
The many sides of outcomes and their use in postdoctoral training

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The purposes of this presentation are to 1) perform a brief overview of how outcomes fit in dental education, 2) suggest some roles for outcomes in pediatric dentistry postdoctoral training, and 3) share some uses of outcomes at the Ohio State/Columbus Children's Hospital postdoctoral program. Outcomes hold the potential to improve our educational process, help address some vital and gnawing questions about the future of postdoctoral training, and bridge the gap between our educational process and practice system by addressing common and meaningful aspects of both.

Outcomes' place in dental education's evolution

Many have weathered a career of changing educational terminology and paradigms. In the 1970s, we developed a complete package for our courses called a syllabus. The syllabus provided a menu for students and gave structure to the often vague academic offerings in our schools. Not so long after, we succumbed to Mager's goals and objectives, which came from industry and were a step toward relating what was taught to what we needed to learn. Somewhere in this continuum, we also received curriculum guidelines from AADS on many topics, including pediatric dentistry. The previous two changes had created a structure that needed to be filled and curriculum guidelines injected substance to that framework. I believe the intent was that from these guidelines, all course content would flow.

Enter outcomes and competencies! In the late 1980s, in what may have been dental education's hasty reaction to a trend already well underway in higher education, we were asked to come up with outcomes of our educational process. Most dental educators had no idea of what they were or what to do with them. Simultaneously, in an attempt to focus predoctoral education, we also developed competencies to define minimum educational preparedness.

Unlike the syllabus, objectives, guidelines and competencies, which were, I believe, reactions to external pressure and may not have altered what we actually taught, outcomes hold the promise of meaningful and useful change in our educational process. Unfortunately, as the Commission on Dental Accreditation has chosen to use them, and as many of us have responded, they may never reach that potential.

Outcomes are important, measurable and meaningful products of the educational process that can be used for its planning, modification and evaluation. As we engage learning in the rapidly changing health care arena, education by outcomes should replace our current systems of education by convenience, convention and consensus. Outcomes have a role in at least five important educational areas, and this presentation briefly describes those roles.

Planning and evaluation uses

The first role is program planning and evaluation. We ought to be training our young specialists to look and act like those they are soon to replace. Rather than develop standards, guidelines, or other criteria to design that training using the opinion of experts, we should look at what the practitioner or educator of pediatric dentistry does and for whom, and design experiences that impart those skills. The practice world of pediatric dentistry provides the desired "outcome" of education and our programs should be designed to yield a similar result.

Program financing

All postdoctoral education operates under the specter of decreased funding. Outcomes provide the opportunity to design clinical programs that are somewhat more predictable from a budgetary standpoint by establishing expectations for clinical procedures done by students. Additionally, fiscal outcomes lend themselves to bringing residency closer to private practice as one measure of performance. Like it or not, fiscal health is a primary driver of the health care system and lately, the educational system. Rather than cast a disparaging eye on increased importance of fiscal issues within the educational process, educators should see student fiscal awareness (and ideally, fiscal competency) as a desirable outcome in postdoctoral training. Fiscal outcomes are an element of professional life that can bond education and practice.

Resident education and evaluation

How many procedures are enough for an educator to feel confident that a resident is proficient? How many procedures impart confidence on the resident? "See one, do one, teach one" was a common educational approach for many years. A training program that establishes a reasonable acceptable quality level on a meaningful sample of a certain number for a dental procedure has the inside track on efficiency and quality care. For example, why do guidelines suggest that a resident spend six weeks in a pediatric anesthesia rotation? Why not instead ask the resident to achieve outcomes he or she will have to meet in practice, such as intubating 20 cases with less than 2% error and 5% morbidity using established real life criteria?

Another dying (thankfully) euphemism is "it works in my hands". Some programs place great weight on residents following their own patients for two years to see how their treatment "works". A better approach would be to ask residents to select a sample of their patients and those of other residents and faculty and apply quality assurance criteria in an organized valid and reliable manner. Not only would the resident see a far more valid view of care, but more importantly,

would obtain the process skills to continue such critical self-evaluation when in practice.

Patient care quality

Gone are the days when education came first and patient care second. The outcome of education must be the same as practice — quality care. An early mentor gave me a principle for professional life as a dentist-educator that has been a wonderful tool: good care is good teaching. If we do not monitor the quality of patient care in our programs, we are not providing good education. All of our training programs use patients as a laboratory and must have a component of quality care assessment. If we revise our standards for postdoctoral education and do not mandate that programs 1) teach residents to conduct quality assurance and 2) demonstrate quality assurance in patient care, we have failed.

Accreditation

Outcomes are required for accreditation under existing standards, but the application of an outcomes standard has been uncomfortable for many because we are used to assessing the steps of education rather than the educational product. It would be as if General Motors tested its brakes, engines and transmissions, but never its assembled cars. Few educators realize the power of outcomes in accreditation, which has traditionally been a process vested in the opinion of “experts” whose own programs may leave much to be desired! A program armed with solid outcomes data on the various aspects of postdoctoral training is in a dominant position. With standards that permit and encourage development of strongly associated goals and outcomes, programs have an upper hand if they develop and maintain outcomes data.

Outcomes at Ohio State/Columbus Children’s Hospital

The table portrays some of the past and current uses of outcomes at our institution. Some are measures of patient care and teaching, while others look at research and more globally at the product of the educational process. Hospital affiliation encourages collection of outcomes data both because of the quality assurance tradition and culture, and also now because managed care has forced

TABLE. OUTCOME MEASURES USED FOR POSTDOCTORAL TRAINING

Quality Assurance of Sedation

Using AAPD or other guidelines, faculty can evaluate clinical performance of residents

Faculty can use sedation QA to test whether students have met outcomes for proficiency in sedation

Students early in the program can conduct QA, learn a life-long process, learn about sedations they will eventually do, and measure quality of care for the program

Chart Review

This can be used to measure quality of care, chart completion skills and types/numbers of procedures done

Cases Completed/ Procedures Performed

Provides information on program operation and resident performance

Has fiscal as well as educational component

Revenue Generated

Residents can assess productivity and measure change over time

Faculty can use this fiscal outcome to do program evaluation and planning

Patient Satisfaction

This outcome can help in assessment of behavioral goals

Master Degrees Produced

AAPD Graduate Student Research Awards Obtained

IADR/AADR Resident Abstracts Accepted

These research outcomes can help evaluate and document program research goal attainment

efficiencies in operations and demanded justification for treatment. Outcomes can be academic (grades), fiscal (revenue generated), clinical (treatment success), practice administration (appointments kept), or process (patient satisfaction). Ideally, programs should tie outcomes directly to the educational program goals and to training guidelines, standards of care, and quality assurance criteria.

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Pediatric dental care: state of the art versus state of the science

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The demand for accountability on the part of health care providers continues to increase. Patients, purchasers of health care benefits, third-party payers, and the public at large expect a much greater degree of accountability from the health care system today than at any time in the past. And there is little reason to believe that this demand for accountability will diminish.

Organizations representing groups of health care professionals initially responded to this call for accountability by developing policy statements that reflect consensus about the “state of the art”, or level of development of practices for dealing with specific conditions at a particular point in time, in their respective clinical disciplines. Examples in the field of pediatric dentistry include the Oral Health Policies,