What the PDI Can Do for Oral Health

Every day, multiple levels of society benefit from advances in oral medicine and technology, and different arenas of organized dentistry are working toward implementing these advances. Unfortunately, universal access to these benefits in all areas of society is still a work in progress. The judicious distribution of health care funding can facilitate more equitable access to care, but this depends on accurate data reaching the organizations responsible for making and implementing these oral health care programs.

The Prosthodontic Diagnostic Indices (PDIs) have been incorporated into the American College of Prosthodontists (ACP) Parameters of Care to produce a working document that addresses both diagnoses and treatment parameters.[1-4] These parameters suggest to the care provider, after establishing a diagnosis, treatment options consistent with the complexity of treatment needs. To strengthen the prosthodontic armamentarium and support treatment, there must be an evidence-based correlation between diagnoses and outcomes. The ACP Task Force to the PDI has taken a leadership role in the development and refinement of the PDI to write and coordinate multicenter studies to collect and organize outcomes data.

The Harvard study established construct validity of the ACP PDI for complete edentulism (CE) by demonstrating correct global diagnosis by 82% of ACP members, and criterion-based analysis yielded differences in the diagnostic properties such as specificity and sensitivity of each criterion indicating the potential for index improvement.[5] It demonstrated that the PDI for CE has epidemiological properties that make it a valid epidemiologic resource.[6] The Harvard model used generic methodology from the International Classification of Functioning, Disability and Health (ICF). The ICF is the World Health Organization's framework for measuring health and disability at both individual and population levels in more than 151 countries across community-based and specialized health care organizations. The ICF has more than 20 years of success using validated diagnostic methodology linked to outcomes.[7] However, the Harvard study also identified the urgent need to make improvements and implement the improved methodology so systematic research could provide enhanced quality and quantity of data to the prosthodontic specialty and the public in general. Multidimensional factors modulate how people experience oral health, disease, trauma, and dysfunction. It therefore follows that more sensitive instruments must be developed to accurately assess and record this information in a manner conducive to making decisions on health care.

The translational research methodology used within the Harvard study will provide a framework for upgrading the next generation of the PDI diagnostic instruments to be sensitive to the constant evolving knowledge, science, and social conditions throughout the world and will enable prosthodontists to communicate globally in a common language that will enhance the global electronic exchange of evidence-based data. The short-term goals of the Task Force to the PDI are to upgrade the current PDI training/calibration tools and to create more user-friendly computer-based programs. One dental school has collaborated with computer programmers at Exan and has successfully incorporated the partial edentulism and CE PDI Checklists into the electronic records system, AxiUm (Exan, Las Vegas, NV).[8] Seventy percent of the dental schools with electronic records' systems are using AxiUm, which creates a potentially large prosthodontic database from which to develop treatment outcomes correlated to the PDI. Additionally, the PDI family of diagnostic instruments provides valuable teaching tools for predoctoral dental students.

The long-term goals of the Task Force to the PDI are to improve the knowledge by which we treat our patients. To this end, refined diagnostic instruments would enable multicenter studies to generate data correlating diagnoses with outcomes. Ultimately, this information could be shared globally and facilitate more appropriate distribution of limited health care dollars.

The ACP has the responsibility to continue shaping the future of our specialty and the improvement of oral health care. The Task Force to the PDI welcomes active membership involvement in the following areas:

1. If you are a resident, we need your support through research and implementation of pilot projects.
2. If you are a program director, we need your mentorship and your help in identifying residents who could continue making a difference for our specialty's future.
3. If you are an educator, we need your help in refining the existing resources for educating our members, our colleagues, the public, and our government regarding proper diagnosis and appropriate treatment.
4. If you are private practitioner, you can help us to learn and improve the diagnostic tools to support the practice of our specialty.
5. If you are a policy maker, we have resources for you to consider when formulating new policies in health care.

The PDI Task Force needs everyone's help in pursuing a new generation of evidence-based diagnostic instruments that can better identify and care for our country's growing and largely unmet diagnostic needs. To explore avenues for your involvement, please contact the PDI Task Force through its chairman, Richard Williamson at: richard-williamson@uiowa.edu. To learn more about the strategic plan for the PDI family of

diagnostic instruments, please continue to review future additions to the ACP PDI Web link.

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End Notes

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3. McGarry TJ, Nimmo A, Skiba JF, et al: Classification system for the completely dentate patient. J Prosthodont 2004;13: 73-82
4. American College of Prosthodontists: Parameters of care for the specialty of prosthodontics. J Prosthodont 2005;14:(4 Suppl 1):1-103
5. Suarez-Sanchez OR: Evaluating epidemiological properties of the American College of Prosthodontists (ACP) Prosthodontic Diagnostic Index for Complete Edentulism (PDI-CE) [PDI-Study]: a thesis submitted in partial fulfillment of the requirements for the degree of Master in Medical Sciences (MMSc), Harvard School of Dental Medicine, Prosthodontic Graduate Program.
6. Colleen Kummet MS: Biostatistician, University of Iowa: provided an independent review of statistical analyses of the Harvard Study.
7. Available at http://www.who.int/classifications/icf/en/. Accessed on December 22, 2010.
8. Nova Southeastern University College of Dental Medicine, Dr. Sharon Siegel and Dr. Jodi Kodish. Exan Academic, Joraymond Espiritu and Buddah Gurung: all were instrumental in this project.