted from their QA or RM efforts.

Thirty-seven percent of the respondents used continuous cycles of improvement at their institution. This is noteworthy because these cycles are one of the hallmarks of a fully implemented QA program. Since 87 percent of the respondents reported that they have made changes through the use of their QA program, it is clear that change is occurring. But it is unclear to what extent these changes have resulted in improved patient care. Full implementation of the principles of QA may provide institutions with evidence of actual improvement.

A need exists for resource allocation for risk management and quality improvement. Improved quality will have a cost to the organization in time spent developing programs and systems, reviewing past errors in patient treatment, and developing plans to avoid repetition of the errors. The reward is the improvement of patient care, a difficult outcome to measure as our findings suggest. Secondary benefits such as decreased liability claims and compliance with accreditation standards provide some measure of accomplishment.

To assist dental schools in reaching their goal of improving patient care, we have taken suggestions and protocols from the information received in this survey and accompanying documentation and developed a series of guidelines based on the observations of the survey participants. For all institutions, whether or not they have a QA or RM system in place, we propose the following:

- Obtain active, consistent support from the dean.
- Develop clear, concise goals, a mission and vision statement for quality assurance, and a well-defined method for using these to direct the actions of those involved in quality assurance.
- Communicate with other institutions for assistance in problem solving and alternative methods of QA and development of best practices benchmarks.
- Have at least one person on the committee with training in QA.
- Establish continuous cycles of improvement to include measurement criteria, tools based on goals, and system evaluation with changes as necessary.
- Establish a QA committee with diverse membership.
- Create a meeting frequency that will allow forward momentum to be established and maintained.
- Assign defined duties to all members of the QA committee and ensure that those duties are met at each meeting.
- Establish wide levels of involvement in the QA program that includes administration, faculty, staff, students, and patients; this can be accomplished through frequent turnover in the committee, periodic newsletters, establishment of a QA website, and direct communication between committee members and all populations within the institution.
- Develop QA measurements to ensure compliance with institutionally developed standards of patient care.
- Ensure adequate time is allowed to document baseline trends, institute changes, and measure the success of program modifications.

**Conclusions**

Implementing and maintaining a quality improvement program is a complicated undertaking. In spite of the complexity of QA, this survey found that in 84 percent of the schools, all levels of the institution were involved in the QA program. Resistance and lack of understanding of Total Quality Management (TQM) can cause difficulty for the individuals leading the change. TQM is a structured, data-based organizational process for involving personnel in planning and executing a continuous stream of improvements in systems in order to provide quality health care that meets or exceeds customer expectations. One problem cited in the literature is lack of commitment from upper management. As Masters states, “Missing or even minimal support from the
chief executive officer and administrators can hinder TQM’s successful implementation.” This survey indicates that this problem does not exist in the majority of dental schools. Since quality improvement is an organization-wide effort of which risk management is one part, employees must see that management is supportive of their efforts.

Once the goals have been determined and the areas of measurement defined, careful selection or development of the tools to conduct the measurement of the data is critical. Existing computer software programs that are easily modified to fit the specific needs of each institution are ideal. As stated previously, appropriate resource allocation is also important in implementing and maintaining a functioning QA/RM system.

Finally, a critical step in development of a quality assurance program is to determine what can be measured and reviewed. Collection and measurement of data within a single institution provide important information regarding that institution’s quality improvement and risk management practices. It does not provide a benchmark against which a school may measure its progress in relationship to state, regional, national, or international quality measures. One way in which this might be possible in the future is through the collaboration of dental schools to develop template data collection tools (such as surveys) and pool data into a shared system for analysis. Careful consideration would need to be given to issues of confidentiality and proper use of the results. Sharing information may lead individual schools to the discovery of evaluation methods already in use at other institutions. Improved tools for data collection may also be revealed, thus raising the level of dental care quality throughout dental education.

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REFERENCES