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Block I, Monday, March 4
2:00 p.m. - 3:30 p.m.

1. African-American Pre-Health and Professional Health Students’ Oral Hygiene Knowledge and Compliance, Alexander, Keisha N., Meharry Medical College School of Dentistry, Bazzey, Debra M., Meharry Medical College School of Dentistry, Mason, Nailisha A., Meharry Medical College School of Dentistry, Farmer-Dixon, Cherae M., Meharry Medical College School of Dentistry

2. Process Issues in Making a Transition to On-Line Learning in a Team Taught Course, Bauchmoyer, Susan M., The Ohio State University College of Dentistry, Radmann, Sally, The Ohio State University School of Allied Health Education, Carr, Michele P., The Ohio State University College of Dentistry

3. Trends in Dental Specialty Education and Practice: A Ten-Year Perspective, Boehm, Diane M., American Dental Association, Nix, Judith A., American Dental Association, Neumann, Laura M., American Dental Association

4. An Interactive Approach to Learning Cranial Nerve Anatomy, Brueckner, Jennifer K., University of Kentucky Medical Center, Dolan, Thomas J., University of Kentucky Medical Center, Wong-Rutledge, Kathryn M., University of Kentucky Medical Center

5. Dental Providers’ Knowledge, Attitudes, and Practices Regarding Tobacco Cessation, Burrage, Michelle, University of Mississippi Medical Center, Crews, Karen M., The ACT Center, University of Mississippi Medical Center, Payne, Thomas J., The ACT Center, University of Mississippi Medical Center, Smith, Patrick O., University of Mississippi Medical Center, Applegate, Bradford W., The ACT Center, University of Mississippi Medical Center

6. Hypertension and Periodontal Disease—A Connection? Charnley, Jason L., University of Michigan School of Dentistry, Gobetti, John P., University of Michigan School of Dentistry, Price, Erin M., University of Michigan School of Dentistry, Green, Tom, University of Michigan School of Dentistry

7. Application of 3-Dimensional Imaging and Virtual Reality in Teaching and Learning Restorative Dentistry, Catherall, Jordan, University of British Columbia Faculty of Dentistry, Lau, Peter, University of British Columbia Faculty of Dentistry, Rucker, Lance, University of British Columbia Faculty of Dentistry, Chehrouri, Babak, University of British Columbia Faculty of Dentistry

8. A New Student-Centered Method for Teaching and Learning Dental Anatomy Using Virtual Reality, Lau, Peter, University of British Columbia Faculty of Dentistry, Catherall, Jordan, University of British Columbia Faculty of Dentistry, Chehrouri, Babak, University of British Columbia Faculty of Dentistry

9. Implementation of a Youth Smoking Cessation Program: Not-On-Tobacco (NOT), Chong, Sherri Lyn W., University of Pittsburgh School of Dental Medicine, Ganni, Mohamed A., University of Pittsburgh School of Dental Medicine, Markovic, Nina, University of Pittsburgh School of Dental Medicine

10. Fostering Interest in Academic Dentistry: The Impact of an Apprentice Teaching Experience, Foster, Lora M., University of California at Los Angeles School of Dentistry, Cooke, Mary C., University of California at Los Angeles School of Dentistry, Bibb, Carol, University of California at Los Angeles School of Dentistry, Lefever, Karen, University of California at Los Angeles School of Dentistry

11. Continuity of Clinical Restorative Instruction - Crowns and Bridges, Crawford, Paul, University of California at Los Angeles School of Dentistry, Morgan, William, University of California at Los Angeles School of Dentistry, Lindemann, Robert, University of California at Los Angeles School of Dentistry


13. Prevalence of Learning Disabilities in Dental Education, Cruikshank, Darcy C., Harvard University School of Dental Medicine, Karimbin, Nadeem, Harvard University School of Dental, Brinckerhoff, Loring C., Harvard University Medical School, Howell, Howard, Harvard University School of Dental Medicine

14. After the Screening: Providing Treatment Targeted to Pre- and Elementary School Children with the Highest Unmet Oral Health Care Needs, DeCastro, Jeanette, University of Medicine and Dentistry of New Jersey - New Jersey Dental School, Bolger, David, University of Medicine and Dentistry of New Jersey - New Jersey Dental School, Noel, Kenson, University of Medicine and Dentistry of New Jersey - New Jersey Dental School, Dennis, Yole B., University of Medicine and Dentistry of New Jersey - New Jersey Dental School, Panagakos, Fotinos S., University of Medicine and Dentistry of New Jersey - New Jersey Dental School

15. Establishing a Combination Honor System/Proctor System to Promote Academic Integrity, Deem, Lisa P., Temple University School of Dentistry, Stark, Alan M., Temple University School of Dentistry

16. A Student Organized Program in the Dominican Republic, Dhillow, Sukhdeep S., Case Western Reserve University School of Dentistry, Colic, Allen D., Case Western Reserve University School of Dentistry, Lalumandier, James, Case Western Reserve University School of Dentistry, Jasinevicuus, Roma T., Case Western Reserve University School of Dentistry

17. Implementing an Esthetic Dentistry Program into the Dental School Curriculum, Estafan, Denise, New York University College of Dentistry, Poulos, John, New York University College of Dentistry, Pelte, Ivy, New York University College of Dentistry, Rattett, Allan, New York University College of Dentistry

18. Evaluation of a Model Apprentice Teaching Program for Future Dental Educators, Fersztman, Gideon, University of California at Los Angeles School of Dentistry, Bibb, Carol A., University of California at Los Angeles School of Dentistry, Lefever, Karen H., University of California at Los Angeles School of Dentistry
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19. Validating the Theory of Ability Determinants of Skilled Performance Using Sub-Test Scores of the Dental Aptitude Test (DAT) in Predicting Student Performance in Preclinical Technique Courses, Gray, Sarah, Temple University School of Dentistry, Deen, Lisa, Temple University School of Dentistry

20. Handheld Device Technology: A Comparative Device Analysis to Support Oral Health Training, Gray, Kale T., University of Louisville School of Dentistry, Williams, John N., University of Louisville School of Dentistry


22. A Comparison of Evacuation Devices on Aerosol Reduction for Dental Hygiene Practice, Jacks, Mary E., University of Texas Health Science Center at San Antonio

23. Technological Advancements in Dental Education, Krajeckian, Joseph L., Tufts University School of Dental Medicine, Zennick, Candice, Tufts University School of Dental Medicine

24. Using Geographical Information Systems to Plan Community Outreach Programs, Krause, Denise D., University of Mississippi School of Dentistry, Mosca, Nicholas G., University of Mississippi School of Dentistry, Chun-Tao, Ma A., University of Mississippi School of Dentistry, Silberman, Stephen, University of Mississippi School of Dentistry

25. Diabetes Education Project: Needs Basis for Development of an Interactive Learning Module, Lee, Damian J., University of Michigan School of Dentistry, Peters, Mathilde C., University of Michigan School of Dentistry, Taylor, George W., University of Michigan School of Dentistry, Gould, Kari L., University of Michigan School of Dentistry, Poort, Henny W., DigiDent, Ann Arbor, MI


28. Oral Health Status of Pediatric Patients at a Five-Year Follow-up of Dental Treatment Under General Anesthesia. Pilot Study, Hanke, Rosana, Pediatric Dentistry Resident, University of Puerto Rico School of Dentistry, Machuca, Maria C., University of Puerto Rico School of Dentistry, Rivera, Yilda, Chairman, Pediatric Dentistry Residency, University of Puerto Rico School of Dentistry, Lopez, Lydia M., University of Puerto Rico School of Dentistry

29. Locations of Mississippi Dental Practices in Relation to Socioeconomic and Demographic Variables, Ma, Chun-Tao, University of Mississippi Medical Center, Wood, Nelson, University of Mississippi Medical Center, Faruque, Fazlay, University of Mississippi Medical Center, Krause, Denise D, University of Mississippi Medical Center

30. Demographics of Caries Experience of 295 Pediatric Patients from a University Dental Clinic, Mercandetti, Mindy, State University of New York at Stony Brook, Scalabba, Michael, State University of New York at Stony Brook, Ferguson, Fred, State University of New York at Stony Brook

31. A Comparison of AEGD and GPR Patient Pools by: Age, Health Status, Payer Mix, Service Mix and Federal Support, Mito, Ronald S., University of California at Los Angeles School of Dentistry, Atkinson, Kathryn A., University of California at Los Angeles School of Dentistry, Lefever, Karen, University of California at Los Angeles School of Dentistry, Lin, Sylvia, University of California at Los Angeles School of Public Health, Engelhardt, Rita, University of California at Los Angeles Department of Biomathematics

32. MCG IMPRESSIONS Program: A 3-Year Review, Moses, Tina P., Medical College of Georgia School of Dentistry

33. Trends in Student Gender Composition During UKCD Institutional History... 25 Year Perspective, Osborne, Paul B., University of Kentucky College of Dentistry, Skelton, Judith NMI, University of Kentucky College of Dentistry

34. Retrospective Study of Oral Pemphigoid, Paek, Shirley E., University of Michigan School of Dentistry, D'Silva, Nisha J., University of Michigan School of Dentistry, Gobetti, John P., University of Michigan School of Dentistry

35. Clinic Information System Technical Implementation, Pearson, Robert J., Oregon Health and Science University School of Dentistry, Stewart, Denice CL., Oregon Health and Science University School of Dentistry, Monner, Melissa, Oregon Health and Science University School of Dentistry, Russell, Rose, Oregon Health and Science University School of Dentistry, Lloyd, Mary, Oregon Health and Science University School of Dentistry, Mortira, Peter, Oregon Health and Science University School of Dentistry, Clinton, Jack, Oregon Health and Science University School of Dentistry

36. Survey of Pediatric Dental Radiography among U.S. Dental Schools, Polon, Natalie A., University of the Pacific School of Dentistry, Wood, A. Jeffrey, University of the Pacific School of Dentistry, Schiff, Thomas, University of the Pacific School of Dentistry

37. Bits and Bytes: A Web-based Communication Tool for the Dental School Setting, Price, Sheila S., West Virginia University School of Dentistry, Crout, Richard J., West Virginia University School of Dentistry, Wearden, Stanley, West Virginia University School of Dentistry, Mwanda, Ngoni, West Virginia University School of Dentistry

38. The Relationship between Diabetes Mellitus and Periodontal Disease, Price, Erin M., University of Michigan School of Dentistry, Gobetti, John P., University of Michigan School of Dentistry, Charnley, Jason L., University of Michigan School of Dentistry, Green, Tom, University of Michigan School of Dentistry
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39. Evaluation of a Dental School’s Advising System, Price, Sheila S., West Virginia University School of Dentistry, Crout, Richard J., West Virginia University School of Dentistry, Yorty, Jack, West Virginia University School of Dentistry, Woarden, Stanley, West Virginia University School of Dentistry

40. The Evaluation of 35 Mm Slides Made From Digital Images, Kozlowski, Theodore, The Ohio State University College of Dentistry, Rashid, Robert G., The Ohio State University College of Dentistry

41. Design and Development of an Instructional Web Site for Use by First Year Dental Students Learning Application of Rubber Dam, Risolvato, Erik, Student, The Ohio State University College of Dentistry, Rashid, Robert G., Ohio State University College of Dentistry

42. The Evaluation of Prints Made from Digital Images, Bookwalter, Andrew, Ohio State University College of Dentistry, Rashid, Robert G., Ohio State University College of Dentistry

43. Does a Service Learning Experience at the Special Olympics Change Students’ Attitudes Toward Individuals with Mental Retardation? Schwenk, Debra M., Southern Illinois University School of Dental Medicine, Boto, Ronald W., Southern Illinois University School of Dental Medicine

44. Using an Oral Health Intake Record to Compare Caregivers Oral Health and IQ to Child’s Curious Surfaces, Scalabba, Michael A., State University of New York at Stony Brook School of Dental Medicine, Ferguson, Fred, State University of New York at Stony Brook School of Dental Medicine, Mercandetti, Mindy, State University of New York at Stony Brook School of Dental Medicine

45. African American Elders’ Perspectives Regarding Oral Health Behaviors and Oral Health Providers: Ethnographic Focus Groups, Slaughter, Ann, University of Pennsylvania School of Dental Medicine, Taylor, Lynne, University of Pennsylvania School of Medicine Center of Excellence on Minority Health, Smith, Virginia, Lincoln University

46. Establishing a Multifactorial Approach to Evaluating Ethics in a Competency Based Education System, Stivelman, Caryn H., University of Pennsylvania School of Dental Medicine, Buchanan, Judith A., University of Pennsylvania School of Dental Medicine

47. Student Volunteer Initiative for Providing Dental Care to Runaway Youth, Sung, Jilween L., Harvard School of Dental Medicine, Yang, Jean A., Harvard School of Dental Medicine, Rasool, Faheem, Harvard School of Dental Medicine, Lin, Jarshen, Harvard School of Dental Medicine


49. Comparing Patient Self-Reported Usage of Herbal Remedies to Actual Patient Practices, Tam, Karen K., University of Missouri-Kansas City School of Dentistry, Amyot, Cindy, University of Missouri-Kansas City School of Dentistry, Cobb, Charles, University of Missouri-Kansas City School of Dentistry, Williams, Karen, University of Missouri-Kansas City School of Dentistry


52. Oral Candida and Disease Control in Non Insulin Dependent Diabetes Mellitus, Toth, Tibor, University of Texas Health Science Center at San Antonio Dental School, Redding, Spencer, University of Texas Health Science Center at San Antonio Dental School, Reasner, Charles, Texas Diabetes Institute, San Antonio, Kirkpatrick, W., University of Texas Health Science Center at San Antonio Dental School, Patteson, T., University of Texas Health Science Center at San Antonio Dental School

53. The Impact of Kansas House Bill 2724; Perceptions of Kansas Dental Hygienists and Dental Assistants, Villalpando, Tonya E., University of Missouri - Kansas City School of Dentistry, Gadbury-Amoyt, Cynthia C., University of Missouri - Kansas City School of Dentistry, Overman, Pamela, University of Missouri - Kansas City School of Dentistry, Peters, Ralph, University of Missouri - Kansas City School of Dentistry

54. Improving Access to Dental Care: Pediatric Patients with Special Needs, Wilson, Robert G., University of Mississippi School of Dentistry, Eklund, Neva P., University of Mississippi School of Dentistry, Dungey, Stephanie, University of Mississippi School of Dentistry, Bakelaar, Tim, University of Mississippi School of Dentistry, Dvorak, Amy, University of Mississippi School of Dentistry, Payne, Thomas, University of Mississippi School of Dentistry

55. Implementation of Esthetic Curriculum into the Predoctoral Curriculum: A Two-Year Study, Yang, Jean A., Harvard School of Dental Medicine, Sobel, Mort, Harvard School of Dental Medicine, Ferguson, Michael B., Harvard School of Dental Medicine

56. A Method of Teaching Multiculturalism and Diversity in a Postdoctoral General Dentistry Training Program, Zdanowicz, John, Harvard University School of Dental Medicine

Block II, Monday, March 4
4:30 p.m. - 6:00 p.m.

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58. Method for Incorporating Lead Up Activity into an Operative Preclinic Technique Course, Boberick, Kenneth G., Temple University School of Dentistry

59. Student Perceptions of Amalgam Properties for CI I Cavity Preparations, Boston, Daniel W., Temple University School of Dentistry, Sitzamer-Alperstein, Klara, Temple University School of Dentistry, Gray, Sarah A., Temple University School of Dentistry

60. Reflections on Clinical Practice by First Year Dental Students, Boyd, Linda D., Oregon Health and Sciences University School of Dentistry

61. Evaluation of the Effectiveness of Mandatory and Voluntary Continuing Professional Education for the Continuing Competency of Minnesota Dental Hygienists, Brickle, Colleen M., Normandale Community College

62. All Dressed Up and No Patient to Treat, Bruce, Stephen I., University of Medicine and Dentistry-New Jersey Dental School Clinical Affairs, Conte, Michael, University of Medicine and Dentistry -New Jersey Dental School Clinical Affairs, McDermott, Ival G., University of Medicine and Dentistry - New Jersey Dental School Clinical Affairs

63. Reasoning Process Characteristics in the Diagnostic Skills of Beginner, Competent, and Expert Dentists, Crespo, Kathleen E., University of Puerto Rico School of Dentistry, Torres, José E., University of Puerto Rico School of Dentistry, Recio, María E., University of Puerto Rico School of Dentistry

64. Using Simulations to Teach Patient Assessment Skills, Cunningham, Marsha A., University of Iowa College of Dentistry, Rubright, David, University Of Iowa College of Dentistry, Johnson, Lynn, University of Iowa College of Dentistry

65. The Relationship of Performance in Dental School Basic Science Courses and Performance on Part I of the National Board Dental Examinations, De Ball, Susanne, Indiana University School of Dentistry

66. Career Selection Motivation and Student Perceptions of the Dental Hygiene Profession, DeAngelis, Susan, University of Arkansas for Medical Sciences, Dean, Kim, West Ark College

67. Student Resources on Dental School Web Sites, Ranzurmal, Mina, University of Medicine and Dentistry of New Jersey-New Jersey Dental School, Panagakos, Fotinos S., University of Medicine and Dentistry of New Jersey-New Jersey Dental School, DeCastro, Jeannette E., University of Medicine and Dentistry of New Jersey-New Jersey Dental School

68. The Effectiveness of an Early Arrival Summer Program on the Academic Performance of First Year Dental Students from Disadvantaged Backgrounds, Deem, Lisa P., Temple University School of Dentistry, Stark, Alan M., Temple University School of Dentistry

69. Predictors of Success in Dental Hygiene: A 6-Year Review, Downey, Mary C., Medical College of Georgia School of Dentistry, Collins, Marie A., Medical College of Georgia School of Dentistry, Browning, William D., Medical College of Georgia School of Dentistry

70. The Mobile Cart Patient Education System as an Aid to Visualization of Current Oral Health Conditions and Treatment Needs, Licari, Frank W., University of Illinois College of Dentistry, Drahos, Gary L., University of Illinois College of Dentistry, Jentz, Melissa L., University of Illinois College of Dentistry

71. Utilization of Intraoral Photography as a Diagnostic Tool and Aid in Assigning and Treating Patients in the Dental School and in Establishing a Baseline of Pretreatment Oral Conditions, Drahos, Gary L., University of Illinois College of Dentistry, Licari, Frank W., University of Illinois College of Dentistry, Burger-Zellinger, Rudolph, University of Illinois College of Dentistry

72. New Technologies in Dental Education: A Survey of Second-year Tufts School of Dental Medicine Students Concerning PCs and the Internet, Eisen, Debbie S., Tufts University School of Dental Medicine, Eisen, Steven E., Tufts University School of Dental Medicine

73. Faculty Publication Patterns Relative to Academic Rank and Tenure Status, Fields, W. Thomas, University of Tennessee College of Dentistry, Scarbecz, Mark, University of Tennessee College of Dentistry

74. Investigation of Attitudes Towards Student Advertising, Fredekind, Richard E., University of the Pacific School of Dentistry, Peliter, Bruce, University of the Pacific School of Dentistry

75. Improving Faculty Teaching Skills Utilizing Standardized Dental Students, Gehrke, Kenneth W., University of Illinois College of Dentistry, Sabattis, Eva M., University of Illinois College of Dentistry, Tharp, Linda K., University of Illinois College of Dentistry, Gelula, Mark H., University of Illinois College of Medicine, Yudkowshi, Rachel, University of Illinois College of Medicine

76. The Effectiveness of a Mock Board Experience in Coaching Students for the Dental Hygiene National Board Examination, Dadian, Taline, University of Texas Health Science Center at San Antonio Dental School, Dadian, Taline, University of Texas Health Science Center at San Antonio Dental School, Dadian, Taline, University of Texas Health Science Center at San Antonio Dental School, Olney, Cindy, University of Texas Health Science Center at San Antonio Dental School, Littlefield, John, University of Texas Health Science Center at San Antonio Dental School

77. Developing a Digital Library by Combining Learning Objectives, Glass, Birgit J., University of Texas Health Science Center at San Antonio Dental School, Guest, Gary G., University of Texas Health Science Center at San Antonio Dental School, Dodge, Bill, University of Texas Health Science Center at San Antonio Dental School, Dove, Brent, University of Texas Health Science Center at San Antonio Dental School

78. Student Perceptions of an Online Dental Terminology Course, Grimes, Ellen B., University of Vermont

79. Using Metaphors to Improve Metacognitive Skills of Oral Health Therapy Students: A Pilot Study, Gassy, Mark G., University of Melbourne

80. Review of Progress in Developing Programs and Educational Media for Junior Faculty Since 1998 Presidents Task Force
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81. An Evaluation of Clinical Mock Boards and Their Influence on the Success Rate on Qualifying Boards, Jesse, Stephen A., University of Texas at Houston Health Science Center Dental Branch

82. Using the Web to Enhance Communication Between Cleft Palate Specialists and Community Practitioners, Johnson, Lynn A., University of Iowa College of Dentistry, Karnell, Michael P., University of Iowa College of Dentistry, Bailey, Philip C., University of Iowa College of Dentistry

83. Web-Based Orthodontic Instruction and Assessment, Komolpis, Ruangrat, The University of Michigan School of Dentistry, Johnson, Richard A., The University of Michigan School of Dentistry

84. Going Mobile: Providing a Platform to Enhance Student-Faculty Resources and Communications, Karim, Nadeem, Harvard School of Dental Medicine, Howell, Howard, Harvard School of Dental Medicine, Donoff, Bruce, Harvard School of Dental Medicine, Halamka, John, Harvard Medical School

85. Dentists’ Opinions About Undergraduate Clinical Supervision, Kay, Charles J., Shapiro Developmental Center


87. Outcome Assessment of Digital Radiography as Compared to Manual Radiography in the Preclinical Setting, Lin, Jarsen, Harvard School of Dental Medicine, Yang, Jean A., Harvard School of Dental Medicine, Sung, Jiilven L., Harvard School of Dental Medicine, Wank, David, Harvard School of Dental Medicine, Karim, Nadeem, Harvard School of Dental Medicine, Howell, T. Howard, Harvard School of Dental Medicine

88. Evaluation of a Pediatric Dentistry Block System Compared to a Comprehensive Care System, Lin, Chi-y, West Virginia University School of Dentistry, Croot, Richard J., West Virginia University School of Dentistry, Nyan, Peter, West Virginia University School of Dentistry, Wearden, Stanley, West Virginia University

89. Mercury Hygiene in a Dental School Simulation Laboratory, Stone, Carl, University of Detroit Mercy School of Dentistry, Vettraino, Jason T., University of Detroit Mercy School of Dentistry, Neme, Ann-Marie L., University of Detroit Mercy School of Dentistry, Linger, Jackson B., University of Detroit Mercy School of Dentistry

90. Portfolios vs. Points and Procedures, List, Gloria T., Marquette University School of Dentistry, Baller, William J., Marquette University School of Dentistry, Hinkelma, Kenneth W., Marquette University School of Dentistry

91. Use of Internet for Recruitment of Dental Assisting Students, Lupovici, Eva M., New York University College of Dentistry, Cleary, Judith, New York University College of Dentistry, Westphal, Cheryl M., New York University College of Dentistry

92. A Process Evaluation for Preclinical Dental Hygiene Students, McClure, Beverly A., The Ohio State University College of Dentistry

93. Students’ Perceptions of Web-Enhanced Teaching Using WebCT within a Baccalaureate Dental Hygiene Curriculum: A Pilot Study, Miller, Faith Y., Southern Illinois University, Carbondale, Lukes, Sherri M., Southern Illinois University, Carbondale

94. Senior Dental Students’ Response to the IOM Recommendations and Its Possible Use as a Criterion for Selecting Future Dental Students, Mohammad, Abdel R., The Ohio State University College of Dentistry, Assadi, Ali, The Ohio State University College of Dentistry, Vermilyea, Stanley G., The Ohio State University College of Dentistry

95. Further Studies Evaluating Student Perception of Learning from Lectures and PBL Cases in a Hybrid Curriculum, Olson, Byron L., Indiana University School of Dentistry, McDonald, James L., Indiana University School of Dentistry

96. A Multicultural Survey of Dental Faculty, O’Neill, Paula N., The University of Texas-Houston Dental Branch, Harrison, Janet A., The University of Texas-Houston Dental Branch, Johnson, Cleverick D., The University of Texas-Houston Dental Branch, Naghshbandi, Jafar, The University of Texas-Houston Dental Branch, Narendran, Sena, The University of Texas-Houston Dental Branch, Ridall, Amy, The University of Texas-Houston Dental Branch, Simmons, Douglas M., The University of Texas-Houston Dental Branch, Warren, Donna P., The University of Texas-Houston Dental Branch

97. The Consistency of Clinical Performance Rating by Dental School Faculty, Romito, Laura M., Creighton University School of Dentistry, Giraud, Gerry, Nebraska Methodist College, Matranga, Luke, Creighton University School of Dentistry, Latta, Mark A., Creighton University School of Dentistry

98. Development of a Post-Treatment Examination Process: Implications for Quality Assurance, Excellence in Clinical Care and Student Competency, Russell, David A., Tufts University School of Dental Medicine, Rodd, Susan A., Tufts University School of Dental Medicine, Markell, Janet B., Tufts University School of Dental Medicine

99. Predictors of Success on the National Board Dental Hygiene Examination, Schatte, Douglas W., Western Kentucky University, Smith, Robert D., Western Kentucky University

100. Improving the Oral Health Knowledge of Osteopathic Medical Students, Skelton, Judith, University of Kentucky College of Dentistry, Smith, Timothy A., University of Kentucky College of Dentistry, Betz, William T., Pikeville College, Lillich, Thomas T., University of Kentucky College of Dentistry

101. Clinical Faculty Calibration Using Case-Based Exercises with Videotapes, Stach, Donna J., University of Colorado School of Dentistry, Cross-Polise, Gail N., University of Colorado School of Dentistry
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<td>Identification of Factors Influencing Matriculation Decisions by Dental School Applicants, Whitehead, Albert W., University of Pittsburgh School of Dental Medicine, Novak, Karen F., University of Kentucky College of Dentistry, Close, John, University of Pittsburgh School of Dental Medicine</td>
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<td>Sense of Inclusion—Meeting The Needs of Gay and Lesbian Students, Whitehead, Albert W., University of Pittsburgh School of Dental Medicine, Moore, Fred, New York University College of Dentistry</td>
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<td>Comparison of Pulp Therapy Procedures Taught in American Dental Schools, Bardzinski, Michele A., University of Medicine and Dentistry-New Jersey Dental School, Kuchmas, John, Curcio, Blaise F., University of Medicine and Dentistry-New Jersey Dental School, Sanders, Michael R., University of Medicine and Dentistry-New Jersey Dental School, Moy, Frances, University of Medicine and Dentistry-New Jersey Dental School, Lombardi, Paul, University of Medicine and Dentistry-New Jersey Dental School</td>
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<td>Academic Integrity: Perpetrator and Accomplice Accountability, Botto, Ronald W., Southern Illinois University School of Dental Medicine, Otsuka, Allen S., Southern Illinois University School of Dental Medicine, Nihill, Patricia, University of Illinois at Chicago College of Dentistry</td>
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<td>The Service Laboratory as an Educational Component of the Student Clinical Experience, Unger, John W., Virginia Commonwealth University School of Dentistry, Button, Gilbert L., Virginia Commonwealth University School of Dentistry</td>
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<td>A Dental Hygiene Admissions Process in Retrospect: Did We Predict Success? Cornett, Renee S., The University of Texas Health Science Center at San Antonio Dental School, Johnson, Christopher C., The University of Texas Health Science Center at San Antonio Dental School</td>
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<td>Career Exploration Programs—Impact on Career Choices, Cromley, Nora L., Oregon Health and Science University School of Dentistry, Haisch, MaryAnn, Oregon Health and Science University School of Dentistry</td>
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<td>Evaluation of Current Tobacco Use and Existing Cessation Efforts with Periodontal Patients, Morgan, Susan, West Virginia University School of Dentistry, Creut, Richard J., West Virginia University School of Dentistry, Hornbrook, Robert, West Virginia University School of Dentistry, Wearden, Stan, West Virginia University, Murandu, Ngoni, West Virginia University School of Dentistry, Thomson, Brady, West Virginia University School of Dentistry</td>
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138. Development of an Interactive Web Site for Dental Ethics, Kiger, Robert D., School of Dentistry, Loma Linda University School of Dentistry, Winslow, Gerald, School of Religion, Loma Linda University School of Dentistry

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178. Utilizing a Hand-Held Device (PDA) to Overcome Language Barriers During Dental Treatment, Karen, Jeffrey R., New York University College of Dentistry, Eisenberg, Elise S., New York University College of Dentistry


180. Integrated Programs: Doing More with Less, Froeschle, Mary Lynn, University of Nebraska Medical Center College of Dentistry, Hlava, Gwen L., University of Nebraska Medical Center College of Dentistry

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182. The Impact of Recent Changes in Medicaid Payment on the University of Kentucky College of Dentistry, Harrison, James D., University of Kentucky College of Dentistry, Kaplan, Alan L., University of Kentucky College of Dentistry, Ferratti, Gerald A., University of Kentucky College of Dentistry, Cecil, James C., University of Kentucky College of Dentistry, Pearce, Cynthia A., University of Kentucky College of Dentistry


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197. Validity Evidence for the Canadian National Dental Examining Board (NDEB) Examinations, Murphy, Joseph, Dalhousie University Faculty of Dentistry, Gerrow, Jack, Dalhousie University Faculty of Dentistry, Boyd, Marcia, University of British Columbia Faculty of Dentistry, Scott, David, University of Alberta Faculty of Medicine and Dentistry

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202. Implementation of Distance Learning Model Using Audio/Video Internet Technology, Pelok, Scott D., University of Michigan School of Dentistry

203. Assessing Communication in a Dental School Setting, Price, Sheila S, West Virginia University School of Dentistry, Crout, Richard J., West Virginia University School of Dentistry, Mullins, Wesley S., West Virginia University School of Dentistry, Warden, Stanley, West Virginia University School of Dentistry

204. The Enrollment, Support, and Postgraduate Employment of International Dental Students, Rice, Chris D., University of Missouri - Kansas City School of Dentistry, Tira, Daniel, University of Missouri - Kansas City School of Dentistry, Atton, Gregory, University of Missouri - Kansas City School of Dentistry

205. Development of a Group Practice System that Encompasses Dental Students and Dental Hygiene Students Assigned to the Same Groups, Rogers, Thomas C., Loma Linda University School of Dentistry, Walter, Robert B., Loma Linda University School of Dentistry, Fitzpatrick, Michael J., Loma Linda University School of Dentistry

206. Disciplinary Actions Against Dentists and Dental Hygienists Associated with the Administration of Local Anesthetics And Nitrous Oxide, Scofield, JodAnn, Collin County Community College, Gutmann, Marylou E., Baylor College of Dentistry

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Poster Abstracts

Block I
Monday, March 4
2:00 p.m. - 3:30 p.m.

1. African-American Pre-Health And Professional Health Students’ Oral Hygiene Knowledge and Compliance
Alexander, Keisha N., Meharry Medical College School of Dentistry, Bazzey, Debra M., Meharry Medical College School of Dentistry, Mason, Talisha A., Meharry Medical College School of Dentistry, Farmer-Dixon, Cherea M., Meharry Medical College School of Dentistry

Purpose: A survey was conducted to assess the knowledge of dental health and oral hygiene practices among pre-health and professional African-American students.

A lack of compliance with dental health and oral hygiene habits may predispose one to carious lesions. A survey was conducted to assess the knowledge of dental health and oral hygiene practices among pre-health and professional health African-American students. Approximately 197 students at Meharry Medical College of various classifications in Medicine and Dentistry, as well as students participating in Summer pre-health programs were surveyed. From the total number of students surveyed, 128 were women and 69 were men. All of the of students surveyed have received a variety of dental services throughout the course of their lifetime. However, the information gathered from this study indicated that there was a lack of compliance with proper oral hygiene habits such as the frequency of brushing, flossing, and high sugar consumption. The data indicated that the level of caries was inversely proportional to compliance with proper oral hygiene habits among the students surveyed. We further conclude that in addition to educating the patient, mechanisms for compliance are essential to good oral hygiene.

The data indicated that the level of caries was inversely proportional to compliance with proper oral hygiene habits among the students surveyed.

2. Process Issues in Making a Transition to On-Line Learning in a Team Taught Course
Bauchmoyer, Susan M., The Ohio State University College of Dentistry; Rudmann, Sally, The Ohio State University School of Allied Health Education, Carr, Michele P, The Ohio State University College of Dentistry

The purpose/objective of this project was to engage faculty members, students and technical/design support personnel in the adaptation of a team taught web-enhanced course, to a team taught distance learning course.

Transforming a team-taught web-enhanced course to a distance learning format raises many issues for course directors to consider both technically and pedagogically. Faculty members may have limited experience with on-line courses and often express concerns regarding educational quality, changes in traditional classroom interaction, expected revision of present teaching modalities and their anticipated role in this new process. The objective of this project was to engage faculty members, students and technical/design support personnel in the adaptation of a team taught web-enhanced course, to a team taught distance learning course. The course director, graduate students and technical/design personnel examined the course as a whole, determined overall goals, evaluated content, identified current teaching methodology and accessed previous student evaluations. A questionnaire was developed and utilized during an interview of all faculty to gather course objectives, content materials and address individual concerns. The course director examined the questionnaire summary and a decision was made to begin the transition by placing one faculty member’s materials totally online. The remaining faculty were to polish their course objectives and where applicable, submit class assignments and identify hyperlinks to lead students to quality resource materials. During the first quarter, all faculty were encouraged to participate in all online segments of the class and their input will be considered in further implementation of distance format changes. Upon completion of the course, students provided a formative evaluation of their experience with the total distance module through an on-line survey. Student evaluations support further expansion of the distance learning format.

Upon completion of the course, students provided a formative evaluation of their experience with the total distance module through an on-line survey. Student evaluations support further expansion of the distance learning format.

3. Trends in Dental Specialty Education and Practice: A Ten-Year Perspective
Boehm, Diane M., American Dental Association, Nix, Judith A., American Dental Association, Neumann, Laura M., American Dental Association

Purpose: To review the trends in dental education and practice of the ADA recognized specialties over a ten-year period.

The ADA’s Council on Dental Education and Licensure (CDEL) conducted a review of dental specialty education and practice to identify and analyze trends in dental specialty education and practice covering a ten-year period from 1991-2001. The results highlight trends that have occurred over the last ten years regarding membership in the specialty organizations; number of active diplomas; number of educational programs, and program enrollments and graduates. Membership figures for all but one specialty organization have remained steady or increased slightly. The number of active diplomates in the specialties has increased except in two specialties. For most dental specialties, the number of specialty education programs has remained relatively stable and the number of graduates in all dental specialties increased slightly. The length of the educational programs increased in three specialties. Additionally, the ratio of general dentists to specialists has remained fairly constant in the last ten years (80% general dentists: 20% specialists). Changes in scope of practice were noted as influenced by environmental trends such as oral health disparities; tooth retention awareness; the aging population and expansion of prescription drug therapy; a shift in health care delivery from hospital settings to an ambulatory care facilities; continued high dental caries rates in some children; and the possible link between periodontal disease and systemic conditions. The study also noted that the specialties shared some common concerns and interests including faculty shortages, referral patterns and increasing the number of board certified specialists. Based on the data and other information reviewed for the purposes of this study, the CDEL concluded that the recognized dental specialties have documented that they are in a healthy and viable state.

The ADA recognized dental specialties have documented that they are in a healthy and viable state.

4. An Interactive Approach to Learning Cranial Nerve Anatomy
Brueckner, Jennifer K., University of Kentucky Medical Center; Dolan, Thomas J., University of Kentucky Medical Center; Wong-Rutledge, Kathryn M., University of Kentucky Medical Center

This multimedia tutorial is designed to facilitate student comprehension of cranial nerve anatomy and function.

This multimedia tutorial is designed to facilitate student comprehension of cranial nerve anatomy and function.
The mastery of cranial nerve anatomy is challenging for many first year dental students. The complex three-dimensional course of these nerves through the head and neck is difficult for students to envision from diagrams on a page. To encourage a more active and effective approach to learning cranial nerve anatomy and function, we have authored an interactive, multimedia tutorial. Using this program, students are able to self-evaluate their study of cranial nerve anatomy more effectively. Weak areas of comprehension are identified in lesion exercises and can be remedied by accessing hyperlinks to relevant tutorial modules. The tutorial modules allow students to view the global distribution of a nerve or focus their study on a particular branch or division. Macromedia Director 8.5 and Flash 5 were used to create the tutorial. Our program consists of a didactic component that outlines each nerve’s distribution and constituent fiber types. Each modality can be studied individually or as a part of the nerve as a whole. Lesion exercises demonstrate key sites along each nerve that produce distinct functional consequences when compromised. Interactive case studies facilitate application of cranial nerve anatomy and function. Beta testing for the tutorial will be performed by 1st and 2nd year dental students. Pre- and post-use surveys will be administered to evaluate content, navigation and impact on learning and study behaviors.

This tutorial is designed to promote more efficient study habits, better comprehension of the subject matter and improved preparation for examinations in dental gross anatomy and neuroanatomy.

5. Dental Providers’ Knowledge, Attitudes, and Practices Regarding Tobacco Cessation

Burrage, Michelle, University of Mississippi Medical Center, Crews, Karen M., The ACT Center, University of Mississippi Medical Center, Payne, Thomas J., The ACT Center, University of Mississippi Medical Center, Smith, Patrick O., University of Mississippi Medical Center, Applegate, Bradford W., The ACT Center, University of Mississippi Medical Center

The Provider Attitude Survey, an 85-item questionnaire was distributed to 929 members of the Mississippi Dental Association to measure their tobacco-related attitudes, beliefs, and practices. 288 dentists responded, providing a response rate of 31%. Mean age of the sample was 45.9 years. 93.4% were male, and 82.9% were Caucasian. 70% had never used tobacco, 24.7% were ex-users, and 3.8% were current users. 76 (26%) reported prior training in tobacco cessation. 70% had never used tobacco, 24.7% were ex-users, and 3.8% were current users. 76 (26%) reported prior training in tobacco cessation.

The data was analyzed by SPSS statistical program. The mean number of years in practice was 15.7. Pearson correlation coefficients were generated to examine the relationship between perceived barriers, motivation to counsel, self-efficacy, and performance of cessation behaviors. Independent sample t-tests were performed to examine how prior training in tobacco cessation is related to these variables.

Results indicated significant negative correlations between perceived barriers and motivation to counsel (r = -.23, p < .001), performance of cessation behaviors (r = -.43, p < .001), and confidence in counseling (r = -.367, p < .001). In addition, as the level of self-efficacy increased, performance increased (r = -.618, p < .001). Dentists with prior training reported fewer barriers (t = 280, p < .001), higher self-efficacy (t = 280, p < .001) and had higher self-efficacy (t = 280, p < .001) than dentists with no prior training.

Barriers seem to play a key role in the lack of intervention, and in confidence performing cessation intervention. Prior training in tobacco cessation intervention was associated with a decrease in barriers, as well as, an increase in performance and confidence in providing cessation intervention.

6. Hypertension and Periodontal Disease—A Connection?

Charnley, Jason L., University of Michigan School of Dentistry, Gobetti, John P., University of Michigan School of Dentistry, Price, Erin M., University of Michigan School of Dentistry, Green, Tom, University of Michigan School of Dentistry

The study was a retrospective study of patient records for a correlation between medicated/unmedicated hypertension and periodontal disease. Significance, hypertension is a widespread disease affecting 60+ million Americans.

The purpose was to determine if there was a correlation between the occurrence and severity of periodontal disease and patients with hypertension. The goal of the study is to help general dentists diagnose and treat periodontal disease. The hypothesis is that hypertension and/or anti-hypertensive medications increase the risk of periodontal disease. 500 patient records were randomly selected from the University of Michigan School of Dentistry Adult Comprehensive Care Clinic. For each patient we took demographic data, history of hypertension, control of hypertension, medications used for hypertension, etc., correlation of periodontal disease, and age of patient. The data was analyzed by SPSS statistical program. The data demonstrated both unmedicated hypertension (82.8% had periodontal disease and 44.8% were ADA II, III, or IV) and medicated hypertensive (84.1% had periodontal disease and 64.5% were ADA II, III, or IV) had a greater occurrence and severity of periodontal disease compared to the normotensive population (58.8% had periodontal disease and 36.1% were ADA II, III, or IV). Anti-hypertension medications had an effect on periodontal health; Diuretics (100% periodontal disease and 76.5%, ADA II, III, or IV), Calcium Channel Blockers (95% periodontal disease and 75%, ADA II, III, or IV), ACE Inhibitors (89.5% periodontal disease and 63.1%, ADA II, III, or IV) and Beta-Blockers (82.6% periodontal disease and 60.8%, ADA II, III, or IV).

Conclusion, medicated/unmedicated hypertensive patients are at a higher risk of developing periodontal disease. The medicated patients are at the highest risk of developing severe periodontal disease. Dentists must realize hypertension is a systemic modifier of periodontal disease.

7. Application of 3-Dimensional Imaging and Virtual Reality in Teaching and Learning Restorative Dentistry

Catherall, Jordan, University of British Columbia Faculty of Dentistry, Luu, Peter, University of British Columbia Faculty of Dentistry, Rucker, Lance, University of British Columbia Faculty of Dentistry, Chehroudi, Babak, University of British Columbia Faculty of Dentistry

Didactic components of restorative dentistry rely heavily on non-interactive, large group lectures and involve demonstrations of restorative procedures on 3-dimensional (3-D) objects (teeth) that cannot be ideally illustrated in two-dimensional (2-D) sketches of textbooks or lecture slides. The purpose of this research was to enhance student-centered learning approach in restorative dentistry using 3-D virtual reality (VR).

Typical class II amalgam cavities were prepared on maxillary premolars and the cavity walls were stained with Toluidine Blue to enhance the optical contrast. Teeth were then mounted on an automated Kaiden VR-Rig. A total of 360 digital images were obtained from each tooth as it rotated in the Y-axis. The camera circled from zero degree (occlusal shot) to 90 degree (buccal shot), and the tooth circled 360 degree. Images were collected at 10 intervals and stitched in the QuickTime VR Authoring program to create a 3-D object movie. Anatomical reference points inside the cavity were marked and labeled.
on selected images of each tooth. Student evaluation and feedback were performed through a Web-based survey. The digital images processed in this manner resulted in life-like 3-D images (objects) of a class II cavity prepared for amalgam restoration. These images could be rotated and viewed from any desired perspective. Moreover, images could be easily accessed, manipulated over the web or independently with a personal computer. The interactive module could be accessed by pointing at various areas of interest within the cavity, which in turn opened new windows with further information or diagrams. The preliminary results from student surveys indicated that 94% preferred VR-interactive 3-D images to two-dimensional pictures or sketches in textbooks. Seventy-one percent preferred viewing on the Web, and 29% favored using a CD-Rom or other media.

The 3-D virtual reality method is a convenient and innovative method to create interactive 3-D images of teeth prepared for various restorative procedures which have the potential to enhance student-based education in restorative dentistry. (Supported by UBC TLEF #14835809).

8. A New Student-Centered Method for Teaching and Learning Dental Anatomy Using Virtual Reality
Chehroudi, Babak, University of British Columbia Faculty of Dentistry, Catherrall, Jordan, University of British Columbia Faculty of Dentistry, Chehrourdi, Babak, University of British Columbia Faculty of Dentistry

Dental anatomy, in particular, deals with demonstration of three-dimensional (3-D) objects that cannot be ideally illustrated in two-dimensional figures or lecture slides. The purpose of this research was to investigate the feasibility of using 3-D virtual reality (VR) to enhance student-centered teaching approach in dental anatomy. Anatomically intact extracted teeth were collected from general dentists, Bureau of Legal Dentistry, and cadavers. Teeth were cleaned in bleach and mounted on an automated Kaiden VR-Rig. A total of 360 high-resolution digital images were obtained from each tooth as it rotated in the Y-axis and the camera circled from 0 (occlusal view) to 90 (buccal view). Images were collected at 10 intervals and stitched in QuickTime VR Authoring program to create a 3-D object movie. Anatomical reference points were marked and labeled on selected images of each tooth. All 3-D objects were saved as web-ready objects. Student evaluation and feedback were conducted through a Web-based survey. The digital images processed in this manner resulted in life-like 3-D images of teeth. These images could be rotated, magnified, or viewed from any desired angle. Navigation through the interactive module was smooth and could be achieved, by pointing at various areas of interest on the crown or the root surfaces. There was no noticeable difference in the speed of image manipulation whether images were viewed through a high-speed Internet connection or directly with an average personal computer. The preliminary results of student survey indicated that 55% felt the 2-dimensional drawings and photos of dental anatomy textbooks were insufficient, or confusing 21%, or not at all usable 15%. Ninety-six percent of students preferred self-study sessions using VR-interactive 3-D images to the use of dental anatomy textbooks.

The 3-D virtual reality method is a convenient and innovative method to create 3-D interactive images of teeth that have the potential to enhance student-based education in dental anatomy. This method should be readily expanded to include other areas of dental education such as restorative dentistry (Supported by UBC TLEF #14835809).

9. Implementation of a Youth Smoking Cessation Program: Not-On-Tobacco (NOT)
Chong, Sherri Lyn W., University of Pittsburgh School of Dental Medicine, Gani, Mohamed A., University of Pittsburgh School of Dental Medicine, Markovic, Nina, University of Pittsburgh School of Dental Medicine

The purpose of this project is to determine the barriers and obstacles associated with establishing the American Lung Association’s Not-On-Tobacco program in an inner-city high school. In addition, the efficacy of this program will be assessed.

Tobacco use is a habit that is started early in life and is very difficult to quit. According to a study in New York City, in every 4 youths reported smoking (1). Early adolescents, ages 11-15 and in the 6th-10th grades, are the most likely to try smoking for the first time (2). In addition, smoking rates among black students increased a drastic 80% between 1991-1997 (3). Even though reported current smoking rates are lower among black (22.7%) and hispanic (34%) youths compared with white youths (39.7%), it is imperative to develop effective strategies of prevention and intervention, as they comprise the fastest growing population in the United States (4,5). The risk of oral cancer increases with the amount and time one smokes, while the risk is decreased following smoking cessation (6). In the United States, nearly 1 in 3 people with oral cancer die with or as a result of their disease (7). Smoking has been shown to be responsible for 75% of the oral cancers in the United States (6). Cigarette smokers also have a 2 to 5 times higher risk of oral cancer than nonsmokers (6). Early detection from dentists, through oral cancer screenings and smoking cessation education is essential. Although dental health care providers are the ones who should be providing these services, it has been found that only 24% of current smokers and 18% of smokeless tobacco users reported that their dentist had advised them to quit smoking (8). Based on this information, we are implementing the American Lung Association Not-On-Tobacco program, a voluntary 10-session gender-divided class. It is predicted that this program will reduce smoking among the high school students. Major contributing factors to the success of the program include the timing of the program, enthusiastic school support, high session attendance, and effective recruitment methods.

Citations
This project addresses a problem that is prevalent among adolescents. Although some schools have some type of smoking/tobacco avoidance program ongoing, they are currently not optimal; less than 5 percent of schools nationwide have school-based programs in accordance with the guidelines set by the Center for Disease Control (9). It has been shown that 20 to 40 percent of adolescent smoking can be prevented with educational strategies combined with community-based activities (9) Support and funding for this project is provided in part by the Albert Schweitzer Fellowship and the University of Pittsburgh Oral Cancer Center Fellowship.

10. Fostering Interest in Academic Dentistry: The Impact of an Apprentice Teaching Experience

Foster, Lora M., University of California at Los Angeles School of Dentistry. Cooke, Mary C., University of California at Los Angeles School of Dentistry; Bibb, Carol, University of California at Los Angeles School of Dentistry; Lefever, Karen, University of California at Los Angeles School of Dentistry

Purpose: To describe the format and evaluation of a course promoting academic dentistry

Dental school deans and ADEA have expressed concern about a future shortage of dental educators. There is a need to identify students interested in dental education and foster that interest while they are in school. To encourage student dentists to pursue an academic career, UCLA began the elective course, “Apprentice Teaching Experience for Future Dental Educators.”

Fourth year dental students were invited to participate in a minicourse on dental anatomy presented to incoming students during orientation week. Working together, the aspiring teachers selected content for their course, sequenced the material from presenter to presenter, created effective powerpoint presentations, developed corresponding handouts and wrote test questions for their lecture.

The elective is in its second cycle. The impact on the student teachers and incoming first year students has been evaluated for two years using surveys, interviews and tests. Student teachers were asked to reflect on the experience in open-ended questions e-mailed to them following the course and in a subsequent debriefing session. Responses were analyzed by NUDIST to identify themes.

First year students completed a content test and the results were correlated with their evaluations of student teachers. They also completed a course satisfaction survey. The majority described the minicourse as very useful for introducing them to dental anatomy and acclimating them to dental school. Twenty percent of first-year students wanted to teach in the minicourse in the future. Participants are being followed to obtain long term results.

This program has potential to encourage more students to pursue careers in academic dentistry.

11. Continuity of Clinical Restorative Instruction—Crowns and Bridges

Crawford, Paul, University of California at Los Angeles School of Dentistry. Morgan, William, University of California at Los Angeles School of Dentistry; Lindemann, Robert, University of California at Los Angeles School of Dentistry

The purpose of this study was to determine how many instructors supervise typical crown and bridge restorations.

Students are advised to work with a single instructor during the preparation and cementation of crown and bridge restorations. Although instructors are calibrated in the technical requirements of fixed restorations, working with a single instructor minimizes any personal preferences that may arise when a different instructor views a case in progress. Multiple instructor opinions during a restorative procedure often results in student confusion and frustration with the clinical learning process. However, we postulated that a majority of students would work with multiple instructors (due to patient scheduling) but more students would work with a single instructor on bridges than crowns (due to their complexity). Instructor signature cards were reviewed for 132 crown and 61 bridge restorations. Three points of progress were evaluated for each restoration: preparation, impression, and final cementation. For crowns, 23% (n=31) of students worked with a single instructor during the case, 66% (n=87) worked with two instructors and 11% (n=14) worked with three instructors. For bridges, 25% (n=15) worked with a single instructor, 62% (n=38) worked with two instructors and 13% (n=8) worked with three instructors. There were no significant differences between crowns or bridges when comparing number of instructors (Chi-square). The results indicate that a large majority of students work with multiple instructors on each procedure (77% crowns; 75% bridges).

We conclude that these results are related to patient scheduling problems and instructor availability. Although we predicted that more students would work with a single instructor on bridges than crowns, it appears that these external factors, scheduling and availability, preclude this. Given these results, it is extremely important for clinical instructors to undergo periodic technique calibration sessions.

12. U.S. Dental School Websites: Who Do They Recognize on Their Homepages?

Schardt, Gregory D., University of Illinois at Chicago College of Dentistry. Crawford, John M., University of Illinois at Chicago College of Dentistry

The purpose of the study was to document which groups of people were identified with links on the homepages of U.S. dental school websites

A variety of groups of people with common interests access dental school websites searching for information. After a preliminary screening, we identified links for eleven different groups on the homepages of the websites. These were: current students, prospective students, faculty, administration, staff, alumni, patients, professionals seeking continuing education, people seeking jobs, people seeking information about research and the lay public. In June 2001, we accessed the homepages of 54 U.S. dental schools (Northwestern Dental School and UNLV School of Dentistry were not included) listed in the ADEA website. We examined each homepage to see if the groups were identified with links. Our purpose was not to determine whether information relevant to the group was present on the website, but specifically if they were identified on the homepage. Over 70% of the websites had links for current students (70.4%), alumni (78%), continuing education (80.0%), research (72.2%) and patients (83.3%). Links for faculty (50.0%), administration (31.5%) and prospective students (63.0%) were less frequent and links for staff (18.5%), jobs (14.8%) and the general public (7.4%) were least frequently observed. We suggest that homepages be designed with these (and possibly other) constituencies in mind and that they be unambiguously identified.

We conclude that several groups of people who have a legitimate interest in the information contained on U.S. dental school websites are not identified on the homepages of many of them.

13. Prevalence of Learning Disabilities in Dental Education

The purpose of this project is to determine the prevalence of learning disabilities in dental education.

The prevalence of learning disabilities in higher education has drawn significant attention at the undergraduate level. College freshman reporting learning disabilities have increased significantly in the past 20 years; in 1978, 0.6 percent of all freshman reported having a learning disability compared with 3.7 percent in 1998. Moreover, 53% of college freshman with learning disabilities plan to seek Master or Doctoral level degrees. Anecdotal evidence suggests an increase in the number of dental students with learning disabilities, but nothing has been published regarding how dental education is effected by this generalized trend. The purpose of this study, therefore, is to obtain information from appropriate U.S. dental school administrators regarding the prevalence of dental students with learning disabilities. A pilot study, designed to identify individuals responsible for working with students with learning disabilities in U.S. dental schools (response rate 90.3%, n=52), revealed that 98.1% of schools have an in-house contact (51.0% Student Affairs, 43.3% Academic Affairs, 3.8% Academic and Student Affairs, 1.9% Admissions). A more specific survey has been developed and is being distributed to specific contact individuals at US dental schools. It is hypothesized that the trends occurring in undergraduate colleges will be observed in dental schools as well.

This issue is being dealt with in a variety of different administrative settings within dental schools. As a follow-up, a more detailed survey is being sent to all U.S. dental schools.

14. After the Screening: Providing Treatment Targeted to Pre- and Elementary School Children with the Highest Unmet Oral Health Care Needs

DeCastro, Jeanette, University of Medicine and Dentistry of New Jersey - New Jersey Dental School; Bolger, David, University of Medicine and Dentistry of New Jersey - New Jersey Dental School; Noel, Kenyon, University of Medicine and Dentistry of New Jersey - New Jersey Dental School; Dennis, Yede B., University of Medicine and Dentistry of New Jersey - New Jersey Dental School, Panagakos, Fotinos S., University of Medicine and Dentistry of New Jersey - New Jersey Dental School

Purpose: To describe a program that provides follow-up treatment, oral health instruction and referrals for children who were identified as needing care but who did not receive care.

The recent Report on Oral Health from the U.S. Surgeon General's Office pointed out higher disease levels in the oral health of diverse populations. The New Jersey Dental School (NJDS) meets its goals of improving the oral health of the most vulnerable people in underserved communities through large-scale screenings and delivering oral health services. Recently, a team of students, dental assistants and supervising faculty screened over 1,300 pre-, elementary and middle-school children in depressed urban and rural areas of Camden and Atlantic counties. Results indicated visible signs of dental decay in 39 to 63 percent of those children screened, depending on the screening site. During the second year of this project, preschool programs and schools with the highest levels of decay (all in Atlantic County) were targeted for follow-up programs. These programs implemented by NJDS students and faculty included a program to provide sealants and oral health instruction to elementary school children, and a program to provide oral health education and necessary treatment or referrals for preschool children identified as needing care who had not yet obtained follow-up treatment one year after the initial screenings.

Implementation of post-screening projects are necessary for accurate evaluation of oral health improvement in the population served, will contribute to increased oral health in the targeted populations, and can identify resources for local access to care.

15. Establishing a Combination Honor System/Proctor System to Promote Academic Integrity

Deem, Lisa P., Temple University School of Dentistry; Stark, Alan M., Temple University School of Dentistry

Purpose: To describe a successful honor/disciplinary system in place at a large dental school for four years.

In 1997 Temple University School of Dentistry combined the traditional proctor system of institutional policing of students' behavior with an Honor System that requires the students to regulate their own behavior. The objective of the integration of the two disciplinary approaches was to utilize the strengths of each system to ensure professional integrity. The proctor system allows for experienced administrators to enforce the rules within the boundaries of confidentiality and due process. The Honor System assumes the responsibility of integrity within the group of adult students. Prior to 1997, each system was in use individually for different periods. The Disciplinary Committee (proctor system) failed to include the students as a whole in the pursuit of professional integrity. The student-controlled honor system fell short in procedural and substantive due process. The newly established Honor Code enforced by the Honor Board, comprised of students and faculty, was developed in cooperation with University Counsel. The students are provided with written notice of specific behaviors that constitute Honor Code violations. Prior to matriculation they sign a form indicating that they received notification. Notice is provided verbally at first year orientation and at clinic orientation. Dispositions of Honor Board hearings are published, quarterly, protecting the identity of the parties. In the first three years that the new system was in effect, three full-year suspensions were imposed for academic cheating and one expulsion for clinical forgery. In the past year, there have been no reported violations. An integrated proctor/honor system is more effective in establishing and enforcing professional integrity than either system standing alone.

An Honor Code system enforced by faculty and students is effective in promoting academic integrity.

16. A Student Organized Program in the Dominican Republic

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Humanitarian exercises for dental students can be an enlightening and valuable educational experience. In 1999 a group of CWRU students worked with a physician to establish a dental & medical clinic in an impoverished rural area of the Dominican Republic (DR). The goal was to establish a facility, which would provide comprehensive dental care. In 2000, two students and a faculty member made a preliminary trip to the DR to gather patient demographic data and to provide emergency care. A temporary clinic was set up. Upon returning the students initiated the DR Elective Program (DREP). The educational objectives of the program are congruent with dentistry’s professional oath “to serve humanity, patients, community, and the profession.” Through the program students have the opportunity to experience 3rd world dentistry, from which they gain knowledge about international humanitarian relief as well as improve their skills. The DREP is unique in that it is student initiated and student run. Students even pay their own way. To date there have been 4 one-week visits, in which students (n=65) provided dental care to over 1000 patients (age range 4-70 years). Accompanying the students are 1 or 2 faculty members, 1 private dentist, and sometimes other volunteers. The clinic procedures include
oral hygiene instructions, prophylaxis, fluoride treatment, sealant placement, amalgam and composite restorations, endodontics, and extractions. The recent trips included seminars for students conducted by accompanying faculty and dentists. Excursions to neighboring public schools were also organized to provide preventative education and emergency treatment. The program has been very successful; clinic construction has been completed with the support of private individuals and dental supply companies. The number of students participating has grown from 2 to 20. In addition, a full time public health dentist now utilizes the clinic year round. Future goals are to increase patient population and to determine the feasibility of future water fluoridation.

17. Implementing an Esthetic Dentistry Program into the Dental School Curriculum

Estafan, Denise, New York University College of Dentistry, Poulos, John, New York University College of Dentistry; Peltz, Ivey, New York University College of Dentistry; Rattett, Allan, New York University College of Dentistry

Purpose: In order to meet the increasing demand for esthetically trained dentists the dental school curriculum had to be altered.

New York University College of Dentistry underwent a major curriculum revision to implement an Esthetic Dentistry program for Pre-Doctoral students. The objective of this program is for NYU to provide the Pre-Doctoral 3rd and 4th year students with hands-on training for esthetic techniques. Students will be able to treat patients with esthetic needs and place esthetic restorations while maintaining function. To accomplish this several faculty were trained in different disciplines involving esthetics. Faculty attended seminars on porcelain laminate veneers and CAD/CAM technology for inlays, onlays and single crowns. After didactic training, the faculty observed the Clinic Module Director perform major cases that involved changing the patient’s smile. Once the faculty were comfortable with the procedure and the materials they then could assist other faculty and instruct the students. Before students treat patients in the clinic, they will work in pairs and alternate doctor-patient roles. The student will diagnose and discuss the treatment plan. A maxillary and mandibular cast will be mounted on a Hanau articulator. After selecting a shade, the student will perform the procedure on the stone cast using a composite resin restorative material. Upon completion of the treatment on the cast the student is given permission to treat the patient. As a result of the program students are given hands-on esthetic experience before they treat a patient. NYU recognizes the increasing demand for dentists to perform esthetically pleasing restorations that do not compromise function. Therefore, to assure graduating esthetically competent dentists, NYU instituted changes in its curriculum directed towards esthetic dentistry.

The Esthetic Dentistry program will make dentists more suited to satisfy the demands of the patient.

18. Evaluation of a Model Apprentice Teaching Program for Future Dental Educators

Fersztman, Gideon, University of California at Los Angeles School of Dentistry; Bibb, Carol A., University of California at Los Angeles School of Dentistry; Lefever, Karen H., University of California at Los Angeles School of Dentistry

Purpose: To evaluate a teaching elective course designed to identify and mentor future academic dentists.

The American Dental Education Association and the American Dental Association have indicated a need to identify and mentor future academic dentists. To address this concern, the UCLA School of Dentistry has initiated an innovative teaching elective course open to senior dental students. The teaching elective mentors future dental educators by providing an opportunity for dental students to gain teaching experience by introducing incoming first-year students to the fundamentals of Dental Anatomy. Student teachers determine their subject matter, develop curriculum materials, select teaching aids, formulate lecture presentations and pre- and post-test questions, and construct evaluation criteria, with the guidance and instruction of mentoring faculty. Surveys, frequent discussions and debriefings evaluate the impact of the course on student teachers and incoming students. Evaluation results following the first elective cycle indicated the need to limit both the number of student teachers and the subject matter breadth while integrating current information technology tools. In response, modifications for the second cycle included informal activities of prospective participants and the inclusion of PowerPoint workshops. Analysis of course evaluations, debriefings and follow-up activities show an increase in student teacher interest in academic dentistry. Incoming students indicate a positive response to being taught by senior dental students, increasing their dental knowledge base and comfort levels regarding their dental school matriculation. Twenty-percent of incoming students were also interested in taking the elective in their fourth year. Dissemination of information regarding the elective through posters and discussion forums to dental educators is planned in 2002.

Analysis of course evaluations, debriefings and follow-up activities show an increase in student teacher interest in academic dentistry.

19. Validating the Theory of Ability Determinants of Skilled Performance Using Sub-Test Scores of the Dental Aptitude Test (DAT) in Predicting Student Performance in Preclinical Technique Courses

Gray, Sarah, Temple University School of Dentistry, Deem, Lisa, Temple University School of Dentistry

The purpose of this research was to validate the theory of ability determinants of skilled performance using Sub-Test scores of the Dental Aptitude Test (DAT) in predicting student performance in preclinical technique courses.

The Ackerman theory of ability determinants of skilled performance is a valid, reliable schema in the applied psychology literature to predict complex skill acquisition. This model has been used as a predictor for success in skill acquisition professions. Inconsistent stimulus-to-response skill acquisition depends primarily on determinants of cognitive ability. The cognitive phase of skill acquisition is associated with demands on general abilities. Task accomplishment requires attentional resources and inconsistent tasks do not improve with practice. It is theorized that the Perceptual Ability Test (PAT) is a valid cognitive determinant for spatial ability in this schema. Each new procedure learned in the preclinical technique courses is novel, includes a spatial relations component, and reflects inconsistent skill acquisition. Therefore, the PAT and preclinical technique performance should correlate positively according to Ackerman’s theory. Students from four classes were assigned to 1 of 4 groups based upon the DAT subtest scores of Academic Average (AA) and PAT: High AA-High PAT; High AA-Low PAT; Low AA-High PAT; Low AA-Low PAT. To increase differentiation, students with AA of 18-19 and PAT of 17-18 were eliminated, yielding a sample size of 177. Eight preclinical technique course final grades were averaged for each student. Correlation coefficients were calculated between the averaged technique grade and the PAT, AA, and entering GPA to determine significance. Results showed that using the PAT as a spatial ability cognitive determinant, there was a 0.496 correlation coefficient (p<0.0001) in predicting preclinical laboratory technique performance. Based on this strong correlation, dental schools may want to reconsider the weighting of admissions criteria.
Based on the strong correlation between the PAT and preclinical laboratory technique performance, dental schools may want to reconsider the weighting of admissions criteria.

Gray, Kale T., University of Louisville School of Dentistry, Williams, John N., University of Louisville School of Dentistry

The characteristics of several commercially available Hand Held Devices (HHD) were compared to determine the most appropriate HHD for use as a portable multimedia training device.

The characteristics of several commercially available Hand Held Devices (HHD) were compared to determine the most appropriate HHD for use as a portable multimedia training device. The comparative analysis was done as a subcomponent of a larger pilot study (HRSA Grant #6-U76PE-00238-09 Office of Technology) to test the use of a HHD as a means to train non-dental health professionals in how to conduct an oral health screening to aid in the prevention, early detection, and appropriate referral of oral health conditions. The desirable HHD criteria included: 1) ability to present both text and high quality color images; 2) ability to support a web-based format, 3) ease of use, and 4) ease of technological support. The training was to be delivered in the form of a virtual oral health handbook using a familiar web-based format presented on the HHD.

Five HHD representing the two dominant HHD operating systems were compared: 1) the Palm OS (Palm m505 TM, Handspring Visor Prism TM, and HP Jornada 540 TM), 2) Windows CE (Compaq Ipaq 3670 TM, Casio Cassiopeia E-125 TM, and HP Jornada 540 TM). Based on expert opinion, it was determined that three devices were capable of initially meeting all evaluation criteria (the Palm m505 TM, Handspring Visor Prism TM and Cassiopeia E-125 TM). Upon further evaluation, the Windows CE HHD (Casio Cassiopeia E-125 TM) showed superior attributes in achieving all criteria. In conclusion, current HHD technology exists to provide portable, interactive, multimedia training. The Casio Cassiopeia E-125 TM currently provides the best combination of software, resolution, and color depth for the accurate presentation of text and high quality color images for portable multimedia training.

Current HHD technology exists to provide portable, interactive, multimedia training. The Casio Cassiopeia E-125 TM currently provides the best combination of software, resolution, and color depth for the accurate presentation of text and high quality color images for portable multimedia training.

21. The Teaching of Class I and II Restorations in Primary Molars: A Survey of North American Dental Schools
Guemlarn, Marcio, University of Florida College of Dentistry, Mjor, Ivar A., University of Florida College of Dentistry; Jerrell, Greg R., University of Florida College of Dentistry

The purpose of this study was to obtain an overview of materials and restoratives techniques taught for Class I and Class II restorations in primary molars in North America. Amalgam has been taught for decades as the material of choice for Class I and II restorations in primary molars. For the last twenty years, numerous clinical and laboratory studies using tooth-colored materials for posterior restorations in primary teeth have been published. New cavity designs have been suggested as well as new condensation and polymerization techniques. Information about the teaching of resin based composites on permanent teeth is available. The teaching status for restorations in primary teeth in North America has not been investigated. Methods: A form with response alternatives was mailed to all sixty-three dental schools in United States and Canada. Questions regarding the restorative materials taught, indications and contraindications for the use of tooth colored materials and the type of cavity preparation indicated for those materials were among the topics assessed. Results: Eighty-six percent of the dental schools responded to the survey. Amalgam continues to be the material of choice for Class I and II restorations in primary molars, although hybrid composites and componners are gaining some popularity. When tooth colored materials were indicated, the slot type of cavity preparation was preferred.

The diversity in teaching may reflect uncertainty related to requirements for optimal restorations of primary teeth. The data presented should be used to initiate discussions about standardization of the teaching and lead to research to provide an evidence base for restorations in primary teeth. Data from dental schools of other countries and from pediatric practices will be important to obtain, in order to establish universally accepted criteria and standards for optimal restorative techniques of primary teeth.

22. A Comparison of Evacuation Devices on Aerosol Reduction for Dental Hygiene Practice
Jacks, Mary E., University of Texas Health Science Center at San Antonio

Purpose: To test an ergonomically sound and effective evacuation method for dental hygiene practice the thereby lending support to the recommendations from the ADA and the CDCP for high volume evacuation use during ultrasonic instrumentation.

Aerosols, defined as airborne particles ranging in size from 10 to 50 microns, are produced during ultrasonic instrumentation, and can be reduced. Irritant solutions, which produce the healing effects of lavage, also combine with blood, saliva, and bacteria to produce potentially harmful airborne particulates. The American Dental Association (ADA) and the Center for Disease Control and Prevention (CDCP) recommends utilization of high volume evacuation, rubber dam, and patient positioning for aerosol control; for the non-assisted dental hygienist these recommendations are difficult to manage. This study was designed to test an ergonomically sound and effective evacuation method for dental hygiene education.

Methods: This laboratory study compared the concentration of airborne particulates from ultrasonic scaling utilizing three different evacuation techniques: a standard intra-orally positioned saliva ejector; and two extra-orally positioned, hands-free high volume evacuation (HFHVE) techniques, (a) with a standard attachment and, (b) with a funnel shaped attachment. Particles were generated utilizing a 25,000 cps magnetostriuctive ultrasonic scaling instrument, and measured with a DataRAM Real-Time Aerosol Monitor.

Results: Results of this study (N=21) found a significant reduction in the number of airborne particulates with either form of HFHVE in place. Standard attachments and funnel shaped attachments to HFHVE resulted in reduction of particulates by 90.8% and 89.7% respectively. Therefore, utilizing either form of HFHVE during ultrasonic instrumentation significantly reduced the number of airborne particulates that reach the breathing space of the client and clinician.

Utilizing either form of HFHVE during ultrasonic instrumentation significantly reduced the number of airborne particulates that reach the breathing space of the client and clinician. Currently, no preventive measure is 100% effective; therefore, clinicians are encouraged to use additional methods to minimize the effects of airborne particulates.

23. Technological Advancements in Dental Education
Krajekian, Joseph L., Tufts University School of Dental Medicine, Zemnick, Candice, Tufts University School of Dental Medicine
Computers are changing the way we do everything from paying our bills to programming our home entertainment systems. Computer technology is revolutionizing dental instruction in ways that promise to improve the quality and efficiency of dental education. It is providing a challenging learning opportunity for dental educators as well. Since large amounts of dental education involve the visual transfer of both concepts and procedures from the instructor to the student, it makes sense that using computer technology to enhance conventional teaching techniques will improve conceptual understanding. Using materials that include clear, informative images and real-time demonstrations, the student can analyze data geographically. GIS provides a spatial perspective to technology that allows the user to visualize, explore, query, and analyze data geographically. GIS provides a spatial perspective to data analysis, which may not be visible using traditional descriptive statistics alone. The objectives of this program were twofold: to examine and test the usefulness of GIS software in supporting the growth of dental education programs and, to determine if spatial data interpretation and analysis would assist in locating unmet dental needs, thus improving community outreach initiatives. ArcGIS™ software, developed by Environmental Systems Research Institute (ESRI), was used to examine spatial relationships between multiple data sets. These data included a statewide survey of caries experience, sealant utilization, and treatment urgency among third-grade children in public education, available dental manpower, demographic, and socioeconomic census data for Mississippi. Data comparison was performed by school and public health districts with geographical visualization using full-color, high-quality maps to demonstrate relationships between unmet oral health needs, available dental manpower, and socioeconomic disparities. School districts with fewer dental providers, such as some districts in the Mississippi Delta, demonstrated higher caries experience and lower sealant utilization among third-grade children. Results from this analysis will be used to target unmet dental needs, with the goal of planning and promoting educational outreach initiatives for students living in communities with the greatest need.

Geographical Information Systems (GIS) is a useful tool for educational institutions in planning effective community outreach programs.

25. Diabetes Education Project: Needs Basis for Development of an Interactive Learning Module
Lee, Damian J., University of Michigan School of Dentistry; Peters, Mathilde C., University of Michigan School of Dentistry; Taylor, George W., University of Michigan School of Dentistry; Gould, Kari L., University of Michigan School of Dentistry; Poort, Henny W., DigiDent, Ann Arbor, MI

Purpose: To evaluate the initial level of knowledge of Diabetes Educators about the relationships between diabetes and oral health, and their perceived need for information about the topic.

Recent studies on diabetes and oral health show a two-way relationship between periodontal disease (PD) and diabetes mellitus (DM). With an increase in prevalence of diabetes, the occurrence of periodontal disease also increases. In diabetes education, resources on oral health care are very limited. A continuing education activity is in development to meet the needs of primary health care providers who educate and treat patients with diabetes. This poster describes the initial knowledge level of a group of diabetes educators (DEs) regarding the relationship between DM and OH and their perceived need for available comprehensive information. A mail questionnaire was developed to evaluate the pre-intervention knowledge of DEs prior to reviewing a prototype of the novel learning program. 32 DEs were selected from a convenience sample of DEs. 26/32 DEs (78%) responded to the pre-intervention questionnaire. The results showed that 88% of the DEs perceived that there is a serious deficiency of OH education in their health professional education and 33% of the DEs felt comfortable discussing this issue with their patients. Half of the subjects felt that information on DM and PD is readily available for them to use. Only 57% (15/26) routinely advise their patients to get a dental exam or treatment. It can be concluded that there is a pertinent need for easily accessible instructional material addressing this bi-directional relationship. It is our challenge to develop an attractive learning module that serves DEs to make an impact on maintaining dental and oral health, and preventing the dental and OH complications of diabetes.

The project is in part supported by a grant of the State of Michigan, and the Student Research Program.

It can be concluded that there is a pertinent need for easily accessible instructional material addressing the bi-directional relationship between diabetes and oral health.
26. Practices and Perceptions of Tobacco Products Among Dental and Hygiene Students

The purpose of this study is to investigate the attitudes and behaviors of future oral health care professionals with regards to tobacco products. Despite their awareness of its deleterious effects, some dental and hygiene students use tobacco products. The objective of this investigation is to analyze three areas of interest with future dentists and hygienists in relationship with tobacco products: 1.) incidence of tobacco product usage, 2.) attitudes and habits about tobacco usage. Data was collected by way of a questionnaire distributed randomly to students at Meharry Medical College School of Dentistry and Tennessee State University Dental Hygiene Program. The ethnic composition reveals that the majority of dental student respondents were African-American, while the majority of hygiene students were Caucasian. The subjects were divided into three study groups: non-users, ex-users, and users. The intent of this questionnaire was to compare and contrast data from the following areas: 1.) education on effects of tobacco usage, 2.) medical and dental histories, and 3.) attitudes on tobacco product usage and government intervention. It was found that all subjects felt knowledgeable about harmful effects of tobacco products. Another common belief held by all groups was that the dental curriculum should incorporate tobacco cessation program development courses. The data revealed that users and ex-users recorded higher incidence of sinus troubles, gum bleeds, gingivitis, and TMJ pain than non-users. All subjects agreed that oral health care providers should not use tobacco products. It was also found that users and non-users agreed with governmental intervention in advertisement and sales of tobacco products, while ex-users disagreed. This study suggests that the subjects’ beliefs and personal practices were not indicative of one’s ability to educate patients about the harmful effects of tobacco products. Wanting the dental education to include tobacco cessation program development courses shows the subjects overall commitment as oral health advocates.


The goal of this project is to develop a Baby Bottle Tooth Decay Prevention Program at the Meharry Medical Services Foundation Pediatric Clinic to reduce incidence within this low-income patient pool. Baby Bottle Tooth Decay (BBTD) is an epidemic in America disproportionately affecting children with a low economical status. The Surgeon General’s Healthy People 2000 Report and Oral Health Report for 2010 are two extensive national research projects, which compiled data on the occurrence of BBTD. Oral health care providers are challenged to place greater emphasis on prevention and educational efforts for caregivers of infants and young children with low socioeconomic standing. The objectives of this study are to: 1.) determine the prevalence of inappropriate feeding habits by caregivers and 2.) create a BBTD Prevention Program at the Meharry Medical Services Foundation Pediatric Clinic. This will be accomplished with the implementation of a prevention program including educational information for caregivers. A survey has been administered to the caregivers, which investigated three areas from which statistical analysis was drawn: 1.) demographic information of both the infants and/or young children as well as their caregivers 2.) educational level of the caregivers and 3.) tabulation of feeding practices with the children. Survey results were evaluated to establish the prevalence of inappropriate feeding practices of the caregivers, and trends related to the three aforementioned variables. The young children were dentally screened for prevalence of caries. A cross examination was made to determine correlations between caregivers who practice inappropriate feeding habits and the incidence of BBTD with the young children. Preliminary data suggests that this prevention program will aid caregivers in modifying inappropriate feeding habits, and encourage improved oral hygiene practices. The data also suggests that increased caregiver awareness positively impacts behavior. The success of this project was hinged upon meeting the needs of a low-income population with a prevention program tailored to its uniqueness. This program will serve as a template for other groups to effectively communicate and educate these populations about Baby Bottle Tooth Decay.

Hanke, Rosana, Pediatric Dentistry Resident, University of Puerto Rico School of Dentistry, Machuca, Maria C., University of Puerto Rico School of Dentistry, Rivera, Yilda, Chairman, Pediatric Dentistry Residency, University of Puerto Rico School of Dentistry, Lopez, Lydia M., University of Puerto Rico School of Dentistry.

The purpose of this study was to determine the 5-year follow-up oral health status of pediatric patients who received dental treatment under general anesthesia (TGA).

The study population consisted of 10 out of 25 patients, (70% male), who received dental treatment under general anesthesia (TGA) by pediatric dentistry residents, at the University of Puerto Rico Pediatric Hospital in 1995. The recall examination was conducted by a single calibrated examiner. The diagnostic criteria published by WHO was used and no radiographs were taken. The parents completed a self-administered questionnaire regarding children’s dental health behavior and habits. Results: mean age of subjects was 14.5 years (SD = 4.95), ranging from 5 to 22 years old. Seventy percent had mental retardation, 80% were behavioral management patients who needed a mouth gag for the oral examination. Dental decay prevalence was 60%. The means and ranges of: DMFT index was 5.2 (range 0 to 12), decayed teeth (DT) 2.5, (range 0 to 10), missing teeth (MT) 0.8, (range 0 to 4) and filled teeth (FT) 1.9, (range 0 to 8). Gingival bleeding was found in 40% of the patients and dental calculus present in 50% of patients. The prevalence of malocclusions was 100% (60% were severe). No patients have undergone dental treatment under general anesthesia after 1995. Questionnaire results indicate that 30% has not visited the dentist since the last dental treatment under general anesthesia and 50% has not followed dental prevention instruction given to them after the dental treatment under general anesthesia.

These findings suggest a need of implementation of follow-up visit program including preventive care and recall oral examination, for patients who receive dental treatment under general anesthesia.

29. Locations of Mississippi Dental Practices in Relation to Socioeconomic and Demographic Variables
Ma, Chun-Tao, University of Mississippi Medical Center, Wood, Nelson, University of Mississippi Medical Center, Faruque, Fazlay, University of Mississippi Medical Center, Krause, Denise D, University of Mississippi Medical Center.

The goal of this study was to investigate objective factors such as the demand for dental service, population size, economic status,**
age, gender, and race considerations, as predictors in locations of Mississippi dental practices.

The demand for dental services is affected by various demographic and socioeconomic variables. Subjective factors, both conscious and unconscious, e.g. geographic location, quality of life issues, urban preferences, or other factors, may influence a dentist’s selection of practice location. The goal of this study was to investigate objective factors such as the demand for dental service, population size, economic status, age, gender, and race considerations, as predictors in locations of Mississippi dental practices. A study was performed using 1990 demographic census data obtained from http://www.esri.com/data/online/tiger/usdemog.html, along with data for Mississippi dental practice locations obtained from the Mississippi State Board of Dental Examiners (MSBDE). Data was analyzed using ArcView® Geographical Information Systems (GIS) and SPSS software for correlation and multiple regression analysis. The significance level for the null hypothesis was p<0.05. The data was further analyzed to evaluate the impact of various factors on the demand for dental services.

Location of dental practice significantly correlated with other dentists, community population, and, to a lesser degree, per capita and median income. Thus, it is evident from our study that population demographics and number of dental practitioners in surrounding areas may be more reliable predictors of dental practice location than per capita and median income.

30. Demographics of Caries Experience of 295 Pediatric Patients from a University Dental Clinic

Mercandetti, Mindy, State University of New York at Stony Brook, Scialabba, Michael, State University of New York at Stony Brook, Ferguson, Fred, State University of New York at Stony Brook.

The Children’s Dental Care Center at the State University of New York at Stony Brook utilizes an intake record to determine multifactorial risks to pediatric oral health through the use of the Pediatric Oral Health Concerns Record (POHCR), a comprehensive questionnaire which includes an interview with the primary care giver and clinical findings. The purpose of this study was to present certain demographics from a pediatric population in the period September 1999 to July 2001.

The sample consisted of 295 pediatric patients with an age range of 3-16 years and a mean age of 9.89 years. 149 of the children were male and 146 were female. The ethnic distribution was Caucasian 196 (66.4%), Hispanic 48 (16.3%), African American 24 (8.1%), Asian 10 (3.4%), Native American 4 (1.4 %), and other 13 (4.4%). Of the 295 care givers answering the POHCR, 90 (30.5%) reported having insurance, 51 (17.3%) receiving Medicaid, and the remaining 154 (52.2%) as self-pay. The mean carious surface (MCS) for the sample was 4.03 with males and females essentially equal (4.00 and 4.05, respectively). Those reporting to have insurance presented with a mean MCS of 3.58, Medicaid 4.16, and self-pay 4.54. The significance level for the null hypothesis of a difference was p<0.05. The data was further analyzed to evaluate the impact of various factors on the caries experience of children.

31. A Comparison of AEGD and GPR Patient Pools by:

Age, Health Status, Payer Mix, Service Mix and Federal Support

Mito, Ronald S, University of California at Los Angeles School of Dentistry, Atchison, Kathryn A., University of California at Los Angeles School of Dentistry, Lefever, Karen, University of California at Los Angeles School of Dentistry, Lin, Sylvia, University of California at Los Angeles School of Public Health, Engelhardt, Rita, University of California at Los Angeles Department of Biomathematics

Purpose: To assess differences in AEGD and GPR training with regard to patient pools and service mix, and to assess the impact of federal support on training.

The UCLA School of Dentistry, through a cooperative agreement with the Health Resources Services Administration (D30 DH10157), performed a comprehensive review of the impact of federal funding on postdoctoral general dentistry (PGD) training. Part of this study included a survey of all U.S. AEGD and GPR program directors. Of the 416 recognized programs, 212 programs responded to the survey (9 closed, 54 AEGD and 157 GPR, 1 undisclosed program type). The evaluation included an assessment of the types of patient seen, care provided and size of stipend support of residents.

Results: GRP trainees received significantly higher (P<0.05) stipends ($32,046) than AEGD residents ($22,403). Comparing all non-federal PGD programs, the following significant findings (P<0.05) were noted: GPR directors reported treating more children, in-patient/same day surgery patients, and economically underserved. AEGD directors reported treating more healthy adults and full pay or privately insured patients. Comparing proportion of patient visits, GPR directors reported seeing more emergency care visits and AEGD directors reported more comprehensive care patient visits. With respect to programs that received federal funding, funded programs reported treating fewer children, more healthy adults, more full pay or privately insured patients and fewer sliding scale patients (p<0.05). They also reported providing more comprehensive care and fewer emergency visits and paid lower stipends.

In conclusion, the data demonstrates that AEGD and GPR patient pools and service mixes are distinct in several characteristics resulting in different training experiences. Additionally, programs that received HRSA funding exhibited significant differences in patient pool and service mix from non-HRSA funded programs.

32. MCG IMPRESSIONS Program: A 3-Year Review

Moses, Tina P., Medical College of Georgia School of Dentistry

Purpose: To introduce the IMPRESSIONS Program as an underrepresented minority recruitment effort to other dental institutions.

The IMPRESSIONS Program was commenced in 1999 by the Student National Dental Association (SNDA) at the Medical College of Georgia (MCG) School of Dentistry (SOD). After three years, the value and benefits of the program have been validated. It serves as a recruitment method for attracting underrepresented minorities (URM). URM in this review are defined as African Americans, Hispanics, and Native Americans. Secondary schools and undergraduate
universities in Georgia are invited. The program is held on a Saturday. The Dean of the SOD and SNA members welcome the students. Information is presented on admission, financial aid and minority affairs. There is a keynote speaker, lunch, and tour. Dental students serve as role models in making impressions and pouring casts of the participants’ dentitions. There is a panel discussion also. The SNA members give t-shirts as mementos. There is not an official attendance for 1999, but approximately 18 undergraduate students attended. In 2000, 18 undergraduate and 2 high school students attended. In 2001, 6 undergraduate, 22 high school and 22 middle school students attended. The attendance reveals an increase in younger students and a decrease in undergraduate students from 1999-2001. The decrease in the undergraduates may be due to the lack of publicity on campuses and in the communities. This decrease was not expected and MCG will continue to attract this population through more aggressive media. The increase in secondary students is pose. A sonic level students are provided the opportunity of early planning for a career in dentistry. At the NDA convention in 2000 the IMPRESSIONS Program was proposed as a national project. As of 2001 there are two dental students enrolled that are former participants.

The IMPRESSIONS Program is one of many URM recruitment efforts provided by the SNA at the Medical College of Georgia School of Dentistry. The primary goal is to establish a strong pipeline of URM interested in attending dental school. As the only minority student organization in the dental school, the SNA is driven to increase the number of URM that graduate from accredited dental schools in order to practice in underserved rural areas. In doing so, it is believed that the access to and quality of dental care for all minorities will increase. Participants will continue to be tracked for several years in order to assess whether the IMPRESSIONS Program influenced their ultimate career paths.

33. Trends in Student Gender Composition During UKCD Institutional History... 25 Year Perspective
Osborne, Paul B., University of Kentucky College of Dentistry; Skelton, Judith NMI, University of Kentucky College of Dentistry

The purpose of this work is to document the changes in gender demographics for each dental student class from the first class at UKCD through the present first year class. The 1962 Hollinshead report of the Commission on the Survey of Dentistry in the United States in 1962 documented that women represented a very small percentage of U.S. dentists compared to other countries. It reported that in 1958, the United States dentists had but a 1% representation of females compared to other countries lead by Lithuania, Latvia, Finland and Russia where respectively 96%, 95%, 89% and 71 percent of the profession were women. The University of Kentucky College of Dentistry (UKCD) opened its doors in 1963 with a typically totally male class. Two years later, the first female dental student was admitted with the 1965 entering class to set the hallmark. Following a U.S. national trend, UKCD has seen a steady increase in females graduating peaking in 1994 with 58.1% of the class being women during a time when the class sizes were somewhat diminished in overall student enrollments. As the College has returned to more normal enrollment size in recent years, women graduates stabilized roughly around 40%. Currently enrolled classes dropped to 28.0% and 34.6% with the 4th and 2nd year classes, but a more representative number with 41.2% and 48% enrolled in the 3rd and 1st year classes respectively. The University of Kentucky has long supported the national trend of increasing numbers of women in the profession of dentistry and salutes their many contributions.

Women in the field of dentistry has greatly increased in the past four decades. This increase has been mirrored at the University of Kentucky College of Dentistry during this same time period and continues with recently graduated classes and currently enrollees.

34. Retrospective Study of Oral Pemphigoid
Paek, Shirley E., University of Michigan School of Dentistry, D’Silva, Nisha J., University of Michigan School of Dentistry, Gobetti, John P., University of Michigan School of Dentistry

The purpose of this study was to review and reclassify BMMP patients seen over the last five years in an Oral Medicine Clinical Practice. Benign Mucous Membrane Pemphigoid (BMMP) is a vesiculobullous autoimmune disease. BMMP occurs primarily in older women. As the geriatric population increases, dentists will face the challenge of diagnosing and managing BMMP patients. BMMP was suggested to be reclassified by clinical presentation; Bullous Pemphigoid (BP), Cicatricial Pemphigoid (CP), Oral Mucous Membrane Pemphigoid (OMMP), and Ocular Pemphigoid. BP exhibits epidermal lesions, CP affects multiple mucosal sites with/without epidermal involvement. OMMP and Ocular Pemphigoid involve oral or ocular membranes. The purpose of this study was to review and reclassify BMMP patients seen over the last five years in an Oral Medicine Clinical Practice. Data collected were: gender, age, clinical signs, presence of Nikolsky’s sign, histopathology and immunopathology results, oral symptoms, systemic presentation, degree of severity and treatment. Results: Of 729 cases reviewed, diagnosis of BMMP in 29 cases (4%). Of the 29 cases, 93% OMMP, 7% CP. 60% were female and 83% 50 years or older at onset. Common sites were gingiva (90%) and buccal mucosa (30%). 63% exhibited erosive or ulcerated lesions. 35% showed a positive Nikolsky’s sign. 84% of biopsied patients (25) diagnosed on histologic findings. Immunofluorescence studies (18), 77% tested positive for antibodies. 59% had 2 or more lesions, controlled with topical steroids. Conclusions: Most patients presenting to the dental office will exhibit oral but no systemic lesions and hence would be classified as OMMP. The data suggest that histopathologic evaluation is effective for diagnosis. A larger population group would be required for a more definitive conclusion. This study was supported by the University of Michigan Student Research Program.

Most patients presenting to the dental office will exhibit oral but no systemic lesions and hence would be classified as OMMP. Histopathologic evaluation is effective for diagnosis.

35. Clinic Information System Technical Implementation
Pearson, Robert J., Oregon Health and Science University School of Dentistry, Stewart, Denice CL, Oregon Health and Science University School of Dentistry, Monner, Melissa, Oregon Health and Science University School of Dentistry, Russell, Rose, Oregon Health and Science University School of Dentistry, Lloyd, Mary, Oregon Health and Science University School of Dentistry, Morita, Peter, Oregon Health and Science University School of Dentistry, Clinton, Jack, Oregon Health and Science University School of Dentistry

Purpose: To migrate a clinic management system from a propriety system developed in-house, to a commercially produced software package that offers a greater degree of functionality, flexibility, and security than the previous system.

Significance: Conversion from a school-developed clinic information system to a more extensive commercially developed system, is a process faced by many dental schools. Designing the appropriate infrastructure is critical to the success of the conversion. Methodology: 1) Assess old system: determine usage patterns; hardware/software configurations for client and server side; and growth metrics for the existing database; Determine approximation of required resources (e.g., amount of disk, memory, and network bandwidth); Determine data to be extracted. Script out and review plan with staff. Obtain estimates on number of rows to be processed, and establish data transition plan; Obtain from vendor DB object sizing and growth estimates. 2) Create separate instances for testing,
development, and production. 3.) Observe consumption of resources such as I/O, memory, and CPU usage; Establish settings for each user session. 4.) Create a routine monitoring process. 5.) Establish and test backup and recovery plan. 6.) Ensure redundancy exists to reduce the likelihood of unplanned outages.

Results: 1.) Selected HP-UX K370 Unix Server running 64-bit HP-UX 11 with 2 CPUs, 2 GB RAM, and 20 disk RAID array. Selected Oracle 8i.6.2 as database. Successful migration of clinical data. 2.) Created separate test, development, and production instances. 3.) Tuned OS kernel as per Oracle recommendations to accommodate load of approximately 40-50 connected users. Made appropriate init.ora settings. 4.) Query data dictionary for performance info; evaluate commercial diagnostic tools. 5.) Create backup plan and test. 6.) Use RAID devices. Multiplex oracle files where appropriate.  

Careful development of technology infrastructure is critical to conversion of clinic information systems.

36. Survey of Pediatric Dental Radiography among U.S. Dental Schools
Polon, Natalie A., University of the Pacific School of Dentistry, Wood, A. Jeffrey, University of the Pacific School of Dentistry, Schiff, Thomas, University of the Pacific School of Dentistry

Pediatric patient dental radiation exposure is a current issue of concern to the dental profession and to the public. Significant movement toward minimizing patient exposure has been made. This is based largely on technical and procedural advances, as taught in dental schools. This study, conducted by the University of the Pacific School of Dentistry, examines dental radiographic policies and procedures related to pediatric patients in dental schools throughout the United States. Both undergraduate and postgraduate pediatric programs were surveyed, with a response rate of 78.2% for undergraduate programs and 83.3% for postgraduate programs.

Results indicate that surprisingly few programs routinely used digital radiography, but many indicate that they plan to start within the next year. Availability of digital and/or traditional radiography equipment was assessed and results showed a wide range of availability. It was also surprising to note that a majority of programs continue to use "F speed" film, when more sensitive "F speed" film is readily available. Choices of film type and speed were investigated further through solicited comments following specific survey items. A majority of programs indicate that they teach prescription of dental radiographs based on individual patient criteria in lieu of strict AAPD or ADA guidelines. This trend was evident in similar proportion among undergraduate and postgraduate programs. Further questions explored specific rationales taught in this area.

This presentation will address specific findings, as indicated above, and also possible trends in the area of pediatric dental radiography education in the United States.

37. Bits and Bytes: A Web-based Communication Tool for the Dental School Setting
Price, Shelia S., West Virginia University School of Dentistry, Crout, Richard J., West Virginia University School of Dentistry, Wearden, Stanley, West Virginia University School of Dentistry, Murandu, Ngoni, West Virginia University School of Dentistry

The purpose of this project is the development and subsequent evaluation of an electronic student publication. A recent assessment of communication within the West Virginia University School of Dentistry revealed potential usefulness of a periodic e-newsletter. The resultant student service newsletter, Dental Bits and Bytes, was designed to promote and stimulate communication within the school at regular intervals and provide an additional forum to address general student inquiries. This web-based news item is efficient and cost-effective. Featured are regular columns such as class bulletin boards and Who’s Who. In addition, students may submit questions of concern for response by appropriate faculty or administrators in the section titled A Probing Matter. Miscellaneous announcements appear in a section entitled Incidentals. This innovative media outlet is prepared by the office of student affairs in collaboration with information technology staff and circulated via a student listserve/intranet. The publication evaluations, development strategies, and format will be discussed. A sample newsletter will be showcased, and results on student acceptance will be presented.

This electronic communication tool promotes student utilization of information technology and may be a promising addition to the school’s goal of efficient and effective communication with students.

38. The Relationship between Diabetes Mellitus and Periodontal Disease
Price, Erin M., University of Michigan School of Dentistry, Gobetti, John P., University of Michigan School of Dentistry, Charmley, Jason L., University of Michigan School of Dentistry, Green, Tom, University of Michigan School of Dentistry

The purpose of the study was to examine the relationship between diabetes mellitus and the severity of periodontal disease. Diabetes Mellitus, both type I and II, the drugs used to treat diabetes, and the severity of periodontal disease were correlated. The goal of the study is to be able to prevent and treat periodontal disease in diabetic patients. Our hypothesis is that periodontal disease occurs more frequently and cases are more severe in patients with diabetes mellitus and will correlate to the type of treatment for diabetes. 500 randomly selected records of adult patients seen between June 1, 1999 and June 1, 2000 were evaluated. Demographics, medical history, dental history, medications and periodontal diseases were characterized. The severity of periodontal disease was ranked for the study, using ADA classifications. From the data, 9.8% of the patients were diagnosed with diabetes, 83.67% of diabetic patients have periodontal disease with the majority being ADA II or ADA III, versus 70.51% of non-diabetic patients with periodontal disease focused between ADA I and ADA II. 26.53% of diabetic patients are Type I, 71.43% are Type II and 1 is borderline. 92.31% of Type I diabetics have periodontal disease verso 80.00% of Type II diabetics. Of the Type I diabetics taking only insulin, 90% have periodontal disease, 55.56% of them ADA III, 100% of Type I diabetics taking both insulin and oral medications have periodontal disease. Of the Type II diabetics, 66.67% not taking medications have periodontal disease, mainly ADA II, 94.21% taking oral medications have periodontal disease with the majority being between ADA I and ADA III, and 100% taking both insulin and oral medications have periodontal disease all being ADA II or ADA III.

Conclusion, there is a definite correlation between diabetes mellitus and periodontal disease and the method used to control diabetes also plays a key factor in their periodontal disease status. 100% of the patients taking both oral and insulin medications have periodontal disease, ADA I to ADA IV.

39. Evaluation of a Dental School’s Advising System
Price, Shelia S., West Virginia University School of Dentistry, Crout, Richard J., West Virginia University School of Dentistry, Yorty, Jack, West Virginia University School of Dentistry, Wearden, Stanley, West Virginia University School of Dentistry

The purpose of this survey was to compare a recently implemented revised interactive advising program (RIAP) with a traditional advising approach (TAA).
Although student advising is an important function of a dental school program, research on the evaluation of advising systems is scarce. The purpose of this study was to compare a recently implemented revised interactive advising program (RIAP) with a traditional advising approach (TAA). Two dental classes (3rd, 4th) comprised the RIAP group while the remaining two dental classes (1st, 2nd) and alumni group experienced the TAA. A confidential number-coded mail survey, including 16 Likert-scale items, assessed the perceptions of all dental students and the graduates of the two preceding years concerning the efficacy of the WVU School of Dentistry student advising system. Assessments included the following topics: advisor availability, location and contact; sensitivity to academic needs; helpfulness in career counseling and time management; and program identification, early intervention and development of an action plan for resolution. The response rate was 74% for the dental students and 47% for the alumni. Results will be used to decide if in 10 of the 16 questions a statistically significant difference was seen between the two groups. RIAP participants were more likely to strongly agree or agree that their advising system was superior to the TAA (p<0.05). Elements of the TAA, and strategies for the development and implementation of the RIAP will be discussed.

We conclude that the revised interactive advising program offers advantages over the more traditional approach.

40. The Evaluation of 35 Mm Slides Made from Digital Images
Kozlowski, Theodore, The Ohio State University College of Dentistry, Rashid, Robert G., The Ohio State University College of Dentistry

The purpose of this study was to determine the resolution and compression levels for acceptable intra-oral slides made with digital photographic equipment.

Previous research attempts to identify minimally acceptable levels of resolution and compression in printed digital images indicated the importance of consistent exposure in the comparison of multiple images. This study extends the past study of printed intra-oral images by examining the relative quality of 35 mm slides made from digital intra-oral images of various compression levels and resolutions. Ten intra-oral images of the frontal view of one patient were made using all possible resolutions and compression settings on the Nikon Coolpix 990 digital camera. The images were transferred into a computer where the top and bottom portions of each image were then cropped to change the aspect ratio to that of a 35 mm slide (3:2). An additional image was made with a Yashica DentalEye II intra-oral camera using Ektachrome Professional (EPM) 35 mm slide film. The slide image was scanned at 1365 dpi. This image was adjusted for exposure and color to closely match the ten digital images using Photoshop 6. Finally, all digital images were imported into a PowerPoint presentation and resized to fit the image area. The presentation was then imaged back onto film using a Kodak Ektagraphic slide projector. Analysis of the data will be done using logistic regression analysis in SAS, to determine the cutoff point of acceptability with respect to resolution and compression.

41. Design and Development of an Instructional Web Site for Use by First Year Dental Students Learning Application of Rubber Dam
Risolvato, Erik, Student, The Ohio State University College of Dentistry, Rashid, Robert G., The Ohio State University College of Dentistry

The specific aim of the project was to develop a web based instructional program for educational use by the first year dental student.

Posterior rubber dam application is generally taught along with the preparation and restoration of Class I amalgams. The course, as currently taught, attempts to teach both the rubber dam technique and amalgam placement technique for the first pre-clinical laboratory sessions in order to maintain the use of rubber dam for all direct restorative materials. However, the amount of lecture time necessary prior to the first laboratory is quite high. Creation of a self-paced tutorial for rubber dam placement that is available over the web would allow students to build the foundation for rubber dam placement prior to the initial laboratory session. We will test the hypothesis that our instructional web site will provide training at least equivalent to the standard one-hour lecture. Instruments necessary for placement of rubber dam were captured as still images. Techniques, such as attaching floss to the retainer and initial trial placement of the retainer were captured as digital video clips. The images and film clips were then integrated into a series of web pages containing instructional text to allow students to view chosen aspects of rubber dam placement in a sequential or non-linear fashion. Testing phase of the project will occur in Fall 2001. Dr. Rashid will present a lecture on rubber dam technique on October 18, 2001. Testing will include volunteers assigned to one of two groups. One group will have access to the website and one group will receive the standard lecture presentation of rubber dam technique. Following training, participants will place one posterior dam. Faculty evaluation and student surveys will provide the necessary comparison data to test the hypothesis.

42. The Evaluation of Prints Made from Digital Images
Bookwalter, Andrew, Ohio State University College of Dentistry, Rashid, Robert G., Ohio State University College of Dentistry

The purpose of this study was to determine the resolution and compression levels for acceptable intra-oral prints made with digital photographic equipment.

This study is a continuation of a previous report on digital imaging evaluation. In the previous study, research was performed to find a minimally acceptable level of resolution of a digital image. Major criticism came from the lack of a film-based gold standard and small study group. In this study, both digital and film-based images of the frontal view of teeth in occlusion of a single volunteer. Greater care was taken to insure that the images were more consistent with respect to the field of view, focus and brightness. To achieve this, the volunteer’s head was stabilized and the camera was mounted on a tripod. The digital camera used was a Nikon Coolpix 990. Images were taken at all possible resolution and compression settings. The film-based images were taken with a Yashica DentalEye II 35 mm camera using Kodak Ektachrome Professional (EPM) film. The images were then randomly arranged on a poster and printed on two different printers. One set was printed on a Hewlett-Packard DesignJet 3500CP inkjet poster printer so that each image was 8-1/2 inches wide (to simulate printing for a poster presentation). Another set of images was printed to a width of 3-1/2 inches using an Epson Stylus Photo 1270 inkjet printer to mimic printing for submission with an article or to give to a patient. The film-based image was scanned and printed with the digital images. Additionally, a laboratory processed print at each size was made from the slide to use as a reference standard for comparison to each of the digital images. Participants will be asked to judge the images on a 5-point scale. We will use logistic regression analysis (SAS) to identify where the cutoff for an acceptable image occurs in the matrix of compression and resolution.
43. Does a Service Learning Experience at the Special Olympics Change Students’ Attitudes Toward Individuals with Mental Retardation?

Schwenk, Debra M., Southern Illinois University School of Dental Medicine; Botto, Ronald W., Southern Illinois University School of Dental Medicine

The purpose of this study was to determine if a service learning experience at the Special Olympics changed students’ attitudes towards citizens with mental retardation as measured on a Prognostic Beliefs Scale (PBS).

Service Learning has been shown to have positive effects on academic performance, values, and future participation in service, which are all important aspects of dental education. The purpose of this study was to determine if a service learning experience at the Special Olympics event (post test) increased the PBS for “mildly retarded” and “moderately retarded”. It can be concluded from this study that although the service learning experience did positively affect the students in the test group, the control group also had a similar positive change in attitude. In light of these results, one can question whether a limited exposure in a service learning experience has any real impact on students’ attitudes about a population with disabilities.

Similar changes in attitude for the test group, who were exposed to a people with mental retardation, and the control group, who were not, bring into question the value of a limited exposure in a service learning experience.

44. Using an Oral Health Intake Record to Compare Caregivers’ Oral Health and IQ to Child’s Carious Surfaces

Scialabba, Michael A., State University of New York at Stony Brook School of Dental Medicine, Ferguson, Fred, State University of New York at Stony Brook School of Dental Medicine, Mercandetti, Mindy, State University of New York at Stony Brook School of Dental Medicine

In developing interview and clinical skills the SUNY SB Department of Children’s Dentistry aids its students by guiding them through a comprehensive questionnaire, combining an interview with the primary care giver along with clinical findings of the child patient. The guide, called the POHCR (Pediatric Oral Health Concerns Record), helps identify for each child, the multiple risk factors, which comprise the pretest data. Eleven of these students volunteered to perform oral screening examinations for athletes at our local Special Olympics. These eleven students were the test group and the remaining 34 were the control group. Both groups were given the same survey instrument again one week after the Special Olympics event (post test). The pretest results were compared statistically to the post test results for both the test and control group. The test group exhibited a significant (p<.05) increase on the PBS for “mildly retarded”. The control group had significant (p<.05) increases on the PBS for both “mildly and moderately retarded”. It can be concluded from this study that although the service learning experience did positively affect the students in the test group, the control group also had a similar positive change in attitude. In light of these results, one can question whether a limited exposure in a service learning experience has any real impact on students’ attitudes about a population with disabilities.

Similar changes in attitude for the test group, who were exposed to a people with mental retardation, and the control group, who were not, bring into question the value of a limited exposure in a service learning experience.

45. African American Elders’ Perspectives Regarding Oral Health Behaviors and Oral Health Providers: Ethnographic Focus Groups

Slaughter, Ann, University of Pennsylvania School of Dental Medicine, Taylor, Lynne, University of Pennsylvania School of Medicine Center of Excellence on Minority Health, Smith, Virginia, Lincoln University

African American elders experience higher rates of dental caries, tooth loss, and periodontal disease, and seek professional care less often than their white counterparts. We hypothesized that the dental health beliefs of African American elderly influence their oral self-care behaviors and partially mediate and explain the impact of ethnicity on behavior. Four focus groups from two West Philadelphia Senior Centers were conducted and audio taped. Participants were mostly females, ranging in age from 65 to 98 years. The Health Belief Model and Social Cognitive Theory, with an ethnographic focus guided the probing questions. The content analysis of the transcripts revealed the following common themes: Seniors expressed accurate knowledge of tooth decay, gum disease and the importance of oral health to general health. A key motivator for routine brushing was knowledge of the negative consequences of oral conditions on general health. Flossing was low and related to little information from professional and social contacts and low self-efficacy. Cost and negative prior experiences with providers regarding insensitivity, impatience, roughness, inattentiveness, and little explanation of options to better protect and save teeth, concomitant with fear and mistrust of the dentist, were associated with declining expectations of retaining teeth and episodic use of professional care. The race of the provider was not considered salient. These findings suggest African American elderly may benefit from oral health promotion programs tailored towards emphasizing general health benefits coupled with curriculum development tailored towards enhancing providers’ accommodation skills. Supported by University Research Foundation Grant #703603

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46. Establishing a Multifactorial Approach to Evaluating Ethics in a Competency Based Education System
Stivelman, Caryn H., University of Pennsylvania School of Dental Medicine, Buchanan, Judith A., University of Pennsylvania School of Dental Medicine

Purpose: To evaluate the impact of recent modifications on student and faculty perceptions of ethical competency. It was noted during our institution’s transition to a competency based education system that ethics needed to be strengthened. Changes to the curriculum were made by adding didactic hours, increasing the strength of our Ethical Board, and implementing an ethics workshop during freshman orientation. However, new methods to assess students for ethical competency were needed. New evaluation forms were created to assess a student’s progress in achieving competencies in several areas including ethics over a two-year time span in various clinics. Clinical faculty evaluate the progress by marking categories from “significant lack of progression” to “exceeds competency level” which describe a novice through competent practitioner. An ethical component has been added to some departmental competency evaluations to assess a student’s ethical behavior at one point in time. Student Behavior Incident Report forms were also introduced to report incidents related to student ethical behavior. After instituting the above, we then explored if these modifications had any impact on student and faculty perceptions about ethics. We surveyed 354 graduating students of the Classes of 1999, 2000, and 2001 on a three-point rating scale as to whether they felt competent in ethical principles. In 2001, 96% of the students felt competent, as opposed to 69% and 89% in 1999 and 2000, respectively. Student data shows a compelling 39% increase in students’ self-assessment of ethical competency from 1999 to 2001. We also surveyed 60 faculty members in various positions regarding whether or not they perceived any changes in the ethical behavior of students since the forms have been instituted. Results of faculty surveys are mixed and qualitative in nature and will be available on site.

The multifactorial approach used to emphasize ethics at our institution has significantly improved students’ self-assessment of ethical principles.

47. Student Volunteer Initiative for Providing Dental Care to Runaway Youth
Sung, Jillwen L., Harvard School of Dental Medicine, Yang, Jean A., Harvard School of Dental Medicine, Basool, Faheem, Harvard School of Dental Medicine, Lin, Jarshen, Harvard School of Dental Medicine

Volunteer-supported community dental clinics are often short of supplies and staff, impeding their ability to run efficiently. Bridge Over Troubled Waters (BOTW), an established organization that provides outreach, counseling and primary health and dental care services to runaway teens in Boston, has a dental clinic that similarly suffers from these insufficient resources. To aid in the need for dental care among Boston’s runaway teens, a pilot student-run collaboration called Project Bridge was started one year ago between Harvard School of Dental Medicine and BOTW. Project Bridge began as a monthly program where fourth year dental students, assisted by dental students junior to them, volunteered in BOTW’s dental clinic under faculty supervision. A year after the program’s initiation, Project Bridge has become a vehicle for students to exercise their creative capacity in a broad range of fields, including submission of grant proposals and writing letters for commercial donations, creation of comprehensive education programs designed to teach both BOTW’s staff and teens comprehensive oral health care, and data collection of dental needs in a runaway youth population, as well as the effectiveness of these educational programs. Specifically, educational programs include preventive oral health care, general dental education and anti-smoking information. In addition, these student efforts have resulted in outside financial support to fund this initiative into becoming a weekly, rather than monthly, program offering new endodontic and prosthodontic services. Overall, this volunteer initiative has not only helped to satisfy the dental needs of runaway teens in Boston, but also served to increase the students’ ability to creatively solve dental needs in the community.

48. Pediatric Dental Program Expansion to Provide Wider Access to Primary Oral Health Care for Underserved Pediatric Populations
Surattanont, Farisa, Columbia University School of Dental and Oral Surgery, Davis, Martin J., Columbia University School of Dental and Oral Surgery, Chussid, Steven, Columbia University School of Dental and Oral Surgery

Purpose: To significantly expand access to primary oral health care for the pediatric population of Northern Manhattan including Central Harlem and the Washington Heights/Inwood area, which have been officially designated as Dental Health Professions Shortage Areas (DHPSA) and to address the clearly defined national shortage of pediatric dentists with an emphasis on the recruitment of minority trainees.

The Columbia University School of Dental and Oral Surgery-New York Presbyterian Children’s Hospital of New York (SDOS-CHONY) was recently awarded a Title VII Grant to meet several clear objectives. The rationale, methods, and outcomes protocols for the grant may serve as a model for other programs seeking to address similar goals of increased access to care, expansion of training positions, improved minority trainee recruitment, and decreased healthcare access disparities in a large community. Children of predominantly lower socio-economic and minority status identified with a high incidence of oral disease and limited access to care are an ever-increasing population in our society. The SDOS-CHONY Advanced Education in Pediatric Dentistry Program, in an endeavor to correct this problem, is expanding from two to five trainees in each of the two years of the training program. The targeted children in all sites are of the lower socio-economic and minority status, and as such are identified as high risk patients. Additionally, the program is placing an increased emphasis on identifying and recruiting minority trainees. The specific goals of the program include: 1) Providing access to quality oral health care for a grossly underserved and predominantly minority pediatric 2) Training an increased number of pediatric dentists to provide care to underserved pediatric populations and special needs children. 3) Providing all trainees in the program with the opportunity to serve in a variety of settings including the existing pediatric dental clinic located in the School of Dental and Oral Surgery and a number of newly configured 4) Developing community-based risk assessment and anticipatory guidance programs to identify children susceptible to early childhood caries and providing early intervention when indicated. 5) Increasing trainee experience in caring for HIV positive children as part of Columbia’s Ryan White Center.

The trainees are didactically educated in courses and seminars conducted by faculty. The curriculum emphasizes service, and includes cultural competency training, Health Promotion/Disease Prevention protocols, and HIV-related Primary Oral Health Care (POHC). Clinical sites are all located in federally designated Dental Health Professions Shortage Areas. Emphasis is being placed on minority trainee recruitment in cooperation with Harlem Hospital and the SDOS New York State funded Science and Technology Entrance Program (STEP) designed to foster interest among minority high school students to encourage pursuit of secondary degrees in the field of science and technology.
This approach models ways to use the existing resources of the academic dental and medical centers to create partnerships with the community to deliver expanded access to pediatric oral health care in areas designated as DHPSA’s.

Several protocols are established to evaluate the outcomes of the program. Counts of individual patients seen and services provided are maintained to compare the effectiveness of HP/DP, risk assessment, and anticipatory guidance protocols. Lists of numbers of applicants and program goals are tabulated to evaluate trainees for clinical performance and in meeting project goals. Evaluation mechanisms specifically include direct clinical observation and written assessment by attending faculty.

Documentation of minority and under-represented trainee recruitment efforts and outcomes by numbers are maintained. Trainees who have completed the program are being tracked using a written outcomes assessment instrument to determine the effectiveness of these experiences in encouraging graduates to continue their involvement with underserved minority populations.

By linking various community based dental care programs to the tertiary care site in the School of Dental and Oral Surgery, we can provide greater access to primary oral health care for a pediatric population identified as high risk patients. By increasing the number of trainee positions and focusing on the recruitment of minority trainees, we can address not only the known shortage of pediatric dentists, but also the need for diversity of pediatric dental specialty trainees, particularly in areas identified as DHPSA’s.

49. Comparing Patient Self-Reported Usage of Herbal Remedies to Actual Patient Practices
Tam, Karen K., University of Missouri-Kansas City School of Dentistry. Cobb, Charles, University of Missouri-Kansas City School of Dentistry. Williams, Karen, University of Missouri-Kansas City School of Dentistry

1) Describe percentage of dental patients using herbal remedies; 2) characterize herbal and non-herbal users; and 3) observe concordance between actual and self-reported usage of herbal remedies in patient’s medical record.

Rationale: Herbal usage in the United States has increased in recent years as patients’ search for safe and natural remedies. Unfortunately, individuals may risk potentially serious and toxic interactions with prescribed medications if herbal use is not noted in patient’s medical record. METHOD: A chart audit and patient response survey was used. The chart audit compared self-reported usage of herbal remedies to response survey. The survey gathered demographic information of participants, herbal use, and health belief systems. A convenience sample of 150 patients volunteered in the study at University of Missouri-Kansas City dental clinic and two private dental practices. Responses were analyzed using descriptive statistics to examine characteristics of herbal and non-herbal users, concordance between findings of self-reported and written medical history, and frequently used herbal remedies. RESULTS: Eighty of 149 respondents took some form of herbal remedy in the past year (53%). Significantly more women used herbal remedies than men (p<.001). Most herbal and non-herbal users shared similar beliefs and behaviors on making healthcare decisions with the exception of herbal safety and effectiveness (P=.05). Eighty percent of respondents (109) reported they would tell practitioners their herbal use, but only 32 individuals had documentation of herbal usage in their patient record. RESEARCH OUTCOME: Dental practitioners need to ask and note interactions with prescribed medications if herbal use is not noted in patient’s medical record. After this instruction each child will be screened for caries. Six months later, these children will be screened again. At that time a comparative analysis of findings will be conducted.

50. Seat Belt Safety and Dental Education

Purpose: Analyze the relationship between seat belt use and oral injuries and the role of dentists in prevention.

Dentists are in the unique position to educate their patients on a variety of health and safety issues. When traumas, such as car accidents occur, the dentist is one of the first health care professionals who will examine the patient. An accident can severely affect the development of the primary and subsequently the permanent dentition of children as well as adults. African Americans youths are 50% less likely to be buckled up than Whites or Hispanics. At the July 2001 National Dental Association and Student National Dental Association convention, a questionnaire was administered to dental professionals and dental students about their seat belt habits. The data from this pilot study will be analyzed along with other data concerning oral trauma caused by car accidents. Conclusions will be made concerning the relationship between seat belt use and oral injuries and the role of the dentist in prevention. If a dentist could influence their African American patients to increase their seat belt usage, an estimated 26,000 injuries could be prevented each year.

If dentists could influence their African American patients to increase their use of seat belts, many oral injuries could be prevented.

51. Dental Education and Improving Oral Health

This study aims to improve the oral health of African American preschoolers through dental education.

Proper brushing and flossing technique are key components to maintaining a healthy dentition. When improper technique is used it can result in an increase in caries. Sometimes, the primary dentition is victim to improper technique. Some parents and children deem the primary dentition unimportant because they are eventually replaced by the permanent dentition. They are unaware of the role of the primary teeth in the development and eruption of the permanent dentition.

This study aims to improve the oral health of African American preschoolers through dental education. Preschoolers from different daycare centers will be educated on proper brushing and flossing. After this instruction each child will be screened for caries. Six months later, these children will be screened again. At that time a comparative study will be conducted from the two visits. We will investigate the role of dental education in caries development. Preliminary results, based on an earlier study, shows that overall oral health was improved after the children were given dental education.

Dental Education improves the overall oral health of those who receive it.

52. Oral Candida and Disease Control in Non Insulin Dependent Diabetes Mellitus
Toth, Tibor, University of Texas Health Science Center at San Antonio Dental School, Redding, Spencer, University of Texas Health Science Center at San Antonio Dental School, Reasner, Charles, Texas Diabetes Institute, San Antonio, Kirkpatrick, W., University of Texas Health Science Center at San Antonio Dental School, Patteson, T., University of Texas Health Science Center at San Antonio Dental School
The purpose of this study was to compare the prevalence and epidemiology of oral Candida colonization in patients with poorly and well controlled non-insulin dependent diabetes mellitus (NIDDM). Diabetes mellitus has been shown to be a risk factor for oropharyngeal-candidiasis (OPC). The study involved 31 subjects (ranging from 30 - 70 years with a mean age of 52.8 years) with previously diagnosed NIDDM (1-25 yrs). Sixteen patients with poorly controlled NIDDM (HbA1C > 10) and fifteen well controlled NIDDM subjects (HbA1C < 7) were tested. Patients were evaluated for denture wearing, age, gender, and smoking. Clinical samples were obtained by swabbing the tongue and oral mucosa and by having patients swish and spit 10 ml of normal saline. Two different methods for culturing Candida were performed for each subject.

The swab culture was plated on blood agar and evaluated for growth. Resistant cultures were identified to species using germ tube and API 20C testing. The swish culture was diluted (10 to 1) and plated on CHROMagar to determine species. All cultures were incubated for 48 hours at 30 C.

The prevalence of oral Candida colonization in patients with HbA1C > 10 was 84.6% and in patients with HbA1C < 7 was 27.7%. After controlling for the effect of denture wearing, age, gender, and smoking glycosylated haemoglobin greater than 10% was highly predictive of the presence of oral Candida.

The most common species was C. albicans (13 patients). C. glabrata and C. parapsilosis were found in one patient each but this showed no relation to diabetic control as one was found in a controlled and one in a non-controlled patient.

This study shows that patients with poorly controlled NIDDM have a high prevalence of oral Candida colonization and this may predispose them to oropharyngeal candidiasis. C. albicans remains by far the predominant organism in colonization.

53. The Impact of Kansas House Bill 2724: Perceptions of Kansas Dental Hygienists and Dental Assistants

Villapando, Tanya E., University of Missouri - Kansas City School of Dentistry, Gadbury-Amyot, Cynthia C., University of Missouri - Kansas City School of Dentistry, Overman, Pamela, University of Missouri - Kansas City School of Dentistry, Peters, Ralph, University of Missouri - Kansas City School of Dentistry

The purposes of this study are to: (1) compare overall perceptions of dental hygienists and dental assistants related to House Bill 2724; (2) compare perceptions of dental hygienists and dental assistants on how HB 2724 has addressed access to care and manpower issues and; (3) examine the impact on delivery of preventive care in Kansas since the initiation of HB 2724.

In April 1998, the Kansas Legislature passed House Bill 2724 as a solution for addressing access to care and manpower issues in Kansas. Successful completion of a Kansas Dental Board approved course allows dental assistants to perform coronal scaling and polishing of teeth as part of a routine oral prophylaxis. Survey research was used and all Kansas registered dental hygienists and dental assistants, who have completed the training course approved by the Kansas Dental Board to perform coronal scaling of teeth, were chosen to participate. Overall perceptions of both groups were similar. Both reported being happy in their professions, and respected by their dentist employers. In regards to access to care, 79% of dental hygienists strongly disagree and 89% of dental assistants agree that the enactment of HB 2724 was the best answer for Kansas to increase access to care. The majority of dental assistant respondents were from metropolitan areas, suggesting access to care in underserved areas has not been met. Eighty-two percent of dental hygienists do not feel HB 2724 has relieved dental hygiene manpower needs in Kansas. However, 79% of dental assistants do feel it has relieved dental hygiene manpower. Sixty-two percent of dental hygienists reported their perceptions of how dental care is delivered in Kansas has changed while 54% of dental assistants responded their views on delivery of dental care haven’t changed. Thirty-four percent of dental hygienists agree to strongly agree that HB 2724 has not changed their views of how dental hygiene is practiced in Kansas.

Dental hygienists are happy in their profession. They did not perceive HB 2724 as the answer for Kansas to increase access to preventive care, and felt the delivery of care in Kansas has changed since the enactment of the Bill. Dental assistants feel more residents of Kansas are receiving preventive care as a result of HB 2724. The impact on both dental hygiene and dental assisting is yet to be determined. HB 2724 was proposed as a method of increasing the availability of preventive services to Kansas residents in underserved areas. However, the results do not indicate it has met the original intent of the Bill with the majority of scaling dental assistants located and employed in metropolitan areas of the state.

54. Improving Access to Dental Care: Pediatric Patients with Special Needs

Wilson, Robert G., University of Mississippi School of Dentistry, Ekland, Neva P., University of Mississippi School of Dentistry, Dungey, Stephanie, University of Mississippi School of Dentistry, Bakelaar, Tim, University of Mississippi School of Dentistry, Dvorak, Amy, University of Mississippi School of Dentistry, Payne, Thomas, University of Mississippi School of Dentistry

Purpose: To develop innovative programs for pre/post-graduate dental education that address disparities in oral healthcare delivery for special needs patients.

The recent Surgeon General’s Report revealed disparities in oral health care for children with special needs. It has been reported that over half of U.S. dental schools devote less than 5 percent of clinical time to this population. In an effort to reduce oral health disparity in Mississippi, the University of Mississippi Medical Center’s School of Dentistry and Department of Pediatrics (Medicine) established the Children’s Hospital Dental Service, a rotation for dental and medical students and residents. A record audit was performed and a descriptive analysis completed. The following variables were observed: demographics, method of payment, medical diagnosis, and dental problems. Preliminary data reveal that 70% of patients are African American, 30% Caucasian, age range 12 months-14 years, the majority (33%) residing within a 50-mile radius of the Medical Center. Ninety-four percent are Medicaid recipients. Across age and race, neurological deficit (43%) (i.e., MR, autism, developmental delay) is the most common presenting medical diagnosis. Dental caries (65%) and poor oral hygiene (86%) are the most prevalent dental problems. This study reveals that while these patients have complex medical diagnoses their dental problems are common and treatable. Programs that afford students and residents the opportunity to manage patients with special needs are necessary to reduce oral healthcare disparities and improve access to care for this population.

Programs that afford students and residents the opportunity to manage patients with special needs are necessary to reduce oral healthcare disparities and improve access to care for this population.

55. Implementation of Esthetic Curriculum into the Predoctoral Curriculum: A Two-Year Study

Yang, Jean A., Harvard School of Dental Medicine, Sobel, Mort, Harvard School of Dental Medicine, Ferguson, Michael B., Harvard School of Dental Medicine

Purpose: To study the effectiveness of incorporating a longitudinal esthetic curriculum into the predoctoral curriculum to
help prepare predoctoral dental students for treating esthetic cases. The popularity and demand for esthetic dentistry has increased dramatically in the past decade. This “cosmetic revolution” has been fueled in part by new discoveries and improvements in esthetic restorative materials. Patient benefits from these new restorative materials are not limited to improved esthetics, but also include more conservative preparations and less chair time. Since it is increasingly likely that dentists will encounter patients who are seeking elective esthetic dental treatment, it is important that dental schools prepare their students to meet the future demands of their patients. At Harvard School of Dental Medicine, we incorporated a longitudinal esthetic curriculum into the pre-existing predoctoral curriculum. The topics discussed included smile analysis and design, microhybrids, bleaching, porcelain inlays and onlays, injectable orthodontics and implant design, with an emphasis on esthetic treatment planning. Under the supervision of a faculty member, students were also able to treatment plan and treat their own patients requiring esthetic procedures in the student clinic. As a result, after two years of implementation, our predoctoral students have successfully treatment planned an average 22 cases per year. Specifically, preliminary results after one year of implementation shows that there have been 60 bleaching cases, 36 veneers and 13 all porcelain crowns completed. We have also designed a simple, yet comprehensive smile analysis form to aid our students in analyzing and offering esthetic treatments to their patients. These cases not only benefit the school financially, but also better prepare our students for treating esthetic cases as future practitioners.

Incorporation of esthetic curriculum into the predoctoral curriculum has better prepared our students for treating esthetic cases as future practitioners.

56. A Method of Teaching Multiculturalism and Diversity in a Postdoctoral General Dentistry Training Program

Zdanowicz, John, Harvard University School of Dental Medicine

Purpose: Provide residents with the knowledge, skills and sensitivity necessary to practice in a diverse, multicultural environment and involve the residents in planning the course, using a problem-based approach and tailoring it to their respective interests.

American society is becoming increasingly diverse, however, students receive scant training in multiculturalism and diversity in dental school. This project describes a method developed to teach multiculturalism and diversity to the AEGD residents at Harvard School of Dental Medicine. The residents rate their interest in a list of ten potential topics on a scale of 1 (high interest) to 5 (low interest) from which six topics are selected. They submit two questions and an actual problem example for each topic and the classroom sessions are developed to provide related background information and to address the pre-submitted questions and problem examples. Supplementary reading materials, selected video clips, role playing and small group discussion with a skilled facilitator are also utilized. A total of eleven AEGD residents have participated in the sessions over two academic years. The residents were asked to make a pre- and post-course self-assessment of their knowledge and ability in six areas on a continuum from 1 (a low degree) to 10 (a high degree). The post-course mean scores were all higher however the differences were not statistically significant. Agreement with four statements about the course which related to the planning, pertinence to clinical practice, the degree to which the questions and problem examples were addressed and ability to express thoughts and feelings in an uninhibited manner was assessed and an overall mean score of 7.5 on a scale from 1 (strongly disagree) to 10 (strongly agree) was obtained. Satisfaction with background information, handouts, videos and role-playing received an overall mean score of 7.4 on a scale from 1 (neither useful nor effective) to 10 (very useful and effective). The course overall was rated 7.8 on the same scale.

Preliminary findings indicate this approach to teaching multiculturalism and diversity has merit as a way to introduce this discipline to post-doctoral dental education programs.

Block II
Monday, March 4
4:30 p.m. - 6:00 p.m.

57. Clinical Simulation and Foundation Skills: An Integrated Multi-Disciplined Approach to Teaching


As part of a new highly-integrated curriculum at NYU College of Dentistry, a course sequence called Clinical Simulation and Foundation Skills was developed. The course integrates multiple disciplines into a thematic curriculum for first year predoctoral students. In contrast to the former discipline-focused preclinical program, the new program is formulated in a model that presents risk assessment, evaluation, disease management, and outcomes assessment. The D1 course presents basic concepts, definitions, principles of instrumentation, caries and periodontal disease as infectious diseases, and provides ranges of options for disease management. Students gain an understanding of occlusion, diagnostic wax techniques, and management of defects in single teeth including esthetics and esthetic restorations. In addition, they develop diagnostic skill, ability to assess risk, and skill in performing technical procedures including evaluation of results. Each topic is presented in the context of a patient family established at the beginning of the course.

Representative of each discipline who taught in the previous discipline-focused curriculum met weekly during the school year. Repetition and redundant teaching was identified with all members of the group developing the integration process.

This process produced a new integrated two-year curriculum that is now being implemented. Through cooperative, outcomes-focused planning, multiple disciplines created an innovative program introducing first year predoctoral students to general dentistry in manners that stress integration and application of concepts to practical problems and real-life dilemmas in general dentistry.

58. Method for Incorporating Lead Up Activity Into an Operative Preclinic Technique Course

Boberick, Kenneth G., Temple University School of Dentistry

Purpose: Present a method to introduce lead up activity into a preclinic technique course using an ivorine block and custom fabricated stamp.

Lead up activity provides a useful training experience for teaching the motor control skills that may be prerequisites for successful cavity preparations. However, commercially available products have a limited number of outline forms and are expensive. Purpose: Present a method to introduce lead up activity into a preclinic technique course using an ivorine block and custom fabricated stamp.

Method: Using permanent ink and a custom-made stamp, outline forms of posterior teeth were imprinted onto four sides of a 5/8 x 5/8 inch block. Using self-instructional handouts and a criterion based evaluation form; students prepared and evaluated 48 Class I
(12 per side) and 4 Class II outline forms. Results: Students responded positively to the exercise reporting the large number of outline forms was especially beneficial. Most students required preparation of all four sides of the block before achieving acceptable performance levels: indicating high volume may be necessary for lead up activity to be successful. Errors in outline dimension (depth and width) showed the most improvement from side one to side four (66% error to 21% error) while errors of refinement showed the least improvement (66% error to 42% error). Conclusions: The described method provides a useful training experience for teaching motor control skills with the following advantages and disadvantages noted by faculty and students. Advantages: 1) custom imprint designs are possible, 2) large number of outline forms, 3) decreased cost over commercially available products. Disadvantages: 1) manual stamping may produce some unacceptable imprints, 2) no layering of material to simulate dentin and pulp tissue, 3) all sides of the block do not have similar "grain" resulting in variable tactile feel during preparation.

Conclusions: The described method provides a useful training experience for teaching dental motor skills. Advantages: 1) custom imprint designs are possible, 2) large number of available outline forms 3) decreased cost over commercially available products. Disadvantages: 1) manual stamping may produce some unacceptable imprints, 2) no layering of material to simulate dentin and pulp tissue, 3) all sides of the block do not have similar "grain" resulting in variable tactile feel during preparation.

59. Student Perceptions of Amalgam Properties for Class I Cavity Preparations

Boston, Daniel W., Temple University School of Dentistry; Sitzamer-Alperstein, Klara, Temple University School of Dentistry, Gray, Sarah A., Temple University School of Dentistry

Purpose: To determine the distribution of student-identified advantages and disadvantages of amalgam for Class I restorations. To compare these perceptions to our curriculum. Student emphases & agreement with curriculum can provide insight into critical thinking and the evidence base for their decision-making and may provide cues for curriculum revision.

Method: Seniors enrolled in an elective course (N=18) completed an open-ended survey and listed their perceptions of amalgam advantages and disadvantages. Each student provided as many statements as he or she believed was clinically relevant. They provided 35 statements 149 times: 22 disadvantages 72 times (range 1-15 students per statement) and 13 advantages 77 times (range 1-14 students per statement). Each was categorized by us as C-clinical P-physical T-technical or H/E=health/environmental properties. Curriculum content was determined by review of required textbooks (Sturdevant, 1995 / O’Brien, 1997). % of category (C, P, T, H/E), % of total responses, and % of students listing each property were calculated for each of the 35 student responses. Agreement with curriculum and a list of overlooked properties were generated.

RESULTS: Category was the largest within the disadvantages student list with "removal of tooth structure" mentioned by 83% of students. C category was the largest in the advantages student list with "long lasting" mentioned by 44% of students. Most frequent advantage response was "low cost", mentioned by 78% of students. P category had 6 properties listed as disadvantages but only one: "good compressive strength" as an advantage. These represented 22% of all "advantages" responses and only 9% of "advantages" responses. H/E properties were listed by 44% of students (14% of all responses), all as disadvantages. 97% of responses were taught in the curriculum, as indicated by comparison with textbook review. 9 properties e.g. "low early strength" were found in the textbook review but were overlooked by the students.

Student perceptions were mostly from the curriculum. Omissions and selective emphasis indicate students formed opinions based on clinical practice and technical issues, with less reliance on physical properties of amalgam. Broader consideration of available evidence within the curriculum may be indicated.

60. Reflections on Clinical Practice by First Year Dental Students

Boyd, Linda D., Oregon Health and Sciences University School of Dentistry

A pilot study to explore how reflection about clinical experiences in the predoctoral and postdoctoral Periodontology clinics may facilitate the development of critical thinking in first year dental students by assisting them in integrating their didactic coursework with clinical care.

Methods: A qualitative study using three (3) semi structured interviews, two (2) clinical observations, and sixty-eight (68) written reflection papers from students completing their first year of the dental curriculum. The interviews and observations were used to validate the findings from the written reflection papers. A qualitative approach was used for this study for the following reasons: 1) to investigate how dental students are connecting prior knowledge with new experience, 2) to explore the student reflections and elucidate the process of the development of critical thinking and not merely the outcome, and 3) to give a ‘voice’ to the dental students about their first experiences in the dental clinic. The analytic approaches used include both Luborsky’s thematic analysis and Strauss and Corbin’s grounded theory. Results: Using the grounded theory approach the data suggests that during and after the clinical experience the student goes through a process of questioning what they see or think they know to making connections with prior experience and knowledge, to looking at what they know in a new way, and finally to recognizing the need to take some action to provide care to the patient. Using Luborsky’s thematic analysis the following themes emerged: 1) the dental students ‘view’ of what it means to be a dental professional, 2) the importance of the doctor-patient relationship, 3) the differences between the periodontal disease in their patient and the relative gingival health of the classmates’ mouths they had been exposed to in practice clinics, and finally 4) students described the experience of connecting what they had learned in class with a ‘real’ patient as being somewhat disorienting and even overwhelming at times.

Often during the first and second year of the dental curriculum, students have little time to process and learn the massive amounts of didactic material in a meaningful way. Reflecting on experience is the way the learner ‘makes meaning’ out of what they learn. ‘Making meaning’ is an integral component of the models of critical thinking. A method to facilitate this process is to have students keep a clinical journal or write reflection papers in which they record their thoughts on what they are learning and how it connects with their clinical practice. If an outcome of dental education is to promote critical thinking, then ways must be found to encourage this process in dental students throughout the curriculum.

61. Evaluation of the Effectiveness of Mandatory and Voluntary Continuing Professional Education for the Continuing Competency of Minnesota Dental Hygienists

Brickle, Colleen M., Normandale Community College

Purpose: To develop and conduct an evaluation process to assess the the mandatory and voluntary continuing professional education requirements in maintaining and ensuring the continuing competency of dental hygienists licensed in Minnesota. This project also identified
voluntary professional activities and methods used by health care professionals to demonstrate, maintain, and ensure continuing competency.

Dental hygiene is an evolving profession, and dental hygienists must remain competent to meet clients’ oral health care needs. The Minnesota Board of Dentistry mandates continuing professional education (CPE) activities to ensure continuing competency of dental practitioners. The system has been in place for 30 years, and there is a lack of evidence that mandated CPE activities are effective in assuring clinically competent dental hygienists. This project evaluated the effectiveness of mandatory and voluntary CPE activities for the continuing competency of dental hygienists. The research questions addressed were as follows: What are the appropriate criteria to be considered in evaluating mandated and voluntary CPE activities to ensure the continuing competency of dental hygienists? What specific content should be included in an instrument that might measure the effectiveness of mandated and voluntary CPE activities on continuing competency of dental hygienists? What is the appropriate format for an instrument that might measure the effectiveness of the mandatory and voluntary CPE activities on continued competency? Are mandated CPE requirements and voluntary activities effective in maintaining continuing competency of Minnesota dental hygienists? and what changes, additions, or deletions should be made in CPE activities given the evaluation results? The development problem-solving methodology was used to develop an evaluation instrument. The evaluation problem-solving methodology used the instrument to gather and assess the data. Formative and summative committee members assisted with procedures for both methodologies. The survey was designed to evaluate the effectiveness of mandatory and voluntary CPE activities at three levels: learning, application, and results. The survey results were compared to the established criteria to determine the effectiveness of CPE activities used to maintain competency of dental hygienists. The mandatory CPE activities that met the criteria at all three levels were programs one to two days in length, programs more than two days, and programs with a lecture and clinic and/or lab. The only voluntary CPE activity was teaching dental hygiene. From the results of the study, it was recommended that the Minnesota Board of Dentistry (BOD) should continue CPE activities that met the established criteria. Next, CPE sponsors include more formal CPE activities of one day or longer, develop non-traditional offerings, and continue to use adult education principles. Last, this study, or a similar one, should be repeated at regular intervals to evaluate the effectiveness of various types and formats of CPE activities for the continuing competency of dental practitioners.

Given the results, the Minnesota Board of Dentistry and approved CPE sponsors should realize that a paradigm shift is needed regarding CPE activities that have been in place for 30 years. The change process regarding continuing education competency of dental professionals should start by creating authentic communication, as well as a shared vision developed and adopted by all individuals involved in the process, in order to protect the health, welfare, and safety of the public.

62. All Dressed Up and No Patient to Treat

Bruce, Stephen L., University of Medicine and Dentistry-New Jersey Dental School Clinical Affairs, Conte, Michael, University of Medicine and Dentistry-New Jersey Dental School Clinical Affairs, McDermott, Ival G., University of Medicine and Dentistry-New Jersey Dental School Clinical Affairs

Purpose: To show how New Jersey Dental School students broadened their clinical experience and increased productivity by participating in an alternative activities program; to show clinic income generated and determine how many of these extra scheduled patients were assigned to the treating students, and to compare how different comprehensive care groups utilized their non-clinical contact time.

What do dental students really do when a patient disappoints? At New Jersey Dental School, students participate in a new alternative activities program maximizing learning during patient-less clinical sessions using extra referable patients per session. This five part program researched four comprehensive care groups (n-149) at NJDS for six months. Objectives were to assess reasons for non-clinical experience, obtain data on student activities, compare groups to see if patient-less sessions were better utilized, assess clinic income and procedure productivity, and ascertain if extra patients were assigned to the treating student. A new sign-in form tracked data correlated by the Clinical Management Information System (CMIS) at NJDS; non-clinical contact data, patient assignment and treatment data were tracked by CMIS. The results showed students increased productivity, many of these referable patients were assigned the treating student, and clinic income was enhanced. This study presents alternative activities options for other dental schools to counteract patient-less clinical sessions. Learning is maximized, productivity multiplied, student morale enhanced, requirements met, and clinic income generated. A win-win situation for all parties!

Our long range objective is to use this data school-wide, to improve learning and clinical productivity during patient-less sessions.

63. Reasoning Process Characteristics in the Diagnostic Skills of Beginner, Competent, and Expert Dentists

Crespo, Kathleen E., University of Puerto Rico School of Dentistry, Torres, José E., University of Puerto Rico School of Dentistry, Recio, María E., University of Puerto Rico School of Dentistry

The purpose of this study was to evaluate qualitative differences in the diagnostic reasoning process at different developmental stages of expertise. A qualitative design was used to study cognitive processes that characterize the diagnosis of oral disease at the stages of beginner, competent and expert dentists. Individually each participant (5 / developmental stage) was asked to determine the diagnosis of an oral condition based on a written clinical case, using the think aloud technique and retrospective reports. A subsequent interview was conducted to obtain the participants’ diagnostic process model and patho-physiology of the case. The analysis of the verbal protocols indicated that experts referred to the patient’s sociomedical context more frequently, demonstrated better organization of ideas, had the capacity to determine key clinical findings, and an ability to plan for the search of pertinent information. The number of diagnostic hypotheses formulated was related to the use of a forward reasoning process rather than backward reasoning, independent of the stage of development. Beginners requested additional diagnostic aids (radiographs, laboratory tests) more frequently than the competent/expert dentists. When analyzing the case, experts recalled typical experiences with patients while competent/beginner dentists recalled information from didactic courses. Experts evidenced cognitive diagnostic schemas that integrate patho-physiology of disease, while competent and beginner participants had not achieved this integration.

We conclude that expert performance is a combination of a knowledge base, reasoning skills and an accumulation of experiences with patients that make it qualitatively different from that of competent and beginner dentists. It is important for dental education to emphasize the teaching of cognitive processes and to incorporate a wide variety of clinical experiences in addition to the teaching of disciplinary content.
64. Using Simulations to Teach Patient Assessment Skills
Cunningham, Marsha A., University of Iowa College of Dentistry; Rubright, David, University of Iowa College of Dentistry; Johnson, Lynn, University of Iowa College of Dentistry

Purpose: To evaluate the use of a patient simulation program to define minimum competency in patient assessment skills. Patient simulations provide a standardized method to measure educational outcomes. The purpose of this project was to evaluate the use of a patient simulation program to define minimum competency in patient assessment skills in 5 areas: physical health, emotional/mental health, functional status, current medications and oral health. Second year dental students (n=75) were assigned to complete one orientation simulation and 4 simulations randomly selected from 10 possible simulations. Students identified patients' problems by selecting from a problem list / decision tree developed by a multi-disciplinary group of faculty. Student performance on each simulation was scored as a percentage of correctly identified problems. Results of this study reveal students' individual scores ranged from 70% to 100% and scores per case ranged from 71% to 97% (mean=85%). This program generates data for each simulation and for each student. Faculty can use these data to structure class discussion for review or to design remediation for individual students. For each student, the total percent correct, amount of time spent in each simulation, missing problem list items and the total number of problems selected are reported. For each simulation, the frequency of missed problem list items is reported. In conclusion, CD-ROM patient simulations are a useful tool to measure dental students' patient assessment skills and to provide outcome performance feedback directly to the student and to the faculty. This patient simulation program, designed for dental and dental hygiene students, has been modified from an original project created at The University of Iowa College of Dentistry in 1991-94 with support from U.S. Bureau of Health Professions Grant #5D37AH00159-02.

CD-ROM patient simulations are a useful tool to measure dental students' patient assessment skills and to provide outcome performance feedback directly to the student and to the faculty.

65. The Relationship of Performance in Dental School Basic Science Courses and Performance on Part I of the National Board Dental Examinations
De Ball, Suzanne, Indiana University School of Dentistry

The hypothesis that grades in dental school basic science courses would be significant predictors of Part I of the NBDE was tested. The hypothesis that performance in dental school basic science courses would be a significant predictor of Part I National Board Dental Examinations scores was tested. The basic science grades and the scores on Part I of the NBDE for the 114 students matriculating in the University of Mississippi School of Dentistry in 1992, 1993, 1994, and 1995 were analyzed by multiple regression. The results indicate that at least one basic science student grade was a statistically significant predictor of student performance on each section of Part I of the NBDE. Student performance in Physiology was a statistically significant predictor (p value less than or equal to 0.05) of all four sections of Part I of the NBDE. Dental Morphology grades were statistically significant predictors of NBDE anatomic sciences and dental anatomy and occlusion. Pathology grades were statistically significant predictors of microbiology-pathology and dental anatomy and occlusion. Neuroanatomy grades were inversely related statistically significant predictors of microbiology-pathology and biochemistry-physiology. Microscopic Anatomy grades were statistically significant predictors of biochemistry-physiology. Microbiology grades were statistically significant predictors of microbiology-pathology. Biochemistry grades were inversely related statistically significant predictors of dental anatomy and occlusion. Grades in Gross Anatomy and Dental Occlusion were not significant predictors of student performance on Part I of the NBDE.

66. Career Selection Motivation and Student Perceptions of the Dental Hygiene Profession
DeAngelis, Susan, University of Arkansas for Medical Sciences, Dean, Kim, West Ark College

Purpose: To facilitate recruitment efforts and potentially enhance retention and career satisfaction of graduates, this study sought to provide a modal description of dental hygiene students and applicants in the 21st century, assess the reasons for choosing dental hygiene as a career, and evaluate the perceptions of both applicants and enrolled students with regard to some of the aspects that characterize the dental hygiene profession.

A questionnaire was administered to 222 enrolled and prospective dental hygiene students at the two Arkansas dental hygiene programs. The overall response rate was 71% (n=157). The average respondent was 22 years old, female, and Caucasian with a GPA of 3.5 and a composite ACT score of 23. For most, dental hygiene was the first career choice, and over half reported prior dental assisting experience. Dental hygienists and dentists were reported as the most influential in providing career guidance, while high school and college guidance counselors were least influential. Most respondents chose the profession to “work with and help people” followed by the flexibility of work schedules, good salaries, and desire for a health-related career other than medicine. Few students reported choosing dental hygiene in lieu of a career as a dentist. Overall, dental hygiene was viewed as offering a “bright future” in terms of job security, good salaries, flexible work schedules, diverse career opportunities, and personal responsibility, although the strength of these perceptions changed as students entered the second year of the programs (p<.05).

This study has implications for dental hygiene programs, particularly those wanting to increase the quality, quantity, and contentment with the profession of prospective students. The demographic characteristics of the average dental hygiene student have not changed significantly, leaving the recruitment of minorities and males into the profession an issue. As contact with dental professionals was found inspirational, dental hygiene programs may consider mentoring programs and “career days” that promote contact between high school and undergraduate college students and oral health professionals. Dental hygiene programs should also examine the potential impact of career counselors at local “feeder” high school and colleges on student recruitment and devise appropriate measures to improve lacking relationships.

67. Student Resources on Dental School Web Sites
Ranzurmal, Mina, University of Medicine and Dentistry of New Jersey-New Jersey Dental School; Panagakos, Fotinos S., University of Medicine and Dentistry of New Jersey-New Jersey Dental School, DeCastro, Jeannette E., University of Medicine and Dentistry of New Jersey-New Jersey Dental School

Purpose: The purpose of this study was to evaluate the availability and accessibility of information provided to students on dental schools' websites. As the internet’s role as a communication tool in the dental school environment increases, so does the importance of making the right information accessible to students. The purpose of this study was to evaluate the availability and accessibility of information provided to students on dental schools’ websites. An assessment list was developed based on the topics available for students on five dental school web sites. An NJDS dental student used this list to survey 54
The purpose of this study was to examine the predictive reliability of incoming grade point average, incoming math/science grade point average, and Scholastic Aptitude Test scores in measuring success in dental hygiene education.

Success in dental hygiene education was defined in terms of (1) Dental Hygiene National Board score (N-BRD) and (2) Dental Hygiene GPA at graduation (DH-GPA). First, the study examined which of five independent variables best predicted success in dental hygiene education. The variables examined included incoming GPA (I-GPA), incoming math/science GPA (MS-GPA), total SAT score (T-SAT), verbal SAT score (V-SAT), and math SAT score (M-SAT).

In conclusion, the combination of incoming grade point average and total Scholastic Aptitude Test score was the best predictor of success in the Medical College of Georgia dental hygiene curriculum. Incoming grade point average was the best predictor of success in the National Board Dental Hygiene Examination. Data from this study will be used to improve the admissions process in Dental Hygiene at the Medical College of Georgia.

68. The Effectiveness of an Early Arrival Summer Program on the Academic Performance of First Year Dental Students from Disadvantaged Backgrounds

Deen, Lisa P., Temple University School of Dentistry; Stark, Alan M., Temple University School of Dentistry

Purpose: To describe the effect of a seven week summer preparatory program for dental students from disadvantaged backgrounds.

In an effort to improve the retention of students from disadvantaged backgrounds, Temple University School of Dentistry established a seven-week Early Arrival Summer Program, consolidated with Temple University School of Medicine students. The primary focus of the program is to provide an introduction to the first professional year. The objectives of the program are to facilitate management of the professional school curriculum and acclimate the student to professional school life. A comprehensive curriculum taught by the faculty assigned to teach first year students Biochemistry, Histology, Anatomy, Physiology, Dental Materials and Restorative Dentistry was developed. Seminars in Cultural Competency, test taking strategies and conflict resolution balance the preparatory experience. Forty-one dental students from disadvantaged backgrounds participated in this program in the previous three years. This represents 56% of matriculants identified as disadvantaged. Thirty-eight percent of the non-participants (n=16) received at least one failing grade in at least one course in the first year. The Summer Program curriculum is evaluated via specific outcomes assessments performed annually. Our conclusion is that students from academically, economically, and socially disadvantaged backgrounds benefit, academically, from a seven week preparatory program prior to matriculation.

69. Predictors of Success in Dental Hygiene: A 6-Year Review

Downey, Mary C., Medical College of Georgia School of Dentistry; Collins, Marie A., Medical College of Georgia School of Dentistry; Browning, William D., Medical College of Georgia School of Dentistry

The purpose of this study was to examine the predictive reliability of incoming grade point average, incoming math/science grade point average, and Scholastic Aptitude Test scores in measuring success in dental hygiene education.

Success in dental hygiene education was defined in terms of (1) Dental Hygiene National Board score (N-BRD) and (2) Dental Hygiene GPA at graduation (DH-GPA). First, the study examined which of five independent variables best predicted success in dental hygiene education. The variables examined included incoming GPA (I-GPA), incoming math/science GPA (MS-GPA), total SAT score (T-SAT), verbal SAT score (V-SAT), and math SAT score (M-SAT). The study then determined which combination of variables would most reliably predict DH-GPA and N-BRD scores. Academic transcripts and admissions documents of 134 students comprising the Medical College of Georgia Dental Hygiene Classes of 1996-2001 were reviewed. I-GPA, MS-GPA, T-SAT, V-SAT, M-SAT, N-BRD scores, and DH-GPA data were documented on a spreadsheet using nontraceable identifiers. A forward, step-wise, multiple linear regression was used to analyze the data. I-GPA was the most significant predictor of success in dental hygiene education. Analysis showed that the student’s DH-GPA was best predicted by knowledge of both the I-GPA (p<.001) and T-SAT (p<.004). Only the I-GPA (p<.001) was significant in predicting N-BRD scores. Results determined that an efficient admissions model for predicting the DH-GPA of a prospective student would be 1.689 + I-GPA X 0.375 + T-SAT X 0.000603. To predict a prospective student’s Dental Hygiene N-BRD score, the formula 65.543 + I-GPA X 5.984 would be most effective.

In conclusion, the combination of incoming grade point average and total Scholastic Aptitude Test score was the best predictor of success in the Medical College of Georgia dental hygiene curriculum. Incoming grade point average was the best predictor of success on the National Board Dental Hygiene Examination. Data from this study will be used to improve the admissions process in Dental Hygiene at the Medical College of Georgia.
that they found the visualization of their current oral condition on the monitor as a valuable aid in understanding their dental needs. 88% of the respondents understood the animated presentation of procedures that would be used in their treatment. 99% of the respondents indicated the mobile cart patient education system should be continued as an aid in understanding their oral conditions and various treatment modalities.

A self-contained mobile cart system composed of high tech components can be used to demonstrate visually the existing oral condition of a patient and also animated dental procedures needed to restore oral health. This visualization greatly enhances the patient’s understanding of their dental needs and dental techniques used to restore them to oral health.

71. Utilization of Intraoral Photography as a Diagnostic Tool and Aid in Assigning and Treating Patients in the Dental School and in Establishing a Baseline of Pretreatment Oral Conditions

Drahos, Gary L., University of Illinois College of Dentistry, Licari, Frank W., University of Illinois College of Dentistry; Burger-Zellinger, Rudolph, University of Illinois College of Dentistry

Purpose: To develop an intraoral photographic system to record pretreatment oral conditions providing a valuable baseline tool in assigning patients to students and developing treatment plans for patients.

Customarily, in dental schools across the U.S., new patients are given a general screening prior to admission and assignment to students. Color photographs taken at the initial appointment, along with dental charting and radiographs, provide a more complete diagnostic package. This allows quicker assignment to students in need of a particular type of dental patient. These photos consist of full-face, right and left occlusion, anterior, posterior and any additional photos that would show specific areas of oral needs. After the photos are printed and made a part of the patient’s permanent treatment record, all materials are archived on a CD. The photos provide a visual representation of the patient’s needs. Photographs taken at the screening appointment also establish a baseline for the initial condition of the mouth and serve as a reference for future treatment and possible legal considerations. Mid-treatment and completed treatment photos will also be taken to finalize the records for future treatment convenience. Patient response at the time of taking the photos has been excellent when shown to them via a 17” monitor used for educational purposes. The intraoral camera and monitor are housed in a mobile cart for use throughout the school. The project was evaluated by an anonymous questionnaire of 130 students, faculty and staff. Ninety-nine percent (99%) of the respondents indicated that the photographs provided valuable information on the patients initial oral condition and should continue to be part of the patient’s initial exam and retained as a permanent part of the patients record. Eighty-six percent (86%) of the respondents indicated that the photographs provided a valuable aid in assigning patients to students and in the initial treatment planning phase.

Taking intraoral photographs at the initial screening appointment provides a valuable diagnostic tool in providing a record of the initial oral condition of the patient as well as providing an aid in assigning patients and assisting students during initial treatment planning appointments.

72. New Technologies in Dental Education: A Survey of Second-year Tufts School of Dental Medicine Students Concerning PCs and the Internet

Eisen, Debbie S., Tufts University School of Dental Medicine, Eisen, Steven E., Tufts University School of Dental Medicine

The past decade has seen revolutionary changes in information technologies, which has made a significant impact on dental education. In this study we sought to begin assessment of how dental students are utilizing these new technologies.

During the spring term of 2001, 2nd year dental students at Tufts University School of Dental Medicine were surveyed concerning their reliance upon new information modalities like PCs, and the Internet, as opposed to more traditional modalities such as lectures, class notes, and textbooks. Respondents were also asked what advice they would give incoming students concerning which modalities they ought to rely upon during their studies of dentistry. Out of a class of 145 students, fifty-five respondents reported owning a personal computer, 20 (36.4%) a laptop, 3 (5.5%) both, while 9 (16.4%) owned neither. 28 (50.9%) students reported their computer use in dental school to be about the same as in college. 12 (21.8%) reported increased computer usage, whereas only 10 (18.2%) said that their computer use was less than it was in college, and only 4 (7.3%) reported no use of the computer.

Students were asked to rank sources of information, they would consult concerning technical dental issues. Instructors were ranked first by 24 (43.6%) respondents, lecture notes by 15 (27.3%), textbooks by 13 (23.6%), the Internet by 1 (1.8%). Two (3.6%) respondents included ‘other students’ as a first source of information. 17 (30.9%) respondents ranked textbook as their second most important source of information, while 15 (27.3%) ranked lecture notes second, 11 (20%) instructors second, and 5 (9.1%) the Internet as their second most important source. 16 (29.1%) respondents judged that learning via the Internet was a great time-savings benefit, 35 (63.6%) somewhat of a time-savings benefit and 4 (7.3%) found no time-savings benefit.

New technologies like personal computers and the Internet are beginning to impact the way dental students are learning dentistry and are starting to replace reliance upon more traditional instructional modalities. In this study, we found that students’ perceptions concerning the Internet as having great time saving benefits does not match their actual usage of it as a primary or secondary source of information. Possibly, current availability of useful information on the Internet may be a limiting factor as well as issues inherent with Internet access. As the technology improves and more resources become available on-line, then students’ usage may more closely reflect their expectations of the Internet’s usefulness as a learning tool.

73. Faculty Publication Patterns Relative to Academic Rank and Tenure Status

Fields, W. Thomas, University of Tennessee College of Dentistry, Scharbeck, Mark, University of Tennessee College of Dentistry

Twofold: Immediate - to describe patterns of faculty publication output. Long term - to provide a baseline to assess changes in such output following introduction of a new Post-Tenure Review process.

In 2000, the University of Tennessee instituted a new Post-Tenure Review process, recurring every six years and closely mimicking criteria for the initial award of tenure, i.e., assessment of tenured faculty performance in the areas of teaching, scholarship, service and patient care. The implementation of such a process suggests the perception that additional encouragement may be needed to sustain continued faculty growth and performance beyond the attainment of tenure. The purpose of this study is to determine if there is a discernible pattern of faculty publication productivity as faculty move through academic ranks and attain tenure. This initial descriptive study will provide a baseline for a six-year follow-up to see if the current pattern changes substantially following the introduction of the Post-Tenure Review. Ovid Medlines were run on each faculty member (85% FTE or greater). The Medlines were sent to the respective faculty for...
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confirmation of authorship, along with a brief survey seeking data on dates of appointment, promotion and tenure award. 94.7% responded (54 of 57). Results show tenured faculty with only 78.6% as many ppy (publications per year) as non-tenured faculty, including only 67.8% as many refereed articles but with 119% as many non-refereed articles. In general, the higher the academic rank, the higher the ppy recorded, from 0.10 ppy for instructors to 0.73 ppy for professors. Overall, faculty average 0.69 ppy with a median of 0.38 ppy. Based on faculty comments about incomplete reporting in the Medline database, faculty curriculum vitae are being collected to verify publication numbers. Early returns indicate that relying on the Medline database alone may underreport faculty publications as much as 60%.

Differences in publication rates by academic rank and tenure status were identified which need to be factored into an examination of changes in such rates following a new Post-Tenure Review process. These data will serve as a baseline for that examination.

74. Investigation of Attitudes Towards Student Advertising

Fredekkind, Richard E., University of the Pacific School of Dentistry, Peltier, Bruce, University of the Pacific School of Dentistry

Purpose: To ascertain student and faculty attitudes toward individual student advertising as a way of attracting new patients to the dental school clinic.

Over the years, a small but growing number of individual students at the University of the Pacific School of Dentistry have engaged in various forms of advertising as a way to attract patients to their clinic practice. Concerns have been raised by students and faculty about the style, content, and appropriateness of some of these advertisements. A 14-item survey was distributed (non-random and anonymous) to senior students and faculty to define these concerns, shed light on policy development, and initiate discourse. Sixty-two faculty members and 79 students participated. A trend analysis provided the following results. Fifty two percent of the total respondents felt that student advertising should be permitted while only 42% felt it should be encouraged. Respondents believed that advertising at local colleges was most appropriate (84% approval rating) while advertising on television was least appropriate (26% approval rating). Also considered were advertising in large newspapers (46%), small community newspapers (72%), bulletin boards (79%), radio (30%), the Internet (76%), and making presentations at schools or churches (82%). Students gave higher average approval ratings in all categories than did the faculty. The largest disparity between student and faculty opinions was advertising on the Internet and in small community newspapers (each 26 percentage points different). In only one category (advertising in large newspapers) did the majority of students (58%) believe it was appropriate to advertise when the majority of faculty (32%) felt it was not appropriate. Students noted that it was unfair to allow advertising as it tended to favor those with more money and more outgoing personalities. Faculty members were most concerned about the content of the advertising.

Student advertising was marginally supported overall. Students were generally more supportive of advertising than faculty, but neither group gave a strong endorsement. Students raised ethical issues related to fairness and faculty were concerned with advertising content.

75. Improving Faculty Teaching Skills Utilizing Standardized Dental Students

Gelurke, Kenneth W., University of Illinois College of Dentistry, Sabatia, Eva M., University of Illinois College of Dentistry, Tharp, Lina B. K., University of Illinois College of Dentistry, Gelula, Mark H., University of Illinois College of Medicine, Yudkowski, Rachel, University of Illinois College of Medicine

The purpose of this program is to provide faculty development training utilizing standardized dental students as a method for improving faculty teaching skills in the clinical setting.

Faculty involved in clinical instruction of pre-doctoral dental students generally have no formal training in educational theory and practice. The clinic environment requires that faculty provide instruction, as well as appropriate and meaningful feedback for students, within time constraints imposed by the busy clinical setting. A faculty development program to improve teaching skills has been developed in which dental clinical faculty engage in interactions with standardized dental students. These are actual dental students who are trained using scripted material to behave as “prototypical” dental students for a given encounter. Faculty are given a scenario to review prior to a 4-5 minute videotaped encounter with a standardized dental student. Each encounter represents a teaching problem that commonly occurs in the clinical teaching setting. A sample scenario involves a “disinterested student” who is consistently disorganized, unprepared for patient appointments, and has made little progress in completing essential clinical experiences. Five dental scenarios have been developed with 5 dental faculty members participating in each session, resulting in 25 interactions. The program also includes participants from the Colleges of Medicine, Nursing, and Pharmacy with similar numbers of students and faculty. Group discussion, analysis of videotapes, and strategies for improving teaching effectiveness are provided by up to six participants representing all four health science colleges. Two faculty development coordinators are present to facilitate these discussions. Additional programs have been conducted to allow faculty to implement skills and techniques developed in the previous sessions.

Faculty who have participated in this program have utilized techniques learned in these encounters to improve their clinical teaching effectiveness as evidenced by informal student feedback.

76. The Effectiveness of a Mock Board Experience in Coaching Students for the Dental Hygiene National Board Examination

Dadian, Taline, University of Texas Health Science Center at San Antonio Dental School, Geurink, Kathy M., University of Texas Health Science Center at San Antonio Dental School, Olney, Cindy, University of Texas Health Science Center at San Antonio Dental School, Littlefield, John, University of Texas Health Science Center at San Antonio Dental School

The purpose of this study was to evaluate the usefulness of a Mock Board as an experiential learning experience to help students gain familiarity with the question formats and the overall board exam experience.

A Mock Board is available through the American Dental Association to any student or dental hygiene program as a study aid for the Dental Hygiene National Board Examination (DHNBE). The purpose of this study was to evaluate the usefulness of this Mock Board as an experiential learning experience to help students gain familiarity with the question formats and the overall board exam experience.

A sensitivity-specificity model was applied to validate the Mock Board’s accuracy in identifying students who would pass or fail the DHNBE. A survey was conducted to assess students’ opinions of the Mock Board experience.

The Mock Board accurately identified success or failure on the DHNBE for 73% of the participants. However, the Mock Board’s sensitivity was much better than its specificity. A majority of students
reported the Mock Board motivated them to study and prepared them well for the national board experience. Comments showed, however, that students did not feel the Mock Board experience was as intense as taking the DHNBE.

Findings here indicate the Mock Board can be a valid and effective tool in coaching students for the DHNBE. Dental Hygiene faculty are urged to consider incorporating the Mock Board experience as a part of board preparation in their departments.

Findings here indicate the Mock Board can be a valid and effective tool in coaching students for the DHNBE. Dental Hygiene faculty are urged to consider incorporating the Mock Board experience as a part of board preparation in their departments.

77. Developing a Digital Library by Combining Learning Objectives
Glass, Birgit J., University of Texas Health Science Center at San Antonio Dental School; Guest, Gary G., University of Texas Health Science Center at San Antonio Dental School; Dodge, Bill, University of Texas Health Science Center at San Antonio Dental School; Dove, Brent, University of Texas Health Science Center at San Antonio Dental School

A new program combined several learning objectives to result in 85 documented cases, in an electronic format, of patients treated by senior dental students-the beginning of an electronic library with minimal cost.

Background: Although our laptop initiative was begun with freshman students, it was appropriate that other students be given opportunities to develop computer skills, especially seniors. Combining learning objectives, each senior student was required to:
1. Develop a case presentation using a specific software application (To demonstrate use of a computer). 2. Select a case with multiple treatment options (to demonstrate an understanding of informed consent). 3. Select a case for which radiographs would illustrate the case (to learn how to import a graphic). 4. Use a SOAP format for the case presentation (to demonstrate understanding of that format). 5. Give an oral presentation to a group of peers (to practice public speaking). 6. Critique peer presentations (to have more opportunities to see and hear other cases). Methods and Materials: 1. Instructions for the assignment and a lecture on “How to give an effective oral presentation” were given to seniors in early fall. 2. The class was divided into 4 groups with a faculty moderator, computer, and projector for each group. 3. Six one-hour sessions were scheduled in spring and students were assigned to 12-minute time slots. 4. Students in the audience gave written feedback on the presentations and completed a course evaluation questionnaire. Results: Eighty-five students developed and presented their cases to peers and faculty. Fifty-two responded to the evaluation questionnaire. The cases were categorized by discipline, the student and patient identification was removed and all were placed on a single CD. These were distributed to the class and will be available to faculty for teaching purposes.

Seniors indicated that developing a presentation in an electronic format and making an oral presentation was a beneficial experience for them. The school benefited in that it now has a good beginning for an electronic library for teaching purposes. The program will continue next year with improvements as suggested in the feedback comments.

78. Student Perceptions of an Online Dental Terminology Course
Grimes, Ellen B., University of Vermont

The purpose of this qualitative research study was to describe and analyze the experiences of students enrolled in an online dental terminology course to determine their satisfaction level with online learning. Exploring students’ perceptions regarding this new technology may lead to a greater understanding of the benefits and limitations of learning online and could be useful to programs considering the implementation of distance education initiatives and/or students planning to enroll in an online course.

Online learning is becoming a recognized method for delivering educational content throughout institutions of higher education. Few studies have been performed regarding online learning in dentistry or dental hygiene. The purpose of this qualitative research study was to describe and analyze the experiences of thirteen students enrolled in an online dental terminology course to determine their satisfaction level. The overall perceptions of online learning were positive and although some frustrations were apparent, the majority of students stated that they learned a great deal, found the course valuable and were now familiar with the terminology. Students commented on the convenience of taking the course at a time that fit their schedule and one in which they did not have to commute to attend. Technical issues and isolationism seemed to be the primary drawbacks to online learning. Some students missed the interaction that exists in a regular classroom. Students strongly suggested that in order to be successful in online education, one had to be a self-directed learner. In addition, visual learners were more apt to appreciate online learning than audio learners.

Therefore, the results of this study suggest that online learning was a valuable method for teaching dental terminology and is particularly beneficial for students with no other alternative methods for gaining access to the courses due to geographical location. Where appropriate, online courses should be considered as an option for providing distance education in dental hygiene programs.

79. Using Metaphors to Improve Metacognitive Skills of Oral Health Therapy Students: A Pilot Study
Gussy, Mark G., University of Melbourne

The purpose of this pilot study was to use metaphors to provide oral health therapy students insight into their personally constructed beliefs surrounding learning and to explore the potential for using metaphors to assist students teachers and others enhance their awareness of how these beliefs guide, influence and limit the potential for learning.

Metaphors have the potential to be powerful tools for learning. They can be used as a metacognitive tool for students to improve learning and teaching.

Eighteen second-year Oral Health Therapy students took part in a workshop to develop personal metaphors. They were then split into two groups. The experimental group was exposed to all metaphors through group discussion of the benefits and limitations of each one. The control group was not given the opportunity to discuss or explore the metaphors. In a questionnaire administered to both groups two weeks later they were asked to select metaphors that best described their current approach to learning and how they would ideally like to go about learning. They were also asked to indicate metaphors that best described the way they went about learning in different situations they had experienced.

The findings indicate that, without exception, all learners engaged different metaphors in different learning contexts. Differences between the two groups reveal that the experimental group was more strategic in their selection of metaphors in the different learning situations.

It was concluded that the use of metaphors for learning encouraged learners to reflect on their beliefs, assumptions and approaches to learning. This metacognitive knowledge may lead to the selection of learning approaches appropriate to each particular learning context and so to more successful learning. The metaphor can be used as a descriptive-linguistic tool for the clarification and
elaboration of concepts held by learners. This can provide teachers with insight into underlying patterns of thought and reason utilized by the learner.

**80. Review of Progress in Developing Programs and Educational Media for Junior Faculty Since 1998 President’s Task Force Report**

Herren, Michael C., *University of Kentucky College of Dentistry*, Armentrout, Timothy, *University of Kentucky College of Dentistry*

The purpose of this project was to review the most easily accessible sources of information for junior faculty to see what kind of progress we have made since the 1998 President’s Task Force on the Future Dental School Faculty was reported.

Recruitment and retention of Junior Faculty is an important issue facing dental education. The 1998 Report of the AADS President’s Task Force on Future Dental School Faculty outlined recommendations for addressing this problem. A search for potential sources of information for junior faculty development and was undertaken. The 54-Dental School Websites were accessed through the ADEA website in June 2001. Only 16% of the Websites had information on faculty development that would benefit junior faculty. A review of the JDE for the years 1999 and 2000 was performed to look for potential articles on faculty development that may be germane for junior faculty. In 1999 no articles were published addressing junior faculty development or recruitment. In 2000, one article addressed the problem of future faculty, no articles addressed junior faculty development. A review of the programs for the ADEA Annual Sessions during the same period was performed looking for programs dealing with junior faculty development and recruitment. In 1999, of the 19 faculty development workshops, one workshop specifically targeted junior faculty and four were germane to issues facing junior faculty. In 2000, of the 24 faculty development workshops, only one of the 24 targeted junior faculty. If the recruitment and retention of junior faculty is going to be successful we need to place more emphasis on developing and nurturing this group. The use of dental school web sites, faculty development workshops, and JDE articles excellent places to look for improved access to this group.

There is a need for more easily accessible information to assist junior faculty in developing.

**81. An Evaluation of Clinical Mock Boards and Their Influence on the Success Rate on Qualifying Boards**

Jessic, Stephen A., *University of Texas at Houston Health Science Center Dental Branch*

The purpose of this study was to test the relationship of the various aspects of mock boards given by U. S. dental schools with results obtained on the regional or state qualifying board(s) related to timing, structure, method of evaluation, graduation, and remediation.

An important responsibility of each dental school to their graduating dental students is exposure to and evaluation on a mock board that simulates one or more of the examinations given by their respective, regional testing agencies. Success on a mock board is usually a good indicator that the student will have similar results on the respective, regional testing agencies. The purpose of this study was to test the relationship of the various aspects of mock boards given by United States dental schools with results obtained on the regional or state qualifying board(s) related to timing, structure, method of evaluation, graduation, and remediation. A 20-item questionnaire was mailed to the regional testing agencies at the 53 accredited U.S. dental schools. A second and third mailing, each three weeks apart, was sent to schools not responding to the first or second mailings, respectively. Questions were designed to elicit responses to desired information outlined in the purpose of the study. Of the 53 schools, 94% returned the questionnaire. In the sample of respondents, the percentages of schools participating in the various qualifying exams were: CRTS=22%, NERB=42%, SRTA=20%, WREB=28%, Independent=22%, with a reported overall passing rate (greater than or equal to 70) of 58%. The median time between the mock board and the qualifying board was 7.5 weeks. Results indicated that no single aspect of the mock boards had an effect, either individually or collectively, on the qualifying board passing rate, resulting in a failure to reject the null hypothesis. Such findings may indicate that schools could focus their efforts on reassessing the restrictions and requirements imposed upon their students related to their mock board. A future study could include surveying recently graduated students on their opinions of the value of their mock board experiences.

Such findings may indicate that schools could focus their efforts on reassessing the restrictions and requirements imposed upon their students related to their mock board. A future study could include surveying recently graduated students on their opinions of the value of their mock board experiences.

**82. Using the Web to Enhance Communication Between Cleft Palate Specialists and Community Practitioners**

Johnson, Lynn A., *University of Iowa College of Dentistry*, Karnell, Michael P., *University of Iowa College of Dentistry*, Bailey, Philip C., *University of Iowa College of Dentistry*

Through the Craniofacial Center Collaboratory (craniofacialcenter.uiowa.edu/) The University of Iowa (UI) is improving communication between speech pathologists on the UI Cleft Palate-Craniofacial (Cleft) Team and patients’ community dentist & speech pathologist through a specialized Web site containing multimedia patient information. In the past, the dentist and speech pathologist of a cleft lip and/or palate patient received written reports that often referred to physical findings that could impact patient care such as velopharyngeal insufficiencies. The community dentist or speech pathologist could not view the findings without a specialized piece of equipment. The Videendoscopy Exam Web site solves the communication issue by combining textual reports with video segments of the exam. Instructional information helps the clinician to understand the patient’s condition. This site is being developed in three steps. Step 1–Analysis: Representatives of the state speech pathology community provided information about the technical constraints of the practitioners, and meetings with the Cleft Team identified the information to be presented on the Web site. Step 2–Development: The Web site includes a database of patients, their associated textual reports and videendoscopic exams, and interactive forms that gather treatment objectives and plans. During the Fall 2001 a formative evaluation is underway to measure the ease-of-use of the site, the quality of the video, and the usefulness of the video and textual information. Based on the results of the formative evaluation, refinements will be made. Step 3-Summative Evaluation will measure the impact of the information on patient care. This project is funded by the National Institutes of Health Grant #DE-13076-01.

**83. Web-based Orthodontic Instruction and Assessment**

Komolpis, Ruangrat, *The University of Michigan School of Dentistry*, Johnson, Richard A., *The University of Michigan School of Dentistry*

Orthodontic records—study models, panoramic and cephalometric radiographs, and patient’s facial and intraoral photographs—are used to collect data needed to establish a diagnosis and to develop problem-solution lists. These records, however, have significant attrition rates, can be damaged or lost when dispensed to students, and need to be stored and maintained every year. An Orthodontic diagnosis web site, therefore, has been set up using digital records to provide students with an accessible source of complete,
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good quality study materials. The web site is also used for clinical examination in orthodontic courses. The effectiveness of the web-based digital records in providing relevant information to students in comparison to the traditional records was evaluated by a randomized controlled trial involving 99 second-year dental students. One group (50 students) studied two cases from the web site; the other group (49 students) studied the same two cases from traditional orthodontic records. Effectiveness was assessed by comparing test scores and the time spent to complete the tests by way of t-statistics. Both for test scores and times, there were no significant differences between means for the two study groups. Attitudes of students towards the web site, assessed from post-test questionnaires, were positive. In conclusion, for orthodontic diagnosis, digital orthodontic records appear to be comparable to conventional records. The method is an efficient way to generate, store, and edit orthodontic records for teaching and clinical examination. In the present study web-based orthodontic study cases were preferred as an adjunctive tool to conventional teaching.

84. Going Mobile: Providing a Platform to Enhance Student-Faculty Resources and Communications
Karimbux, Nadeem, Harvard School of Dental Medicine, Howell, Howard, Harvard School of Dental Medicine, Donoff, Bruce, Harvard School of Dental Medicine, Halamka, John, Harvard Medical School

The purpose of this project is to compare several outcomes prior to and during the introduction and implementation of the MyCourses platform. Recent reports have reported a crisis in Dental Education regarding the shrinking pool of faculty. In response to this crisis, dental schools are developing or purchasing information technology tools to deliver curriculum content and to monitor student progress. The MyCourses Mobile Platform has been developed for medical, health science and technology and dental courses at the Harvard Medical School (HMS), and the Harvard School of Dental Medicine (HSDM). The platform gives students immediate access (via computers or hand held devices) to personalized course calendars, announcements, and resources such as class notes and syllabi. Mobile devices also enable better communication between students and faculty. This presentation will display the process to digitize materials, provide faculty development and examples of the MyCourses platform. As a part of this project, course evaluations for the last six years (cohort that has not used MyCourses; n=153) at HSDM were analyzed. Using a scale of 1-5 (1=very poor to 5=excellent), the following results were generated: Accessibility of faculty: 4.32; Library facilities/ Services: 3.66; Computer Resources: 3.34; Content of Courses: 3.78. When comparing the Classes of 1996-1998 (n=80) with the Classes of 1999-2001 (n=73), the accessibility of faculty dropped from 4.76 to 3.65. Our hypothesis is that the MyCourses platform will improve all of the above outcomes by allowing students immediate access to course materials, library materials and faculty resources. For example, using personal digital assistants (PDAs), students can log casebook procedures and observations (either at the HSDM, or at externships and rotations) which they can upload to a central computer for the faculty to easily retrieve and review. A centralized platform has been developed to serve as a repository for curriculum content and resources, that can be accessed by students and faculty wherever and whenever they want. The impact of the MyCourses on these outcomes will continue to be analyzed as students are exposed to and start to use this platform to access resources and to communicate with faculty.

85. Dentists’ Opinions about Undergraduate Clinical Supervision
Kay, Charles J., Shapiro Developmental Center

The purpose of this study was to determine, in the opinion of general dentists and dental specialist, what aspects of clinical supervision of undergraduate dental students can be performed by a well experienced general dentist. Seventy eight dentists were surveyed (42 general dentists, 38 dental specialist). They were asked if a well experienced general dentist (with a specifically defined educational and experience background) could adequately supervise certain dental procedures commonly performed by undergraduate dental students. A list of 40 of the most commonly performed procedures by undergraduate dental students was generated which included aspects of oral surgery, periodontics, prosthodontics, pedodontist, endodontics, restorative dentistry, and adjunct procedures. 100% of those surveyed indicated that it was suitable for a well experienced general dentist to supervise at least some of the procedure listed. 73% of the dentists indicated that all of the listed procedures could be adequately supervised. Of the remaining 27% of dentists, on average they felt that 94% the procedure could be adequately supervised by a well experienced general dentist. There was no statistical difference between the responses of general dentists and specialists when all specialist were grouped together. Subgroups of specialist showed differences in their responses. These results show that the great majority of the surveyed dentists, both general dentists and specialists, feel that it is appropriate for a well experienced general dentist to supervise the majority of clinical procedures performed by undergraduate dental students. As a large portion of most dental faculty time is spent clinically supervising undergraduate dental students and it is becoming increasingly difficult to recruit dental specialist to dental education, these results may have implications with regard to alternate avenues for locating faculty who can adequately supervise undergraduate dental students.

These results show that the great majority of the surveyed dentists, both general dentists and specialist, feel that it is appropriate for a well experienced general dentist to supervise the majority of clinical procedure performed by undergraduate dental students.

86. DentSim Virtual Reality in Preclinical Operative Dentistry to Improve Psychomotor Skills - A Pilot Study
Urbankova, Alice, Columbia University School of Dental and Oral Surgery, Lichtenthal, Richard M., Columbia University School of Dental and Oral Surgery

Purpose: To determine the efficacy of the DentSim computer assisted simulation system in improving the quality of the technical ability of students at varying levels of skill. The performance of operative procedures assessed by their performance in practical examinations as part of the preclinical operative dentistry curriculum at Columbia University.

Thirty students were chosen randomly from the second year class in pre-clinical operative dentistry. Based on their average performance in their previous practical examinations, they were divided into three groups: unacceptable, acceptable, and excellent. Each group consisted of ten students. Five students in each group were randomly assigned to the DentSim training group and five to the control group. The instruction for the DentSim training group consisted of a one hour introduction followed by ten hours of faculty assisted training, performing Class I and Class II cavity preparations. The training group also had access to the DentSim during their free time and on weekends.

The hypothesis being evaluated was that the students using the DentSim technology would improve their performance in the practical preclinical examinations to a greater, discernable degree than those in the control group who did not have access to this technology.
Students performances in three practical examinations given over the course of the second semester after the start of the project were evaluated. The record of individual achievement of each DentSim sub-group was compared to that of the control sub-group. In addition, students were asked to write a report giving their opinion of the value of the DentSim experience in their preclinical education.

The results can be summarized as follows: In the unacceptable sub-group, the average improvement in the first practical examination is better in the DentSim training group by a factor of 1.99; in exam two it rises to a factor of 2.85 and in exam three the average grade improvement rises by a factor of 15.47. In the acceptable sub-group, no difference was noted in exam one, in exam two the DentSim training group improved showed more improvement by a factor of 1.91 and in exam three showed more improvement by a factor of 15.51. In the excellent sub-group the results for the DentSim training group were better by a factor of 1.48 in exam one, no difference in exam two and better by a factor of 1.98 in exam three.

Of note is the fact that twenty-six percent of students in the control groups in the unacceptable and the acceptable groups needed remedial training at the end of the preclinical course in operative dentistry and only six percent from the DentSim training groups needed any remedial training.

Results of this preliminary pilot study indicate that training with the DentSim virtual reality technology can enhance the technical skills of students in preclinical courses. Students whose baseline skills were unacceptable (below average) or acceptable (average) show a particularly sharp improvement in technical dexterity after DentSim training. Those with already excellent skills (above average) benefit as particularly sharp improvement in technical dexterity after DentSim training. Those with already excellent skills (above average) benefit as well, albeit not to the same extent. Written and verbal feedback from students support the conclusions of the researchers that the use of this technology can enhance and speed the development of technical skills and is useful in preclinical education. Based on these preliminary results, expanded studies are planned for the coming academic year.

87. Outcome Assessment of Digital Radiography as Compared to Manual Radiography in the Preclinical Setting

Lin, Jashen, Harvard School of Dental Medicine, Yang, Jean A., Harvard School of Dental Medicine, Sung, Jillwen L., Harvard School of Dental Medicine, Wank, David, Harvard School of Dental Medicine, Karimbux, Nadeem Y., Harvard School of Dental Medicine, Howell, T. Howard, Harvard School of Dental Medicine

Purpose: Outcome assessment of teaching digital radiographic techniques as compared to manual radiographic techniques in the endodontic pre-clinical curriculum.

Digital radiography has emerged as an important dental tool. Because of its increasing role in dentistry, dental schools should begin educating their students regarding the methodology of this technology. However, effective teaching methods have not been well documented in the literature. As a cost-effective means of introducing this technology to all predoctoral dental students, Harvard School of Dental Medicine introduced digital radiography into the endodontic pre-clinical curriculum in conjunction with manual radiography. To assess this teaching method we compared the efficacy of digital versus manual radiography by evaluating three factors involved in root canal treatment (RCT): time, quality and processing costs. We hypothesized that students using digital radiography would take equivalent or less time and have an overall lower cost to complete RCT, while maintaining the same quality of treatment, as compared to students employing manual radiographic methods. Preliminary results from 108 cases support these hypotheses. On average, students utilizing digital radiography finished RCTs on one and two-canal teeth in approximately the same time as students using manual radiography.

In addition, the cost of film processing was 200% more than digital developing. The quality of RCTs did not significantly differ between the two groups. Although digital radiography offers instantaneous images, the similar time to finish RCT between students using manual versus digital radiography was attributed to the availability of only one sensor in the laboratory. The decrease in cost of RCTs using digital radiography, as compared to manual radiography, is attributable to decreased use of processing materials.

Implementing digital radiography into the endodontic pre-clinical curriculum is a cost-effective method of introducing this technology to all predoctoral dental students.

88. Evaluation of a Pediatric Dentistry Block System Compared to a Comprehensive Care System

Lin, Chi-Yi, West Virginia University School of Dentistry, C stout, Richard J., West Virginia University School of Dentistry, Ngan, Peter, West Virginia University School of Dentistry, Wearden, Stanley, West Virginia University

This survey was performed to evaluate a newly implemented pediatric dentistry block system at the West Virginia University School of Dentistry compared to a comprehensive care system previously in place.

Other authors have suggested that a pediatric dentistry block system can improve clinical experiences and provide balanced training for its undergraduate students (J Dent Educ 2000 June;64(6):440-4). A confidential number-coded mail survey including 11 Likert-scale questions assessed all 40 fourth year dental students to determine their perceptions of the block and comprehensive systems. The items surveyed include responsibility for patient scheduling; time constraints; clinical requirements; ability to treat more patients and finish on time; and ability to provide a positive influence on the students’ attitude towards treating pediatric patients. The response rate was 100 %. The frequency of responses was tabulated in percent. Results indicated that 97.5 % of the students strongly agreed or agreed that the block system offers more advantages over the previous comprehensive system. Similarly, students thought the block system eliminates the responsibility of scheduling (97.5%), eliminates entry of data in our computer system (72.5%), frees up time for treating more patients (82.5%), enables finishing clinical requirements in pediatric dentistry on time (90%) and provides a positive influence on the students’ attitude towards treating pediatric patients (87.5%).

The results indicated that the new pediatric block system was favored over the former comprehensive system by these fourth year dental students.

89. Mercury Hygiene in a Dental School Simulation Laboratory

Stone, Carl, University of Detroit Mercy School of Dentistry, Vettraino, Jason T., University of Detroit Mercy School of Dentistry, Neme, Ann-Marie L., University of Detroit Mercy School of Dentistry, Linger, Jackson B., University of Detroit Mercy School of Dentistry

It was the purpose of this investigation to evaluate the disposal of both amalgam capsule and amalgam scrap in a simulation laboratory to establish guidelines for future amalgam handling in the lab.

The simulation lab was divided into two sections (38 students/section). Section A placed their amalgam scrap into a sealed container with tap water. Section B placed their amalgam scrap into a sealed container with fixer solution. Section A disposed of their lab waste, including the amalgam capsule, in a designated trash container; section B placed their amalgam capsule into a separate sealed container and disposed of their additional lab waste in a designated trash container. Mercury vapor was measured with the Jerome 411 Mercury Vapor
A pilot study was initiated to determine the feasibility and effectiveness of allowing students to assume responsibility for their own education by eliminating “requirements” and instead have them construct a portfolio of their educational experiences to demonstrate competency.

A group of 24 junior dental students were randomly selected to participate in a pilot program at Marquette University School of Dentistry. The usual attendance and “points and procedures” requirements for graduation were eliminated and substituted with the completion of a minimum of 5 complex patient treatment cases. These cases were assigned to include all competencies as required by the school for completion of a DDS degree. Additional procedures not included. Prior to beginning the program, students were required to submit an essay on their long-term goals and plans for the future. Patient assignments were also influenced by these goals. In addition, to the students only while on blocks, were also documented and included. Prior to beginning the program, students were required to submit an essay on their long-term goals and plans for the future. Patient assignments were also influenced by these goals. In addition, each student was required to keep a daily log (journal) indicating what he/she learned that day along with a reflective statement about the experience. Photographs were taken (with patient consent) to document each case or experience and these were assembled into a comprehensive portfolio. Prior to graduation, the portfolios were evaluated to help prepare students for clinical experience. The last week of the term was chosen to administer the following components: vital signs, periodontal exam, instrumentation, and documentation. The course co-coordinators with faculty input established evaluation criteria based on process only. New classmate partners were assigned for this final process and a new folder was established for each student. To establish consistency, faculty were assigned to evaluate the same component on all students. The 2001 pre-clinical DH students (N=31) completed a likert-like survey regarding perceived values of the process evaluation. One hundred percent of the class either strongly agreed or agreed that the following components of the process evaluation were valuable: vital signs, periodontal exam, documentation. While the majority of the class (78-97%) agreed that the other components were valuable, the data were analyzed by ANOVA and Tukey HSD (p<0.05). A significant difference was observed between trash with and without amalgam capsule waste at baseline and 1 hour, no difference was found at or after 2 hours. The amalgam scrap in the container with fixer solution yielded significantly less overall mercury vapor release than the container with water.

In conclusion, a statistical difference in mercury vapor release was determined between trash containers with and without amalgam capsule waste. Amalgam scrap released significantly less mercury vapor when stored in fixer compared to water in a sealed container. Funded in part by Kerr Corp.

90. Portfolios vs. Points and Procedures
List, Gloria T., Marquette University School of Dentistry, Babler, William J., Marquette University School of Dentistry, Hinkelman, Kenneth W., Marquette University School of Dentistry

A pilot program was initiated to determine the feasibility and effectiveness of allowing students to assume responsibility for their own education by eliminating “requirements” and instead have them construct a portfolio of their educational experiences to demonstrate competency.

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91. Use of Internet for Recruitment of Dental Assisting Students
Lupovici, Eva M., New York University College of Dentistry, Cleary, Judith, New York University College of Dentistry, Westphal, Cheryl M., New York University College of Dentistry

The purpose of the pilot study was to compare the effectiveness of use of the Internet to recruit students to the Dental Assistant Program with recruitment strategies used in the past.

A pilot study was conducted to compare the effectiveness of the use of the Internet to recruit students to the Dental Assistant Program with past used strategies. Dental assistant programs continue to find it difficult to recruit qualified candidates by use of traditional methods. The pilot study was conducted by a dental assistant program which is part of a dental college located in a large urban area. Past recruitment strategies utilized included yearly 1 month $50,000 ads on public transportation (PT), newspaper ads at a cost of $4,000 per ad per day, mailings to local dental practitioners, word of mouth and alumni support. Information regarding the Program was added on the College’s Internet web page. The inclusion of the information into the web page yielded 292 inquiries in 1 month with the same period of time the ad campaign in the PT system resulted in 128 inquiries, and 20 from all other sources. Of the 292 Internet inquiries, 133 from immediate vicinity, 98 other cities, and 61 from outside the U.S. There was a 39% increase of inquiries from Internet use as compared to PT ads. The recruitment campaign resulted in the enrollment of 50 Internet inquiry students, 12 from transit ads, and 10 from other sources. There was an 80% increase in enrollment of students from Internet information at no cost as compared to enrollment from PT. As a result of the number of inquiries, actual enrollment, and cost effectiveness of the Internet recruitment strategy, the Program has registered with 18 Internet Web sites at no charge. The Program has contracted for a 3-month pilot trial with 1 Internet Co. for Banner Ad at a cost of $1,000 per month. The effectiveness of this marketing strategy will be evaluated at the completion of the commitment with the Internet Co.

The use of the Internet to recruit dental assisting students yielded a 39% increase of inquiries and an increase of 80% in enrollment as compared to other recruitment strategies.

92. A Process Evaluation for Pre-clinical Dental Hygiene Students
McClure, Beverly A., The Ohio State University School of Dentistry

Purpose: To develop and implement a process evaluation that would help prepare pre-clinical dental hygiene students treat his or her first clinical patient

A challenge of educators is the preparation of Dental Hygiene (DH) students for his or her first clinical experience. Students appear to have more anxiety about protocol and paperwork than scaling procedures. After the introduction and limited practice of a specific skill they do not feel prepared to provide treatment to patients. It was decided to develop and implement a pre-clinical process evaluation to help prepare students for clinical experience. The last week of the term was chosen to administer the following components: infection control, health history, sequencing of appointment, oral exam, vital signs, periodontal exam, instrumentation, polishing and documentation. The course co-coordinators with faculty input established evaluation criteria based on process only. New classmate partners were assigned for this final process and a new folder was established for each student. To establish consistency, faculty were assigned to evaluate the same component on all students. The 2001 pre-clinical DH students (N=31) completed a likert-like survey regarding perceived values of the process evaluation. One hundred percent of the class either strongly agreed or agreed that the following components of the process evaluation were valuable: vital signs, periodontal exam, documentation. While the majority of the class (78-97%) agreed that the other components were valuable, the data were analyzed by ANOVA and Tukey HSD (p<0.05). A significant difference was observed between trash with and without amalgam capsule waste at baseline and 1 hour, no difference was found at or after 2 hours. The amalgam scrap in the container with fixer solution yielded significantly less overall mercury vapor release than the container with water.

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93. Students’ Perceptions of Web-Enhanced Teaching Using WebCT Within a Baccalaureate Dental Hygiene Curriculum: A Pilot Study

Miller, Faith Y., Southern Illinois University, Carbondale; Lukes, Sherri M., Southern Illinois University, Carbondale

Purpose: To determine if web-based instruction should continue to be used as a teaching method within a baccalaureate dental hygiene curriculum.

A 22-item questionnaire was administered to a convenient sample of 28 junior and 28 sophomore baccalaureate dental hygiene students regarding basic computer skills/knowledge and their perception of using WebCT as an adjunct to traditional classroom instruction. The response rate was 100% with 55 females and 1 male. Data was insufficient to make a gender comparison. The average age of students was 24. Among sophomore students, 86% (N=24) indicated they had not taken previous courses that utilized WebCT, while the number among junior students was 28 or 100%. Having WebCT as a part of the course was moderately helpful according to 43% (N=12) of the sophomores and 39% (N=11) of the juniors. Concerning utilization patterns or frequency of visits to the course web page, both groups reported visiting the page 2-3 times per week. While at the course web site, sophomores and juniors reported total usage time of one hour (N=24) or 86% and 68% (N=19), respectively. Fifty-four percent (N=15) of the sophomores and 61% (N=17) of the juniors indicated they were always able to keep pace with the course by having some material on the web. Sophomores reported between 4-50% that other courses within the dental hygiene curriculum would benefit from web-enhancement and juniors reported between 7-61%. The most common problems encountered when visiting the page among both groups was the inability to open/download files quickly, slow browser and difficulties with the internet server.

Both groups reported that more orientation on WebCT could have increased utilization of the web page, more courses should incorporate the use of the internet, and that the course instructor always provided immediate feedback when assignments were completed.

94. Senior Dental Students’ Response to the IOM Recommendations and Its Possible Use as a Criterion for Selecting Future Dental Students

Mohammad, Abdel R., The Ohio State University College of Dentistry; Assadi, Ali, The Ohio State University College of Dentistry; Vermilyea, Stanley G., The Ohio State University College of Dentistry

The purpose of this investigation was to assess dental students’ responses to a questionnaire based on the 22 recommendations from the IOM report and to identify characteristics of those students who favor the IOM recommendations and consequently experience a more positive outcome in dental school.

The Institute of Medicine (IOM) report “Dental Education at the Crossroads: Challenges and Changes” has been declared the vision for dental education in the twenty-first century. It recommends that dental schools develop strategic plans to articulate their basic missions and objectives and to provide a means for measuring these complex and diverse activities. An ordinal 5-point scale questionnaire was developed and administered to 83 members of the year 2000 graduating class of The Ohio State University College of Dentistry. Biographical data were collected relating to students’ ethnicity, gender, grade point average (GPA), age, practice plans, educational background, reason(s) for selecting dentistry and socioeconomic background. Cross tabulations of the responses and characteristics were performed and Spearman Correlation Coefficients were determined. Differences were considered significant if p value is less than or equal to 0.005. Results showed that for 12 of the 22 recommendations there were significant correlation between the respondents’ strong agreement with the IOM statement and some of their characteristics. Gender, GPA, educational background, practice plans, reason(s) for selecting dentistry and socioeconomic background were found to have significant correlation with the responses given, while age and ethnicity did not.

This study indicated that students with higher GPA, educational background, and familiarity with the profession and its demands prior to admission, correlated positively with respondents’ views of many of the IOM recommendations. Therefore, these characteristics may be included among other criteria for selecting future dental students. Supported by OSU Student Summer Research Projects.

95. Further Studies Evaluating Student Perception of Learning from Lectures and PBL Cases in a Hybrid Curriculum

Olson, Byron L., Indiana University School of Dentistry; McDonald, James L., Indiana University School of Dentistry

Purpose: To determine, student perception of the relative contribution of lectures and PBL cases to their learning within a traditional/PBL hybrid curriculum.

During the first two years of the Indiana University School of Dentistry’s hybrid curriculum, both lectures and PBL cases are utilized to promote student learning. This report focuses on the student perception of the relative contribution of lectures and PBL cases to their learning in the Gastrointestinal Module located within a course entitled Systems Approach to the Biomedical Sciences (SABS). The data was collected from a 14-item survey completed by 97 out of the 100 students enrolled in the second semester of the first year. During this module, which extended over a 4-week period, students received 14 hours of lecture and participated in small group discussions in two PBL cases (3 sessions of 3 hours for each case). The survey instrument consisted of statements related to their learning and the course. Students rated each of the statements with a 5-numbered scale ranging from 5 (strongly agree) to 1 (strongly disagree). In response to question #4 (Lectures were important in promoting learning), 85% of the students either agreed or strongly agreed. In response to question #5 (PBL cases and their learning issues were important in promoting learning), 67% of the students either agreed or strongly agreed; 75% of the students felt that the combination of lectures and PBL cases promoted better overall learning. These results indicate a much higher perceived learning value of the PBL cases this year compared to results from a similar student survey conducted the previous year. One reason for this change may be the broader base of disciplines that appeared in and were assessed from the PBL cases this past year.

Within the Gastrointestinal module, students perceived a much higher learning value of the PBL cases this year compared to their perception from the previous year.

96. A Multicultural Survey of Dental Faculty

O’Neill, Paula N., The University of Texas-Houston Dental Branch; Harrison, Janet A., The University of Texas-Houston Dental Branch; Johnson, Cleverick D., The University of Texas-Houston Dental Branch; Naghibbandi, Jafar, The University of Texas-Houston Dental Branch; Narendran, Sena, The University of Texas-Houston Dental Branch; Warren, Donna P., The University of Texas-Houston Dental Branch

The purpose of this study was to conduct an assessment of the current environment as it relates to diversity issues, make recommendations for change, and ultimately implement strategies to facilitate the needed change.
The University of Texas-Houston Dental Branch recognizes that it is an organization whose culture is shaped by the diverse members of the organization. Because of its diverse membership the school wanted to assure itself that we are striving for equal opportunity and have an environment that is supportive of that effort. With that in mind, an Ad Hoc Committee on Cultural Diversity was formed in the late fall of 1999. The Committee was charged by the Dean and the Faculty Senate to conduct an assessment of the current environment as it relates to diversity issues, make recommendations for change, and ultimately implement strategies to facilitate the needed change.

Survey instruments were developed based upon one used by the University of Michigan School of Dentistry. Permission was sought and given to use parts of the survey. The survey was administered to all faculty attending the Annual Faculty Retreat (N=60) in June 2001. 67% of the faculty strongly agree or agree that the Dental Branch has an honest interest in and concern for diversity while 47% strongly agree or agree that they are able to address cultural and social differences appropriately. Finally, more than 58% of the faculty strongly agree or agree that it is easy for a person to feel comfortable in this school regardless of their gender, ethnicity, physical abilities, sexual orientation, age, and religious background.

Results of the survey indicate that faculty feel comfortable for the most part about their cultural awareness and their abilities to handle cultural differences.

97. The Consistency of Clinical Performance Rating by Dental School Faculty

Romito, Laura M., Creighton University School of Dentistry, Giraud, Gerry, Nebraska Methodist College, Matranga, Luke, Creighton University School of Dentistry; Latta, Mark A., Creighton University School of Dentistry.

The purpose of this assessment was to standardize and calibrate dental faculty to improve the teaching and evaluation process for metal crown and porcelain fused to metal crown preparations at the Creighton University School of Dentistry.

Standardization is an educational process designed to establish consistency among faculty evaluators with established criteria, which includes both the orientation and calibration of faculty. To be able to apply the standards reproducibly amongst all the faculty requires that they understand the grading criteria and be calibrated, that is, be able to apply standards in a consistent manner. Calibration is a process designed to measure the extent to which faculty standardization has occurred. In dental education, student learning is enhanced by the use of a calibrated faculty to ensure evaluation reliability. This study had two phases. In phase 1, each clinical faculty participant at a Midwestern dental school graded six student prepared dentiform crown preparations. Faculty assigned grades were compared to a control grader’s scores. Faculty then participated in a training session intended to result in calibration for grading among the faculty. In Phase 2, which occurred one month after training, faculty re-graded the six crown preparations as well as a total of 20 new crown preparations prepared by the faculty using the criteria on which they were trained. An examination of pre and post-grading of the six crowns revealed an improvement in agreement among faculty on grades, with pre-test alpha:0.37; post-test alpha:0.50 (p<.05). Validity, agreement with control grader scores, also improved somewhat for each level of crown quality (A-D) for the six crowns graded after the training. However, with regard to the faculty-prepared crowns, even after training, there was substantial disagreement in scores amongst faculty and between faculty and the control grader. (alpha range 0.35-0.91).

Improvements in the calibration of criteria standards, more frequent training sessions, and personal feedback for faculty graders may aid in improving the standardization and calibration process for faculty members who grade dental practice skills such as crown preparations.

98. Development of a Post-Treatment Examination Process: Implications for Quality Assurance, Excellence in Clinical Care and Student Competency

Russell, David A., Tufts University School of Dental Medicine; Rodd, Susan A., Tufts University School of Dental Medicine, Markell, Janet B., Tufts University School of Dental Medicine.

The development of a post-treatment examination helps ensure that our completed patients who are discontinued from active care, do so, with their cases complete. The identification of new oral health problems that might have arisen during lengthy courses of treatment and the integrity of that treatment are important reasons for a post-treatment examination of all patients leaving the dental school’s active treatment.

Many dental school patient treatment plans are lengthy. Whether it is more complicated cases making up more of the student’s patient roster, student rotations/externships, or the patient’s limited availability, it is not unusual to see pre-doctoral patient treatment lasting 18 - 24 months. Often patients require more than one pre-doctoral student to complete their case. There is a need to ensure that patients discontinued from active care are truly complete before we send them to outside private practitioners or to school re-care programs. A post-treatment exam can help ensure that no new oral health pathology has arisen, can be a significant quality measurement tool and a worthwhile educational experience. At Tufts, the development of a post-treatment exam process was consistent with our mission of providing patient centered education committed to excellence. Patients at the end of planned treatment undergo a post-treatment exam. The examination is conducted by the Practice Coordinator and student. As a requirement, each student must submit six post-treatment exams, one must be done as a competency. Last year, 878 Post-Treatment Patient Exams were submitted to the Quality Manager. Data analysis revealed to what extent further treatment was required. 98.4% of patients who completed planned periodontal therapy required no further treatment. Similarly, other areas are as follows: Endodontics 80.5%, Operative Dentistry 95.9%, Fixed Prosthetics 89.7%, Removable Partial Prosthetics 74.1%, Complete Denture Prosthetics 70.6%. 43.5% were simple cases, 47% were moderate and 9.5% were difficult. 91.5% of patients had no treatment concerns. 93.5% of the patients received comprehensive care as judged by their Practice Coordinator. 99.3% of patients were satisfied with their care.

A post-treatment examination is an important part of any patient care quality effort. It can help ensure that our completed cases are actually complete and that no new or overlooked oral health problems are present. It can also be a valuable educational process for the student as they become competent in assessing care at the end of planned treatment.

99. Predictors of Success on the National Board Dental Hygiene Examination

Schutte, Douglas W., Western Kentucky University; Smith, Robert D., Western Kentucky University.

Purpose: To determine if certain student academic variables predict success on the NBDHE.

Emphasis on successful outcomes in higher education has been the subject of increasing discussion over the past decade. Efforts have
focused on increasing admissions rates, retention of students, higher minority enrollments, graduation rates and success on various professional examinations. For Dental Hygiene Programs, success on the National Board Dental Hygiene Examination (NBDHE) has become a key outcome indicator regarding the quality and effectiveness of Dental Hygiene curricula.

Several variables have been examined in efforts to predict success on Dental Hygiene Board examinations, including scores on the Dental Hygiene Candidate Aptitude Test (DHCAT), the mock board dental hygiene examination, high school grade-point average (GPA), college science GPA, cumulative GPA, dental hygiene GPA, and demographic variables such as age and marital status. These studies have yielded mixed results, and dental hygiene program admissions committees have begun to look at non-traditional predictors such as work experience and personal characteristics.

Is there a correlation between certain variables and success on the Dental Hygiene Examination? This study examined the following variables to determine their ability to predict success on the NBDHE: ACT scores, high school GPA, college sciences GPA, first year Dental Hygiene GPA, age, and dental assisting experience. Three cohorts of Dental Hygiene students were surveyed to obtain measures of selected predictor variables. Pearson r correlation coefficients, coefficients of determination, and p-values were calculated. Further, a regression equation was developed to analyze the variance associated with each predictor variable. Results of this study are analyzed, and suggestions provided for further research.

The overall strength of the variables predicting success on the NBDHE is weak. Data showed that there is little capability for prediction with academic variables traditionally used for selective admissions to the program. Positive correlations were found between a combination of chemistry, biology, and first year dental hygiene GPA with success on the NBDHE. Further research is indicated to explore other variables/parameters (e.g., Dental Hygiene Admissions Test, Dental Hygiene Candidate Admissions Test), since historical criteria was found to be lacking. In addition, subscores of the ACT will be examined.

Our Dental Hygiene Admissions Committee should review and revise criteria for selection, since certain academic variables currently used are weak predictors of success. A plan for early intervention and remediation needs to be implemented to identify and assist those students who do poorly in the first year dental hygiene courses. Further research is necessary to identify other variables that may possibly predict success on NBDHE.

100. Improving the Oral Health Knowledge of Osteopathic Medical Students

Skelton, Judith, University of Kentucky College of Dentistry. Smith, Timothy A., University of Kentucky College of Dentistry. Betz, William T., Pikeville College. Lillie, Judith, University of Kentucky College of Dentistry.

Purpose: develop, implement, and evaluate an educational experience to improve the oral health knowledge of osteopathic medical students.

Due to a complex set of circumstances including culture, poverty, low educational achievement, and limited access to dental care, the oral health of rural Appalachians is poorer than that of people in other parts of the state. Their limited health care dollars often go for primary medical care which may be their only contact with the health care system. Consequently, primary care physicians need to help improve oral health. The University of Kentucky College of Dentistry (UKCD) and the Pikeville College School of Osteopathic Medicine (PCSOM) developed, implemented and evaluated an oral health education block for third year PCSOM students. Program outcomes were for students to: 1) understand the relationship between oral and systemic disease; 2) differentiate between normal oral anatomy and common oral diseases; 3) evaluate the need to treat, refer and/or recommend interventions for improving oral health; and 4) explain primary oral disease prevention methods. Twelve UKCD faculty participated in the 2 day, 16 hour oral health block that included lectures, an oral exam practical lab, and small group, case-based discussions. PCSOM students completed a pre-test and block evaluation. Application and retention data is being collected as they return from fall rotations. Students varied in their initial oral health knowledge, scoring the following average percentages: oral cancer (6%), oral anatomy (39%), pediatric oral health (42%), dental caries (44%), periodontal disease (49%), oral trauma/infections (61%), orofacial pain and TMD (65%), and common oral lesions (76%). On a five point scale from excellent (5) to very poor (1), students scored the accomplishment of objective 1 an average of 4.4, objective 2, 4.7, objective 3, 4.6, and objective 4, 4.6.

Osteopathic medical students had incomplete oral health knowledge, but felt that a 16 hour experience remedied this deficiency.

101. Clinical Faculty Calibration Using Case-Based Exercises with Videotapes

Stach, Donna J., University of Colorado School of Dentistry. Cross-Poline, Gail N., University of Colorado School of Dentistry.

The purpose of this program was to use cases to stimulate consensus-reaching discussions among the faculty and provide specific decision making exercises with the goal of increasing calibration in clinical decision making. Consistency in the areas of evaluating student performance and determining student classification among several full- and part-time clinical faculty is a difficult goal to achieve. Differences are frustrating for faculty and students alike and may be perceived by students as affecting their success in clinical courses. The purpose of this program was to use cases to stimulate consensus-reaching discussions among the faculty and provide specific decision making exercises with the goal of increasing calibration in clinical decision making. Both graduating students and the clinical dental hygiene faculty were surveyed to determine the most frequent areas of faculty inconsistencies. Four areas were selected for calibration exercises based on their high response rate and student’s perception that these affected their clinical progress. The first two related to the acceptance and treatment planning of two categories of required patients, moderate periodontal and heavy calculus patients. The second two related to different aspects of clinical proficiency examinations, namely how acceptable test patients were selected and how the stated criteria were observed and scored. Brief case scenarios with videotape segments for each of the four areas were distributed to the faculty. They were asked to evaluate and score these independently. During regularly scheduled clinical faculty meetings the cases were discussed, differences and similarities of interpretation were explored and consensus was reached for the decisions to be made in each case. After the 4 calibration sessions faculty completed a survey about the value of the exercises. Results included increased awareness of the decision criteria and of the standards and process acceptable by the peer group. Faculty reported being able to make more consistent decisions. It was concluded that specific case based exercises simulating clinical decision-making did increase the calibration of the 10 clinical faculty.

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Poster Abstracts

102. Noncognitive Predictors of Failure in Dental School
Stark, Alan M., Temple University School of Dentistry; Deem, Lisa, Temple University School of Dentistry; Stark, Mary Jean, Manor College Dental Hygiene Program

The purpose of this research is to examine noncognitive domains (as defined by the Learning Assessment and Study Skills Inventory, Weinstein, Schulte & Palmer, 1987) to determine if the data provided can correctly classify students at Temple University School of Dentistry into one of two groups: those who pass and those who fail (N=346). Discriminant Analysis (DA) was used to interpret the data. DA is a robust statistical tool that allows the researcher to evaluate two objectives: assess the adequacy of classification of students (descriptive function), and assign students to one of two groups (predictive function). It is apparent from the analysis of the data using DA that scores in noncognitive domains have the ability to increase the strength of agreement when classifying participants in this study into one of two groups: those who pass and those who fail. This research, therefore, establishes a new paradigm for evaluating candidates for admission to Temple University School of Dentistry.

This study confirms the assertions of numerous authors that cognitive tests provide “threshold” criteria for admission to graduate training. These authors contend and this study confirms that, once the threshold criteria are met, noncognitive data are useful in the decision to admit candidates to dental school.

103. Remote Dental Consultation: Consumer Perspectives
McGee, M K., University of Pennsylvania School of Dental Medicine, Stewart, Denice CL., Oregon Health & Science University School of Dentistry; Stewart, Jeffery CB, Oregon Health & Science University School of Dentistry; Artz, Noam, University of Pennsylvania School of Dental Medicine; Fonseca, Raymond J., University of Pennsylvania School of Dental Medicine

Purpose: Determine and describe consumer perspectives and acceptance of an Internet-accessible, asynchronous remote dental consultation system (RDCC). Significance: Increasing access to specialty consultation may be of clinical value to dental consumers and expand access to dental school faculty expertise; however, little is known about consumer acceptance of Internet-based dental consultation.

Methods: A remote dental consultation system for dentists has been developed and tested with practitioners with overall positive results. To assess the perspective of dental consumers, patients of both a school-affiliated provider network and of the dental school participated in surveys and discussion. Volunteers completed a pre-discussion survey, participated in a guided discussion, and completed a post-discussion survey.

Results: Twenty-six consumers participated in pre/post surveys and the discussion. Key findings include: 1. When asked how much time would need to be saved to make Internet consultation worthwhile vs. traveling to a specialist, 42% indicated <1 hour, 31% 1 hour, and the remainder >1 hour. 2. In pre/post comparisons, consumer acceptance declined after the discussion, although they remained very positive overall: e.g., agreement with “letting my dentist use the Internet to send my records to another dentist is a good idea” declined from 89% to 81% (pre mean 1.62, post-mean 1.88, scale 1=strongly agree to 5=strongly disagree, pr’ d t-test, p=0.03). 3. In discussion, two main reasons for the decline in consumer confidence were noted: a. significance of cost saving - saving half the cost increased agreement for most participants, and b. fear of being “HMO’s out of service”, and loss of personal interaction with the specialist. However, participants indicated their views would be no different for an Internet based consultation than for a mailed consultation.

Consumers have concerns about Internet based consultation but are overall positive about the potential.

104. Assessment of the Need for a Dental Hygiene Master’s Program
Testerman, Deborah L., Texas Woman’s University

The purpose of this study was to evaluate the need for a dental hygiene master’s degree program by surveying currently licensed dental hygienists.

There is a continued growth of dental hygiene programs in the U.S. and a limited number of dental hygiene master’s degree programs to staff this need. The purpose of this study was to evaluate the need for a master’s degree program by surveying currently licensed dental hygienists. An eleven-item questionnaire was used to survey 263 dental hygiene graduates from a baccalaureate program. The questionnaire consisted of information on demographics, desire to pursue a higher education degree, and future educational needs. Of the surveys returned, 48% (N=127) had been completed for analysis. Data analyses, including frequencies and percent were conducted in SPSS. Common themes were tallied for answers to open ended questions. The demographics proved to be consistent with the population. Twenty-one percent of the respondents reported that they would pursue a graduate degree. Common reasons reported included: advancing the dental hygiene profession, personal education, and preparation for teaching. The respondents listed the following four interdisciplinary courses they would like to have offered: business (49.6%), computer science (41.7%), community health (41.7%), and geriatrics (41.7%). Twenty-two percent of respondents reported that they were likely to change careers in the next five years. Reasons cited were physical demands, stress, and burnout. Personal goal (65.4%) is the primary reason to pursue a master’s degree. Respondents stated that a breadth of subjects, diversity of students, level of family responsibilities, time, money, and age are issues. If a graduate degree were pursued the respondents would like to have a variety of courses to choose from and would need flexibility and creative scheduling. Finally, 57.5% of the respondents believed that obtaining a graduate degree in dental hygiene would increase their career opportunities. The dental hygiene profession needs to pursue interdisciplinary, dental hygiene offerings to address needs of students and the profession.

If a graduate degree were pursued the respondents would like to have a variety of courses to choose from and would need flexibility and creative scheduling. Finally, 57.5% of the respondents believed that obtaining a graduate degree in dental hygiene would increase their career opportunities.

105. Presenting Dental Careers to High School Students
Thomas, Denice, University of Texas Health Science Center at San Antonio Dental School, MacDougall, Mary, University of Texas Health Science Center at San Antonio Dental School
The purpose of this study was to determine high school students’ level of familiarity with dentistry as a career option.

The United States is experiencing a shortage of dental educators. Few dental students pursue academic careers. This study was part of a larger institutional effort to provide opportunities for students at all levels to explore academic options for a dental career. A survey instrument was administered to some “gifted and talented” high school students attending a day-long program at the dental school. Students heard lecture presentations about dental research, and choose from a menu of small-group presentations on various topics related to dentistry. One option was to hear a presentation about career options in dentistry. Those (n=30) who chose to attend this presentation completed a short survey about their exposure to dentistry. Of those polled, 30% had considered a dental career. Following the presentation, 63% indicated that they were interested in considering dentistry as an option, and only 6% had ever heard about dental school and dental careers previously. When examined by year in school, the results indicated that freshmen, sophomores, and juniors all indicated that they were interested in dentistry after hearing the presentation. Only seniors were no more inclined to consider dentistry after the session. Interestingly, the only 2 students who had heard a dental careers presentation previously were a freshman and a sophomore. The reasons why dentistry did or did not seem appealing as an option, and only 6.6% had ever heard a presentation about dentistry.

Students in high schools do not get much information about dental careers, and more attention should be given to this problem in order to address the “pipeline” issues in dental admissions.

106. Identification of Factors Influencing Matriculation Decisions by Dental School Applicants

Whitehead, Albert W., University of Pittsburgh School of Dental Medicine, Novak, Karen F., University of Kentucky College of Dentistry, Close, John, University of Pittsburgh School of Dental Medicine

This study identified influencing factors involved in the decision making process for dental applicants. Identifying these factors would enable admissions officers to develop a marketing strategy in the recruitment of highly qualified students.

Recent dental school surveys have indicated a slight decrease in the overall number of dental school applicants. As a result competition for the most highly qualified students is increasing among dental schools. A number of factors may contribute to an applicant’s decision on where to matriculate such as tuition costs, cost of living in an area, location of the dental school, reputation, availability of financial aid and the school’s facilities. Identifying the reasons why students choose to attend a specific school may be an important first step in formulating a strategic plan for recruitment. As a result, a survey was sent to all students (250) interviewed at the University of Pittsburgh School of Dental Medicine for the 2000-2001 admissions cycle. The results of this survey were compared to a similar survey sent following the 1994-95 admissions cycle. In addition, the results of the surveys from the University of Pittsburgh were compared to a similar survey conducted by a different northeastern dental school. The factors that were most important in 1994-95 were reputation, facilities and location, respectively. In 2000-01, location, curriculum, tuition, and reputation were rated most important factors, respectively. This information may assist admissions officers in formulating an effective recruitment strategy for the most highly qualified applicants.

In summary the present study attempted to identify variables that dental school admission officers could utilize to determine their unique market segments and concurrently establish a viable market position. Identification of these variables requires marketing research that seeks to identify the characteristics of potential students who would be most likely to enroll. The results of this study identified certain variables that may be valid criteria for a dental school to assess, develop, and implement as a marketing strategy for successful recruitment. These variables included reputation, location, and cost, as well as personal contact. Marketing positioning efforts should be directed towards the development and promotion of activities that highlight these variables.

107. Sense of Inclusion - Meeting the Needs of Gay and Lesbian Students

Whitehead, Albert W., University of Pittsburgh School of Dental Medicine, Moore, Fred, New York University College of Dentistry

This poster will present simple solutions in creating an environment of inclusion for gay and lesbians such as creating a Web page and a listserv, providing information for student affairs personnel, and open inclusion of gay and lesbians as a visible group are actions that can alleviate the sense of isolation that is widely experienced.

A small group of faculty and students from several U.S. dental schools have met over the past five years to explore the needs of LGBT persons in dental education. This group has been sensitive to the unmet needs of these LGBT students, faculty and administrators and has sought ways to increase their visibility and promote their interests.

Today, dental students come from diverse universities. Among these universities are many which embrace diversity by including support for groups such as lesbian, gay, bisexual and transgendered students. These student experience support in an environment that is open and accepting. In dental schools however, the atmosphere changes and promotes isolation. Further, a number of students encounter questions about their sexuality and need support, counseling and assistance.

Simple solutions such as creating a Web page and a listserv, providing information for student affairs personnel, and open inclusion of LGBT persons as a visible group are actions that can alleviate the sense of isolation that is widely experienced.

Given these concerns and the need to aggressively pursue ways to recruit and retain faculty and students, we strongly suggest that institutions support an agenda to meet the needs of lesbians and gays. Simple solutions will be illustrated such as creating a Web page and a listserv, providing information for student affairs personnel, and open inclusion of LGBT persons as a visible group are actions that can alleviate the sense of isolation that is widely experienced.

As society becomes more tolerant of gay, lesbian, bisexual and transgender lifestyles, it is imperative that dental schools provide a safe, gay-friendly environment to support the needs of the GLTB students and a sense of inclusion.

Block III
Tuesday, March 5
12 noon - 1:30 p.m.

108. Students’ Perception of Setting Lingualized Occlusion in an Undergraduate Preclinical Complete Denture Course

Lang, Lisa A., University of Colorado Health Science Center School of Dentistry, Astroth, Jeffrey D., University of Colorado Health Science Center School of Dentistry
This study evaluated students’ perception of achieving the performance outcome of a balanced lingualized denture occlusion. The students reported an average amount of difficulty in understanding the concept of lingualized occlusion. (p<0.001). Supported by Ivoclar North America, Inc.

Conclusions: 1) students perceived an average amount of difficulty to produce balanced lingualized occlusion, 2) no significant association between perception of difficulty in achieving performance outcome and time spent to complete the project, and 3) individuals who reported problems in achieving the performance outcome were significantly more likely to have difficulty in understanding the concept of lingualized occlusion. (p<0.001).

109. Comparison of Pulp Therapy Procedures Taught in American Dental Schools
Bardzinski, Michele A., University of Medicine and Dentistry- New Jersey Dental School, Kuchmas, John, Curcio, Blaise F., University of Medicine and Dentistry- New Jersey Dental School, Sanders, Michael R., University of Medicine and Dentistry- New Jersey Dental School, Moy, Frances, University of Medicine and Dentistry- New Jersey Dental School, Lombardi, Paul, University of Medicine and Dentistry- New Jersey Dental School

Purpose: To determine the status of pulp therapy procedures in U.S. and Canadian dental schools

A survey was sent to 59 dental schools in North America and 41 (69%) responded. The purpose was to determine which pulp therapy procedures are taught, the materials utilized, departments involved, and the position in the curriculum. The project was designed to reveal current treatment methodologies for pulp therapy as well. The respondents were divided into geographical regions consisting of Western 4/41 (9.7%), Central 23/41 (56%), Eastern 9/41 (21.9%) and Canadian 5/41 (12.1%). More than 75% of the respondents in the Western, Central, and Eastern geographical regions reported introducing pulp therapy education in the sophomore year. The majority (75%) of the Canadian schools reported it’s introduction in the junior year. Some of the respondents indicated that pulp therapy instruction was not the sole responsibility of a department (48.8%), while others indicated centralization in one area (51.2%). With regard to specific procedures, 81.1% of the U.S. respondents indicated that direct pulp capping was utilized for a small mechanical exposure, while, 100% of the Canadian schools recommended a similar therapy. While 59.6% of all respondents reported using calcium hydroxide paste (auto or light cured) for their direct pulp capping procedures, there was no significant difference between U.S. and Canadian schools. With regard to the treatment of large mechanical exposures, there was no consensus. Regarding recommended medicaments for pulpotomy/pulpectomy, the American schools reported 38.5% using dry cotton pellet, 23% formocresol, and 38.5% other. The Canadian schools reported: 12.5 % dry cotton, 50% formocresol and 37.5% other.

There are regional differences with regard to the introduction of pulp therapy procedures in the curriculum, and in the medicaments used for pulp therapy procedures in North American dental schools.

110. Information Technology in Dental Hygiene Therapy and Oral Health Care
Barnes, W. Gail, Department of Dental Hygiene East Tennessee State University

Purpose: To provide a technology intensive course for graduate hygienists in the BSDH Online Completion Program

Most certificate and associate degree dental hygienists have a desire to further their education but must “pencil in” college degrees between hectic jobs and family obligations. To that end, the BSDH Online Completion program was initiated. However, several applicants expressed concern for their lack of computer skills. A course was developed for Summer 2001 with the purpose of providing the graduating certificate and associate degree dental hygiene students a means to increase the students’ use of technology in oral health care therapy (2) incorporate the Internet in the research of dental hygiene therapy products. Blackboard, the e-learning software platform, was the course management system. Thirteen hygienists registered; 11 completed the class. The first and last assignments asked the hygienists to complete the Computer Skills Self-Assessment Survey (n=8; n=9). The survey consisted of 16 items, of 5 point Likert-type scale (very unsure to very confident), intended to determine their perceived level of computer skills. There was a remarkable increase in their perceived technology skills at the end of the class in their ability to: use MS PowerPoint to create a graphics presentation (13%, 77%), navigate in MS Windows operating system (38%, 89%), open attachments contained in an e-mail (38%, 89%), create distribution lists in e-mail client software (13%, 66%), use a discussion forum (0%, 67%), manage files (38%, 88%), use MS Word to create a document (51%, 89%), evaluate the credibility of information found on the web (13%, 88%), use a web browser to access Internet information (51%, 100%) and download graphics from a website (13%, 66%).

This course has met its objective of providing associate and certificate dental hygiene students a working knowledge of word processing, e-mail, and download graphics from a website (13%, 66%).

111. Academic Integrity: Perpetrator and Accomplice Accountability
Botto, Ronald W., Southern Illinois University School of Dental Medicine, Nihill, Patricia, University of Illinois at Chicago College of Dentistry

To explore the incongruity between assessments of severity of behavior and harshness of penalty associated with perceived cheating behaviors by a student perpetrator and a student accomplice. The authors’ previous studies explored student and faculty adjudication of mock cases of student conduct violations in clinical or laboratory scenarios. In each case, the gender or ethnicity of the student perpetrator and accomplice varied. In addition, the accomplice’s involvement, as well as the relative ethical principles of both, have been varied. Those results revealed consistent evidence of significant (all p’s < .05) gender or ethnic bias. Furthermore, the perpetrator’s behavior has been judged as significantly (p < .05) more serious, and the consequent penalty recommended significantly more
harsh than that for the accomplice, regardless of level of perpetrator sympathy, or level of accomplice complicity or Machiavellian-like attitudes. In an attempt to surmount these biases, this study depicts the accomplice replacing the student’s work with his/her own without the student’s knowledge. When the student discovers the deception, the accomplice pressures the student to deny any wrongdoing. The results reveal that it is only under these circumstances that a significant (p < .05) reversal of ratings of behavior seriousness occurs. Interestingly, unlike prior studies where sanction harshness reflected judgments of seriousness, in this case there is no significant difference in the severity of sanction recommended. Comparisons to prior studies suggest the rating reversal reflects both a lessening of the student’s culpability, and an increase in that of the accomplice. Thus, it is only when the accomplice, in essence, becomes the perpetrator that his behavior is judged to be more serious than that of the original perpetrator, but still incongruously, punished no more harshly.

Even though the complicity of the accomplice is such that his behavior is rated as significantly more serious than that of the perpetrator, incongruously, the severity of the punishment does not reflect the rating of seriousness.

112. The Service Laboratory as an Educational Component of the Student Clinical Experience

Unger, John W., Virginia Commonwealth University School of Dentistry, Button, Gilbert L., Virginia Commonwealth University School of Dentistry

The purpose of this program is to provide the highest quality fixed prosthodontic restorations possible while teaching dental students their role in the ‘dentist-technician’ relationship. An assessment of the how indirect restorations were being fabricated in the undergraduate clinic was made in 1991. At that time, students were responsible for the majority of laboratory procedures in the fabrication of fixed prosthodontic restorations. It was concluded that most students were not proficient at these procedures normally done by technicians in the private practice setting. Delayed treatment, wasted time, and the inefficiency of remakes were frustrating to all parties. Faculty intervention was frequently necessary to achieve satisfactory results. It was decided that students would be responsible for those steps that they should be able to do competently and relegate the remaining steps to the Service Laboratory.

Two chairmen are responsible for the Quality Assurance program. The Supervisor of the Service Laboratory maintains records of the number and type of restorations produced for the undergraduate clinic as well as records the type of errors and individuals involved. The fixed prosthodontic preclinical course has been revised, de-emphasizing purely technical procedures and increasing clinical simulations.

Comparison of productivity on a monthly basis has helped with tracking student performance and making faculty and technician assignments.

Student performance has improved, the quality of restorations being placed has improved and there is an assurance that these increases in quality can be measured and proved.

113. Dental Hygiene/Dental Clinical Curriculum Comprehensive Care Integration Model

Byrnes-Ziegler, Jean, Harcum College, Sylvis, Robin, Harcum College

Purpose: To develop a dental hygiene clinical curriculum which integrates the dental hygiene student into a comprehensive patient care model in a dental school setting.

A New Paradigm in Dental Hygiene/Dental Education has been developed between Harcum College and the University of Pennsylvania, School of Dental Medicine. Harcum College, a private 2 year College is educating its dental hygiene students in an innovative model. Together with the University of Pennsylvania, School of Dental Medicine, Harcum has developed a dental hygiene clinical curriculum which integrates the dental hygiene student into the comprehensive patient care model in the dental school. This model allows for the inclusion of dental hygiene students into eleven PCUs, “primary care units” at the dental school. Each PCU group consists of senior and junior dental students and dental hygiene students. The groups are managed by a dentist/group leader. Dental hygiene students provide all services that a hygienist is educated to perform, within the group under the direction of the dental school group leader and the Harcum College dental hygiene faculty. Patients are treated by dental hygiene students in co-therapy with undergraduate and graduate dental students. The model goal is to provide consistent comprehensive care for the patients. The clinical education of the dental and the dental hygiene students emulates the private practice setting, providing them with exposure to a professional team approach to patient care. In addition both groups of students provide care in specialty clinics throughout the dental school. This educational environment fosters collaborative learning between the disciples of dentistry and dental hygiene. The integration model was piloted for the first time with a group of 8 students from January 2000 to May 2000. The outcome was positive and the program went to full implementation in September 2001. Student Evaluation of Clinical Experience Surveys were completed by graduating dental hygiene class in May, 2001. The survey asked students to rate 19 aspects of their clinical educational experiences in the dental school setting. On a rating scale of 1-5, 1 = excellent and 5 - poor, “The overall learning experience at the School of Dental Medicine” was rated at 2.9. This represents a high level of satisfaction in the educational environment. Another area measured was, “How well did your integration into the Restorative Group facilitate an interdisciplinary approach to clinical practice” students rated this a 3.1. The model is observed and evaluated by a clinical committee composed of representatives from both institutions which meets on a monthly basis. The program must meet specific educational and patient care needs of both institutions. A modification was made to the dental hygiene program curriculum after the pilot program, to facilitate the total clinical integration and to provide consistent patient care to the dental school patients, the dental hygiene program clinical curriculum was revised to accommodate the year round schedule of the dental school. Currently the model is providing consistent, comprehensive dental care to the patients. The clinical needs of Harcum College are fulfilled because Harcum, through its affiliation with the University School of Dental Medicine, has access to a state of the art clinical facility, a diverse patient population, a variety of patient care experiences, and an educational environment which fosters collaborative learning and the team approach to patient care.

The integration of dental hygiene students into a comprehensive care model provides both dental hygiene students and dental students with a collaborative learning experience mirroring the realities of private practice. In this environment patients experience continuity of care.

114. Application of the Baldrige Process to Dental Education

Chambers, David W., University of the Pacific School of Dentistry, Boyarsky, Harvey P., University of the Pacific School of Dentistry, Fredkind, Richard E., University of the Pacific School of Dentistry, Nadershahi, Nader A., University of the Pacific School of Dentistry

Purpose: Explore the Baldrige process as a method for improving performance excellence in a school of dentistry.

The Baldrige process is a system for promoting performance excellence through continuous improvement. The process was created...
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through a 1987 act of Congress that established standards that reflect the process, promote adoption of the process, and grant an annual prize. Beginning in 1999, prizes were offered in education and health care as well as the traditional prizes in manufacturing and service. The Baldrige criteria are essentially the same for all organizations. Baldrige criteria emphasize leadership, strategic planning, customer focus, information management, human resources, and process management. Organizations are expected to show outcomes over a several year period that trend upward and exceed industry averages and compare favorably with benchmark leaders. The University of the Pacific began using the Baldrige process in 1996. Visits were made to Baldrige winners and Senior Examiners were invited to the school. The process was used as the foundation for the school’s successful 2000 accreditation site visit. There is a natural affinity between competency-based education and the Baldrige approach, but adjustments had to be made in areas such as evaluation methods and the use of information to drive continuous process improvement. The six core values of UOP are similar to the core values of the Baldrige process and include: (a) humanism, (b) competency, (c) continuous improvement, (d) value-added, (e) leadership, and (f) fiscal integrity. In 2001, the University of the Pacific Dental School applied for the Baldrige prize. Consultants who have reviewed the application have tentatively scored it in the competitive 700 range. The school is one of seven educational programs in the country to have reached the consensus review stage in the 2001 cycle.

The Baldrige process can be effective in focusing the improvement efforts of a dental school on a range of criteria characteristic of many types of organizations and in encouraging performance excellence over and above the minimal standards expected in accreditation.

115. Use of CD-ROM in Conjunction with WebCT in an Introductory Operative Dentistry Course
Chan, Daniel C., Department of Oral Rehabilitation, Medical College of Georgia

The purpose of this abstract is to demonstrate the development of online (WebCT) and transportable (CD-ROM) educational content for an introductory Operative Dentistry course. RES5001 is an introductory Operative Dentistry course that teaches principles and techniques of conservative cavity preparation and restoration of teeth with silver amalgam and esthetic restoration materials. Methods of instruction includes WebCT, lectures, videotape demonstrations, live demonstrations, group discussions and laboratory exercises on both plastic and natural teeth. During the 2000-01 semester, RES5001 has been accessed more than 1300 times on the WebCT. At a student officers’ meeting set up by the Dental Dean’s office, students were voicing their concerns about long download time regarding digital audiovisual course content. Some of them still requested access to hard copy; most of them just downloaded the text from the server and printed it out on the school’s laser printer. Their concerns are similar to a survey of students in a web-based professional ethics course. In that survey, 76% of students preferred to print rather than read materials on screen; 86% reported having 24-hour access as most advantageous. In a classroom survey done in 2000, only about 50% of the freshmen dental students have computer and modem capability at home. In addition, a lot of the students do not have fast broadband modem connection. Their only alternative is to log in at school or library where suitable connections are available. This abstract will present the steps, software and hardware involved to employ both CR-ROM and WebCT in managing the course. In addition, the formative evaluation performed by all the course instructors to assess the CD-ROM and WebCT program in the course of its development will be presented.

A transportable CD-ROM version in addition to the WebCT online content can help alleviate the accessibility problems mentioned. The CD-ROM can stimulate student access to the WebCT by diminishing download time.

116. From Information to Action: A Dental Hygiene Local Anesthesia/Nitrous Oxide Curriculum
Coleman, Margaret E., University of Detroit Mercy School of Dentistry, Neveu, Kathleen, University of Detroit Mercy School of Dentistry, Shepherd, Kathi R., University of Detroit Mercy School of Dentistry, Saad, Glenda Y., University of Detroit Mercy School of Dentistry

Purpose: To serve as a benchmark for the development of local anesthesia/nitrous oxide curricula in other dental hygiene programs. According to the recent Surgeon General’s Report of the Surgeon General, there is a decreasing ratio of dentist to population with respect to oral health care disease prevention and access to oral health care. This projection is providing the impetus to expand dental hygiene education and responsibility. One aspect of increased responsibility is local anesthesia/nitrous oxide (LA/N2O) administration. Since 1995, 8 states have enacted laws to allow delegation of LA/N2O administration to licensed dental hygienists. The eminence of LA/N2O administration by licensed dental hygienists in the state of Michigan has led the University of Detroit Mercy dental hygiene program to actively investigate LA/N2O curriculum in other states. A qualitative study of LA/N2O administration curricula in the 27 states where LA/N2O is administered by licensed dental hygienists was conducted. Findings (N= 21) revealed a wide variation of instructional methods, evaluation methods, injection sites and clinical requirements. Fifteen programs included nitrous oxide preparation, credit hours ranged from one to three hours, term lengths ranged from three days to sixteen weeks with an average of 28 laboratory hours and 20 didactic hours. Data collected provided a valuable resource in LA/N2O curriculum development at the University of Detroit Mercy dental hygiene program.

Survey results indicate a wide variation in credit hours, term length, didactic hours, clinical hours, evaluation methods and injection sites utilized in local anesthesia/nitrous oxide curricula.

117. A Dental Hygiene Admissions Process in Retrospect: Did We Predict Success?
Cornett, Renee S., The University of Texas Health Science Center at San Antonio Dental School, Johnson, Christopher C., The University of Texas Health Science Center at San Antonio Dental School

The purpose of this study is to determine if the changes in the UTHSCSA Dental Hygiene admissions process did in fact predict success as defined by graduation from the program and a successful National Board Dental Hygiene Examination score. Historically, the Certificate Dental Hygiene Program admissions criteria included ACT/SAT scores, college cumulative and high school science GPA’s, and interview scores. Upon review, the Dental Hygiene Admissions Committee concluded that the interviews made little difference in the final selection decision. Additionally, the Committee concurred that biomedical science courses would serve as prerequisite courses to identify students who demonstrate the potential to be successful. This study considers the 1993 entering students up through the graduating class of 2001, for a total of 239 students. Of the 239, 221 students completed the program, 10 were not academically successful, and 8 chose to leave the program for nonacademic reasons. Data is lacking for 5 graduating students resulting in a population of 216. A T-test demonstrated only very marginally that the graduates performed better in Microbiology than those that were academically unsuccessful. Despite the intuition of the 1992 Admissions Committee,
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121. Fewer Appeals of Preclinical Operative Amalgam Preparation Practical Evaluations When Two Faculty Evaluate Each Preparation

Dower, James S., University of the Pacific School of Dentistry, Kenyon, Brian J., University of the Pacific School of Dentistry, Louie, Kenneth G., University of the Pacific School of Dentistry

Purpose: Decrease appeals of practical evaluations by increasing student confidence in faculty evaluations and improving faculty calibration.

Our preclinical operative dentistry course allows students to appeal the evaluation of their practical examinations on amalgam preparations. Previously one faculty member evaluated the practical by scoring the student’s handling of 22 criteria and initiated the form so that the student and course director knew who did the evaluation. If the student disagreed with the evaluation given they had an opportunity to appeal the evaluation and have it reevaluated by three instructors with the average of the new evaluations becoming the “final evaluation”. Feeling there was too large a number of evaluations being appealed, the following year we had two faculty members independently review the preparations, come to an agreement on the evaluation given, and place their initials on the form. It was hoped this would increase student confidence in the faculty evaluations and improve the calibration of faculty doing the evaluations. There were nine practical examinations each year with eight of the practicals on the same teeth and surfaces. With one instructor evaluating the preparation there were 177 appeals from 135 students for a ratio of 1.31 appeals per student. With two instructors evaluating the preparation there were appeals from 139 students for a ratio of 1.18 appeals per student. This represents a 9.5% decrease in the number of appealed preparations. We believe the decreased number of appeals is based on increased student confidence in the accuracy of the evaluations and on the faculty being better calibrated for evaluating practical preparations. Another measure of student preference for having two evaluators was found on the end of course survey where 94% of the class recommended the two evaluator system be continued in the course.

Having more than one faculty member responsible for the student’s evaluation on amalgam preparations in preclinical operative dentistry increases the student’s confidence in the accuracy of the evaluation and diminishes the number of evaluations appealed.

122. New Technologies in Dental Education: A Survey of Second-year Dental Students at Tufts School of Dental Medicine Concerning the Simulation Clinic Experience

Eisen, Debbie S., Tufts University School of Dental Medicine, Eisen, Steven E., Tufts University School of Dental Medicine

The Simulation Clinic has recently been introduced to help prepare preclinical students by allowing the student to learn the proper ergonomic way to practice dentistry. Dental educators stress the use of magnification loupes along with posture and seating. In this study, we sought to assess the usefulness of the Simulation Clinic versus more traditional modalities by surveying dental students concerning their experiences with both it and the more traditional modalities.

During the spring term of 2001, 2nd year dental students at Tufts University School of Dental Medicine were surveyed concerning their experience in the computer-based Simulation Clinic, a technology for promoting accelerated learning in preclinical students, in order to better prepare them for their clinical training. Out of a total of 145 2nd year students, 55 responded to this survey. 47 (85.5%) respondents made use of the Simulation Clinic during scheduled time, 8 (14.5%) made use of the Clinic during both scheduled and non-scheduled time. 11 (20%) respondents spent about the same amount of time using the Simulation Clinic as they did the Preclinical Lab Bench Stick, 17 (30.9%) spent more time in the Simulation Clinic, and 27 (49.1%) spent more time with the Preclinical Lab Bench Stick. 50 (90.9%) respondents thought they learned more from the Simulation Clinic, while 4 (7.3%) learned more from the Preclinical Lab Stick. All students would prefer to have spent more time at the Simulation Clinic. 53 (96.4%) would advise incoming preclinical students to spend more time in the Simulation Clinic and 2 (3.6%) would advise spending about the same amount of time as they did in the Clinic. Among students who had actual patient contact at this time, 38 (69.1%) felt that their training in the Simulation Clinic gave them increased confidence to work on patients. 15 (27.3%) still did not feel ready to work on patients. Only 2 (3.6%) did not have patient contact at this time. 32 (58.2%) respondents thought the addition of a video monitor-screen would greatly improve their temporal-spatial understanding of the task, 1 (1.8%) thought there would be moderate improvement, and 22 (40%) did not think they would gain any advantage.

The Simulation Clinic will allow the dental students to accelerate his/her entrance into treating patients much more easily since they have been exposed to a realistic patient figure earlier in their dental training. The Simulation Clinic provides a torso with air/water capabilities as well as a video monitor screen so that the daily task can be visualized and performed. New instructional technologies like the Simulation Clinic accelerate the learning process. These instructional technologies are preferred by students to the more traditional modalities, and are starting to replace the more traditional instructional modalities.

123. Service Learning — More Than a Teaching Model

Forde, Ron, Loma Linda University School of Dentistry, Nick, Doyle, Loma Linda University School of Dentistry

Purpose: To highlight other outcomes on dental and dental hygiene students beyond the strengthening of clinical skills.

Loma Linda University School of Dentistry (LLUSD) has within its mission statement, a commitment to service learning. This commitment has expressed itself almost from the inception of LLUSD, and has continued to grow, as it reaches out to underserved communities locally, nationally and internationally. The goal of this commitment is to graduate dentists/dental hygienists who understand that their careers and lives can be enhanced by spending time and effort in meeting the needs of those who face barriers to dental services. Currently, LLUSD continues to create opportunities for its students to gain hands-on experiences in various community settings. Many of these opportunities are built into the curriculum. This poster exhibit will document the opportunities provided for students to serve, the responses of students to these opportunities, and the results of their experiences. Also to be presented will be the impact that such experiences have on the students, beyond the improvement of clinical skills. These results will be based on fourteen local and national sites, and another fourteen international sites, in which over 5,600 patients were seen and/or treated in the period of June 1, 2000 - May 31, 2001. The results will show that Service Learning opportunities build student morale (self-confidence), strengthens personal clinical confidence, helps the new dentists to see dentistry as patient oriented rather than procedure oriented, makes for a more supportive alumni, builds bridges between student and faculty, and provide a sense of professional independence.

Service Learning can be the soul of an institution of higher learning, giving direction and purpose to the clinical skills taught to its students, and affirming the humanity of our profession.
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Fredekind, Richard E., University of the Pacific School of Dentistry, Nadershahi, Nader A., University of the Pacific School of Dentistry, Cuny, Eve J., University of the Pacific School of Dentistry
Purpose: To determine existing quality assurance and risk management (QA/RM) programs in United States and Canadian dental schools and to then provide direction for development of systems of data management, and implementation of an integrated QA/RM program.
Risk management and quality assurance have a foundation in the same principles. Accreditation standards require a formal quality assurance (QA) program. Risk management (RM) can improve the quality of existing programs and minimize the exposure to professional liability for institutions. Use of QA measures can identify undesirable trends that when applied to the RM program may allow early identification of potential problems, allowing intervention before an undesirable event can reoccur. A survey of U.S. and Canadian dental schools revealed a broad range of experience in the development and implementation of QA/RM programs. The survey helped identify key features of an integrated program. The most common features were a formal written program supported by a committee (66% of respondents), QA involvement that included all levels (84%), and a high level of administrative support (95%). All dental schools have a need to develop both QA and RM. The importance of this project is that it demonstrates that uniting QA and RM can assist in providing an improved system of patient care and maximizes the use of data that has been collected for both programs. Numerous means of uncovering data, evaluating data results, and developing cycles of improvement were discovered. Surveys, incident reports, chart audits, case reviews, redo tracking, infection control rounds, response forms, and exposure reporting forms should all be included in the QA/RM program. A functional committee with ongoing duties of measurement is a key aspect of a successful program. One significant improvement at the author’s institution was implementation of an outcomes review committee. This group provides advice regarding cases that have undesirable outcomes or where the patient expresses continued dissatisfaction.
Effective quality assurance and risk management programs will provide improved patient care, accreditation compliance, enhanced student education and an opportunity to reduce legal exposure.

125. Assessing Program Outcomes: A Survey of B.S. Degree Completion Students
Fried, Jacquelyn L., University of Maryland Baltimore College of Dental Surgery Dental School, DeVore, Linda R., University of Maryland Baltimore College of Dental Surgery Dental School
Purpose: To establish degree completion program outcomes data for program improvement
Assessing program outcomes is essential for program improvement. Surveys of graduates provide relevant outcomes data. To evaluate the Dental Hygiene B.S. Degree Completion Program (DCP) at the University of Maryland, a fourteen-item survey was mailed to all DCP graduates from the years 1989-99 (N=70). The survey consisted of 12 close-ended statements that used a four-point Likert scale, “strongly agree” (SA) to “strongly disagree” (SD), and two open-ended questions about program strengths and weaknesses. Respondents listed current employment setting, publications, grants, projects and additional degrees earned or in progress on a separate demographics form. Frequency data were generated for the close-ended items. A single mailing achieved a response rate of 41.4% (N=29). Results revealed that 93% (N=23) of respondents SA that the DCP met their expectations; a large majority also SA that the program met its goals including: enhancing ability to provide optimum patient care, evaluate scientific literature, participate in research, assume positions of increased responsibility, understand dental hygiene issues and increase their desire to obtain additional education. Five graduates have earned MS degrees and one a DDS degree; six were enrolled in graduate education at the time of the survey. Respondents listed many program strengths and a few weaknesses; the latter provide direction for program modifications. Strengths identified by multiple respondents included supportive learning environment, high quality faculty and overall program flexibility. The main weakness was DCP students’ feeling of isolation from conventional seniors. Despite the low response rate, the findings have contributed to faculty discussion about the DCP and have led to program improvement.

126. Tobacco Education in a Dental Hygiene Curriculum
Gerger, Debi L., San Joaquin Valley College-Ranch Cucamonga Campus, Wilkins, Kristi B., Loma Linda University School of Dentistry, Stephens, Joni A., Loma Linda University School of Dentistry
The purpose of this tobacco education program is to increase the hygiene student’s awareness of and ability to advise clients about tobacco cessation and related issues.
Since 3,000 American youth daily start using tobacco, a critical component in the dental hygiene curriculum is tobacco education. When developing a course, tobacco issues facing America must be addressed. Our program objectives are: 1) identify tobacco effects on the body; 2) list/define the National Cancer Institute’s (NCI) 5 A’s; 3) list/define nicotine and non-nicotine replacement products; 4) identify look-a-like products; 5) develop a tobacco program for a dental office; and 6) appraise the value of client counseling. The positive impact of our tobacco education program has shown to increase the hygiene student’s awareness of and ability to advise clients about tobacco cessation and related issues.

127. Patient Punctuality - A Clinic Factor
Gobetti, John P., University of Michigan School of Dentistry, Green, Thomas G., University of Michigan School of Dentistry, Daniels, Johnna, University of Michigan School of Dentistry, Gabor, Camelia, University of Michigan School of Dentistry, Sanchez, Jennifer, University of Michigan School of Dentistry
The purposes were: to determine why patients are late and the average time late. Clinic time lost due to late patients has a negative impact on student education and clinic efficiency. Accommodating tardy patients affects the entire clinic experience and the punctual patients. This study was a self-reported survey to evaluate factors contributing to patient lateness. The purposes were: to determine why patients are
late and the average time late. The goals were to improve clinic efficiency, improve patient care, improve student clinical educational experiences, and remedy the perceived patient lateness problem. A short 8 question, multi part patient survey was filled out by student researchers on 765 patients over a six week period in the summer adult comprehensive care clinics. The results, based on all participating patients, were: an average of 15 visits to the school, the average distance traveled was 52 miles round trip, average travel time was 70 minutes, patients were reminded of their appointment 68% of the time, (by telephone 64% and by mail 4%). Patient attendance results; 20% were on time, 57% were early (an average or 21.6 minutes in the morning and 24.6 minutes in the afternoon clinics) and 23% of the patients were late. The average time late was 14 minutes with a range of 2 to 60 minutes. 19% of the patients reported parking is a major cause of the delay, 14% cited traffic, 9% cited road construction, 3% cited got lost or poor directions. An interesting sidelight the patients reported their students were late 17% of the time, on an average of 11 minutes late. The data analysis considered several variables, the data was self-reported subjective information and may not encompass the entire problem nor be completely honest. But the information was encouraging as 77% were early or on time. Some of the factors were partially within the control of the Dental School Administration; parking, maps and directions, and patient reminders. Another aspect learned was to stress the importance of punctuality to the patients. This study supported by a grant #NIH2R25RR10246.

The information was encouraging as 77% were early or on time. Some of the factors were partially within the control of the Dental School Administration; parking, maps and directions, and patient reminders.

128. The Teaching of Esthetic Dentistry in North American Dental Schools
Gordan, Valeria V., University of Florida College of Dentistry
Rescheduled for Tuesday, 2:30.

The widespread interest in esthetic dentistry has been an important driving force in clinical general practice dentistry. The concept of white and perfectly straight teeth came extremely fast. The pressure coming from the media and the dental product companies has been massive. The financial gain involved in such procedures has also been a major contributing factor. The number of practitioners that are encouraged to join to a two-day hands-on esthetic dentistry course has dramatically increased. Previous reports have shown that esthetic dentistry is not often a part of a formal dental education. The purpose of this study was to evaluate the teaching of esthetic dentistry in North American dental schools. A questionnaire was distributed to all North American dental schools. The questions inquired about: 1) what priority have the schools given to the teaching of esthetic dentistry; 2) what are the changes necessary to accommodate the rapid advance and demand in this area; 3) whether the teaching should be done through a multi-disciplinary approach, through regular curricular courses, elective classes, or graduate programs; 4) the duration of the esthetic dentistry course; 5) whether the course content should be theoretical or practical in nature; 6) what esthetic procedures should be recommended for undergraduate students; 7) what esthetic dental concepts are taught; 8) whether there is interaction among different disciplines; 9) what techniques and commercial materials are used to make the teaching successful. Evidence based clinical dentistry and ethical issues related to the teaching of esthetic dentistry were also addressed. The responses were calculated as percentages based on the number of schools that responded to the questionnaire. Eighty-two percent of the dental schools returned the questionnaire. Forty-seven percent of the schools have a formal course that teaches esthetic dentistry. In 70% of the cases, the course was allocated at the Operative Dentistry Department/Division. Most schools (52%) indicated that the teaching had a theoretical and practical component. 76% of the schools indicated that a multi-disciplinary approach was involved.

129. Helping Your Patients Quit Tobacco: An Interactive CD-ROM Educational Program for Dental Professionals

Introduction: An interactive tobacco-training program for dentists and dental hygienists—Helping Your Patients Quit Tobacco—was developed and evaluated. Combining video, graphics, and text, the program educates dental professionals about techniques for helping patients quit their use of all forms of tobacco. Subjects: 48 third-year dental students from Oregon & New York states and dental hygiene students from Oregon & Washington states.

Results: Pre- & post-intervention measures assessed attitudes, knowledge, perceived barriers, & self-efficacy of tobacco cessation. Significant pre-post changes were obtained (paired t(46)= -11.62, p<.001), and program use was strongly related to changes in the measure of tobacco cessation knowledge, attitudes, & beliefs (semi-partial r=.70, p<.001). Discussion: Dental practitioners need to encourage smoking cessation by providing brief advice and support during dental office visits. Our interactive CD-ROM training program provides individualized instruction in an empirically-based behavioral intervention, and models appropriate practices via tailored video examples. Dentists, dental hygienists and students who used this program liked it, and learned the skills necessary for helping their patients quit tobacco.

The results of our evaluation provide evidence for the successful use of this CD-ROM program in dental school, dental hygiene program, and continuing education curricula.

130. Characterization of Underrepresented Minority Dentists with AECD or GRP Training
Greene, Veronica A., Charles R. Drew University/University of California Los Angeles, Atchison, Kathryn, University of California Los Angeles School of Dentistry

Purpose: To describe the demographic and practice profile of dentists surveyed about the impact of federal funding on advanced dental training.

Surveys conducted by UCLA School of Dentistry through a cooperative agreement with the Health Resources and Services Administration (D30 DH10157) assessed several parameters of the impact of federal funding on postdoctoral general dentistry (PGD) training. Graduates from 1989, 1993, and 1997 were surveyed and a 30% response rate was received after two mailings. This summary will characterize the dentists and practice types among the respondents. Of the 2029 dentists responding, the majority, 1515 (77%) were white(W), 59 (3%) were black(B), 95 (5%) were Hispanic(H), 284 (14%) were Asian(A) and 28 (1%) reported as other(O). Most of the dentists were in private practice, ranging from 76% for B to 86% for W. Other reported occupations included dental school faculty (3% B, 1% H, 3% A), community clinic or nursing home (2% W, 7% B, 1% H, 2% A, 4% OI, Armed Forces/VA (2% W, 2% B, 4% H, 2% A). The proportion of each race that reported advanced training in either general dentistry or specialty did not vary significantly. Comparing professional activities engaged in, by race of respondents, there were no significant differences in reporting of volunteerism. However for leadership activities, Asians were significantly more likely to report professional leadership such as appointee to examining board, officer in dental society or teacher of either a study club or continuing education (p<.0002). There were no other differences in leadership by race. This study reports early findings of a national survey focusing on dentists who completed advanced training in general dentistry and the impact of federal funding of training programs on their career or practice choices.

More detailed findings will be discussed during the presentation.
131. Gender, Age and Dental Attitude as Determinants of Dental Health Behavior

Grimaudo, Nicholas J., University of Florida, College of Dentistry, Klemmer, Stephanie, University of Florida, Stewart, Carol, University of Florida, College of Dentistry

The goal of this study was to determine how dental attitude, gender and age influence dental health behavior. Dental health behavior has been shown to be associated with many factors. This behavior is multidimensional and possibly united under a more representative, combined behavioral variable. Dental health behavior has been found to be worse among men and people with a lower socioeconomic status. The goal of this study was to determine how dental attitude, gender and age influence dental health behavior. This study examined 331 dentulous patients treated in the predoctoral dental program. The randomly selected sample population consisted of 183 females and 148 males discharged between 1997 and 2000. A retrospective study was conducted with information derived from patient records. The age range was 7 to 86 years old with a mean of 46 years old, and the socioeconomic status of all patients was the same. Approximately 46% of the patients completed their treatment. The completion/non-completion of proposed treatment was recorded as a measure of the patient’s dental health behavior. Dental attitudes were measured using five questions answered by the patients during their first appointment. The questions were weighted, using the numbers 1 and 2, so that a larger sum total conveys a stronger negative attitude of the patient. This number system allowed for the sum of the responses to be calculated, yielding a higher total for the more negative patient attitudes. These attitudes were compared to the treatment completion status of the patient, age and gender. Statistical analysis using logistic regression showed that age and gender were not significant, but attitude was significant (p<.001). Interactions were not noted among the three factors. Patients with a positive attitude towards dentistry were more inclined to complete their treatment and enter a maintenance program. Patients with negative attitudes were discharged from treatment. Reasons noted were time, financial or personal constraints.

This study indicates that patients’ dental attitudes may be a strong indicator for treatment completion. Construction of a more inclusive instrument measuring attitudes may be warranted for determining patient compliance with proposed treatment.

132. The Effect of Dental School Mission on Pediatric Dentistry Practice Patterns

Hines, Edwin H., Meharry Medical College School of Dentistry, Tyus, James E., Meharry Medical College School of Dentistry, Carter, Sharon L., Meharry Medical College School of Dentistry, Anthony-Williams, Tolanada, Meharry Medical College School of Dentistry, Butler, William B., Meharry Medical College School of Dentistry

Purpose: Determine how a dental school mission affects dental services in minority and low-income populations.

Disparities in oral services for minority and low-income children are well documented. They are exacerbated, as noted in the Surgeon General Report on Oral Health in America of 2000, by up to 78% of children of up to age 17 having a cavity or filling, poor children having twice the caries rate and suffering nearly twelve times more oral related restricted school days than more affluent peers. Dental schools modify these problems by nurturing responsibility to serve minority and low-income children. For 125 years Meharry Medical College School of Dentistry’s mission has focused on providers with sensitivity to underserved populations. Of the respondents, 87% accept Medicaid patients and 50% of these serve a 50% or more Medicaid patient population, 90% serve a 50% or more poor and working middle-class population and 82% serve a 50% or more minority population. Fully, 91% of respondents indicated understanding the MMCSOD mission, and 86% indicated they follow this mission on a daily basis. The results of this study show that the focused mission of MMCSOD is a significant and effective factor in reducing disparities in oral services for poor and minority children.

A dental school with a mission focused to reduce oral services disparities in poor and minority populations can effectively achieve these goals.

133. Clinical Care Pathway Development in Caries Risk Assessment, Prevention and Management

Schmidt, Colleen R., University of Missouri-Kansas City School of Dentistry, Holt, Lorie A., University of Missouri-Kansas City School of Dentistry, Williams, Karen B., University of Missouri-Kansas City School of Dentistry

Purpose: To provide a detailed framework for the development of a multifactorial caries risk assessment and management pathway. Evidence-based care has become a dominant theme in current health care. Evidence-based clinical care pathways are increasing in popularity and provide practitioners with a framework with which to make treatment decisions. An area that is frequently confusing in dental hygiene is how best to prevent and manage dental caries. Recent research suggests clinical decision-making regarding caries is generally based on anecdotal evidence, past educational or clinical experience rather than on empirical evidence. This suggests a need to narrow the gap between practice and recent findings in caries research. Developing pathways for caries risk assessment, management and prevention could be advantageous in two ways. First, to limit treatment variability among clinicians for patients with similar needs while simultaneously improving treatment outcomes. Second, to standardize treatment to ensure quality care, reduce the risk of liability or negligent care, and to control dental care costs. Clinical care pathways for the assessment, treatment and management of early lesions are proposed in an effort to individualize the provision of appropriate dental care. The caries-risk assessment clinical care pathway that has been instituted in the dental hygiene program at the University of Missouri-Kansas City has assisted clinicians and patients, alike, in making informed decisions regarding specific management and treatment interventions. It has improved the calibration on treatment approaches for both faculty and students and improved the care to clinical patients. Clinical care pathways improve treatment decision making and outcomes, as well as ensure quality care, reduce the risk of liability or negligent care, and control dental care costs.

134. Behavioral Science Practicum - Interdisciplinary Teaching and Experiential Learning

Inglehart, Marita R., University of Michigan, School of Dentistry, Richards, Phil S., University of Michigan, School of Dentistry, May, Kenneth, University of Michigan, School of Dentistry, Temple, Henry, University of Michigan, School of Dentistry, Gould, Kari, University of Michigan, School of Dentistry, Pelok, Scott, University of Michigan, School of Dentistry, Kerschaub, Wendy, University of Michigan, School of Dentistry, Bagramian, Robert, University of Michigan, School of Dentistry

Evidence suggests clinical decision-making regarding caries is generally based on anecdotal evidence, past educational or clinical experience rather than on empirical evidence. This suggests a need to narrow the gap between practice and recent findings in caries research. Developing pathways for caries risk assessment, management and prevention could be advantageous in two ways. First, to limit treatment variability among clinicians for patients with similar needs while simultaneously improving treatment outcomes. Second, to standardize treatment to ensure quality care, reduce the risk of liability or negligent care, and to control dental care costs. Clinical care pathways improve treatment decision making and outcomes, as well as ensure quality care, reduce the risk of liability or negligent care, and control dental care costs.
The purpose of this new program is to develop and implement an experiential and culturally sensitive approach to teaching communication skills to dental students. A Behavioral Science Practicum was introduced into the undergraduate dental curriculum. The goal was to develop an experiential and culturally sensitive approach to teaching communication skills. The objectives were (a) to raise the students' awareness for the intricacies of culturally sensitive patient - provider interactions, (b) to provide skill training by studying actual responses to three clearly defined clinical situations, and (c) to encourage self and peer supported reflection in clinical settings. Key features are (a) to video tape three different types of patient - student interactions (interaction with a peer, a standardized patient, and a regularly scheduled patient), (b) to discuss this material in small groups (c) with the help of an interdisciplinary team of instructors, and (d) to connect this material with concurrent didactic and clinical instruction. Questionnaire data from all 102 students in this course were collected at the beginning of the term and at three follow up times during the term concerning the students' evaluations of the course. Additionally, peer evaluations of the performance of 30 students were collected and analyzed to evaluate whether peer feedback would be differentiated and insightful. The results show that at the beginning of the term, the students were not very interested to take this course (mean on 5 point scale: 2.75), or have peers give them feedback (mean = 2.06). However, after the classes took place, they were interested in seeing the videotaped interactions (mean = 3.82), and found them helpful (mean = 3.89). An analysis of the peer evaluations showed that peers are able to provide differentiated feedback. Overall, the students evaluated the course as a positive learning experience.

Conclusion: This experiential approach to teaching patient - provider communication skills offers an opportunity to introduce the students early on to a culturally sensitive patient-centered approach to dentistry. The need to continue this education throughout the dental curriculum is discussed.

135. Academic Orientation - Stress Inoculation for the D1 Year
Inglehart, Marita R., University of Michigan, School of Dentistry; Katcher, Patricia, University of Michigan, School of Dentistry; Woolfolk, Marilyn, University of Michigan, School of Dentistry; Ester, Todd, University of Michigan, School of Dentistry; Green, Thomas G., University of Michigan, School of Dentistry; Markel, Geraldine, University of Michigan, School of Dentistry

The purpose of this educational research project was to evaluate whether a two week long academic orientation program inoculated students against stress at the beginning of their dental education. The research evaluated the outcomes of a two week long academic orientation program for dental students from non traditional backgrounds and/or with other perceived needs. The objective is to explore whether program participants differ from non participants in (a) their academic achievement, (b) their reported stress, and (c) their motivation to learn about stress / burnout at the end of the first term. Key features are (a) academic mini courses that foreshadow the basic science, pre clinical, and clinical classes taught during the D1 year, (b) academic skills classes that focus on organizational skills such as time management and test taking, and (c) social activities that allow the students to get to know each other, older students, faculty, and staff. Approximately 40% of the incoming students were invited to this program, and appr. 25% of the students actually participated. Questionnaire data and academic achievement scores were collected at the end of the first term. The results show that at the end of the first term, the program participants' achievement was higher than that of invited non participants, and lower than that of non invited students (GPA: 3.13 vs. 3.05 vs. 3.25*, class rank: 50.8 vs. 57.4 vs. 43.5*). The students' stress levels concerning academic demands, workload, peers, financial issues, and instructors were not significantly different. However, the program participants had a raised awareness for the significance of understanding stress / coping and were more interested in learning about the prevention of burnout than the non participants (means: 2.51 vs. 3.92**). In conclusion, the data suggest that an academic orientation program for students from non traditional backgrounds might help these students cope with academic demands. It raises awareness for the significance of understanding mechanisms necessary to cope with stress / burnout. The implications of these findings for curriculum development and academic support services are discussed.

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136. An Evaluation of Two Simulation Systems: Computer Assisted vs. Traditional Simulator
Jasinevicius, T. Roma, Case Western Reserve University School of Dentistry; Landers, Michael A., Case Western Reserve University School of Dentistry; Nelson, Suchitra S., Case Western Reserve University School of Dentistry

The purpose was to compare the teaching time needed for a computer assisted simulation system, DentSim (DenX America, Inc) (DS), with a traditional system (KaVo America Corp) (KV). Specific aims were to determine if differences existed between systems in number and length (time) of student: faculty interactions (S:F). S:F were student initiated questions and faculty responses. Fifty percent of 1st year class (35/70) volunteered, none had previously prepared teeth. Students were group matched according to pre-clinical performance and assigned to either DS (n=15) or KV (n=13). In the summer, they spent 2 weeks (3+ hrs. /day) cutting Class I & II amalgam and crown preparations. The DentSim and KaVo units were in one room, with the same faculty supervising both groups. Verbal instructions were the same, however, criteria was available on the computer for DS group, while KV received handouts. Both groups were encouraged to ask faculty for feedback regarding their preparations. The DS could also receive input from the computer at any time. Students and faculty kept a daily log of all S:F. The results indicated significant differences in S:F interactions between the groups. DS had a total of 246 interactions, while KV had 544, p < 0.001. The average number of interactions was 16 for DS and 42 for KV. DS interactions (mean 1.9 +/- 2 minutes) were shorter than KV’s (mean 4.0 +/- 3 minutes), p < 0.001. Faculty spent 43.7 hrs. ‘interacting’ with 28 students: 7.8 hrs. with 15 DS (0.5 hrs/student) and 35.9 hrs. with 13 KV (2.8 hrs/student). Instruction time for the traditional group was 5 times longer than for computer-assisted group. While, further study is needed to assess DS’s progress, decreased faculty time on restorative instruction could impact the dental curriculum. Supported by Walter Nord Grant of CDWU.
137. Dental Health Status of Adults (65-80 years old) in a Multifamily Living Center

Johnson, Cleverick D., University of Texas Health Science Center Dental Branch, at Houston, Fulton, Rudy S., University of Texas Health Science Center Dental Branch, at Houston, Koh, Sheila, University of Texas Health Science Center Dental Branch, at Houston, Thomas, Alvin, Carver Institute

The purpose is to investigate the dental health status of geriatric residents of different ethnic groups living in a government subsidized multifamily living center where the environmental and socioeconomic conditions are equal.

Dental health status has to be related to factors like education, social class, marital status, and industrialization of the country, socioeconomic characteristics and race-ethnicity. The purpose of this study was to investigate the dental health status of geriatric residents of different ethnic groups living in a government subsidized multifamily Living Center where the environmental and socio-economic conditions are equal. Material and Methods: This nonprofit, nonpartisan living center consist of 297 residents with approximately 1/4 African-Americans, 1/4 Caucasians, 1/4 Hispanic-Americans and 1/4 Asian-Americans. Prior to intraoral examination, a trained health council recorded background information such as; name, age, gender, ethnicity, and residential status. All clinical examinations were performed by Dental Branch faculty. Results: The mean number of teeth per person was 20.29. Eight three percent was dentate and two percent retained all 28 teeth. Seventeen percent were edentulous and 28% were partially edentulous. Eleven percent of the partially edentulous patients had maxillary dentures and mandibular partials; and conversely less than 1% had mandibular dentures and maxillary partials. Race-ethnicity: Hispanic Americans had, 23.48 retained teeth and conversely less than 1% had mandibular dentures and maxillary partials. Caucasian had 19.75 retained teeth, while Asian American had the lowest rate at 18.45. retained teeth.

Conclusion: While the overall prevalence of tooth loss and edentulous has been declining in the United States, important variations remain among different groups of the population. This survey provides current estimates of the prevalence and distribution of tooth retention and tooth loss. Further estimates of the prevalence and distribution of tooth retention and tooth loss. Further research needs to examine other areas of potential correlates of tooth retention and tooth loss before we can understand the complex interplay of environmental factors and socio-economic influence.

138. Development of an Interactive Web Site for Dental Ethics

Kiger, Robert D., School of Dentistry, Loma Linda University; School of Dentistry, Winslow, Gerald, School of Religion, Loma Linda University School of Dentistry

The purpose of this project is to describe the development of a web site on the Internet that will serve as a focal point for interest in dental ethics. In addition to establishing links with organizations that have particular interests in dental ethics, the site can also be used for interactive discussion of issues related to dental ethics, and for web-based instruction for dental students.

A web site has been developed which will serve as a focal point for interest in the area of dental ethics. The site is located at http://www.dentalletics.net. This web site has been developed by faculty at Loma Linda University and is designed to accomplish several objectives. First, to establish a site that can serve to identify organizations with particular interests in dental ethics, to provide information about these organizations, and to provide appropriate links to web sites maintained by those organizations, when available. Second, to provide a common site where interactive discussion of issues related to dental ethics can take place. This can include submission of questions for general discussion in a forum format, and submission of case studies that might be used to stimulate thought about unique ethical issues that might be of interest to those in the dental community. Finally, the site can be used as a location for case studies and other types of assignments for web based ethics instruction within the dental curriculum at Loma Linda University.

This poster will present more detailed information on the web site, on it’s usefulness in the dental ethics community, and on it’s usefulness as a teaching tool in the dental ethics curriculum.

139. Changes in Student Computer Skills During Dental Hygiene Training, Class of 2000

Lewis, Vahn A., The University of Texas Health Science Center at Houston, Dental Branch, Henson, Harold A., The University of Texas Health Science Center at Houston, Dental Branch

Purpose: To assess changes in computer knowledge, skills and attitudes during 2 years of dental hygiene education.

A survey form was used to assess: 1) demographic characteristics, 2) knowledge and use of computers 3) computer resources and availability and 4) perceived need for computer training. The survey form was reviewed by the UTHSC-H Human Research Committee. The study populations were August ’99 dental hygiene freshmen N=38 (99F) and this class as seniors in April ’00 N=35 (00S). We also compared 00S to Aug ’99 entering freshmen (00F).

There were no statistical differences in demographic items between the 99F and 00F, i.e. they are U.S. born, English speaking Caucasian women from 18 to 50 years. Computer knowledge had remained generally unchanged between 99F and 00S. The variety of computer applications that 00S used had increased by 10%, which was only partially due to use of the clinical information system. Seniors showed an increased use of computers for recreation (+26% P=.0015768) and communication (+30% P=.0038), but they were not different from 00F. 00S reported more use of comput for literature searching (+28% P=.0078) but decreased computer use for communication with faculty (-25% P=.012). With regard to computer resources there was a trend for 00S to have greater ownership and access to computers (up 9%). The 00F were more likely to have IBM Pentium (49%) class computer than 99F (29%; P= .0064). 00S (17%) used e-pagers to monitor their email. There was less interest for health science computing (HSC) workshops among 00S (99F 42% vs. 00S 17%).

In conclusion, senior DH students have increases in computer and technology skills, which primarily relate to clinical activities, i.e. use of computer patient information systems and e-pagers. Other differences between 99F and 00S were also observed in the 00F and may relate to societal changes rather than changes associated with the dental hygiene program.

140. A Comparison of Student Performance in a Simulation Clinic and a Traditional Laboratory Environment: 3 Year Results

Lindquist, Terry J., University of Iowa College of Dentistry; Clancy, James MS., University of Iowa College of Dentistry; Palik, Joyce F., University of Iowa College of Dentistry; Johnson, Lynn A., University of Iowa College of Dentistry

This study compares the scores of two fixed preparations for full cast crowns by third year dental students with varying years of simulation clinic experience.

Dental schools have improved their preclinical laboratories to provide a more a realistic clinical teaching environment, i.e. Simulation Clinics. However, there is very little data to support the
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141. A Partial Solution to THE PROBLEM: A Combined Academic and Graduate Training Program
Lloyd, Patrick M., University of Iowa College of Dentistry; Johnson, Lynn, University of Iowa College of Dentistry; Rivera, Eric, University of Iowa College of Dentistry; Hand, Jed, University of Iowa College of Dentistry

In response to the ever-shrinking pool of qualified applicants for faculty positions in our dental schools, the University of Iowa College of Dentistry has launched a program to prepare future academics in endodontics, operative dentistry, oral pathology and prosthodontics. Individuals enrolled in the program receive their advanced clinical training while simultaneously serving as faculty in a comprehensive care clinic. In this capacity they will be supervising senior dental students who are providing general dentistry services.

To gain an appreciation for the inner workings of a college department, they participate in all departmental administrative activities. A broad-based perspective of dentistry is maintained by having them practice general dentistry in the College’s intramural dental practice. Course work in the College of Education, dealing with curriculum design, educational measurement, instructional technology, and student assessment, is a mandatory part of the program. Research efforts will focus on innovations in educational technologies and methodologies germane to the discipline of the program participant. Attendance at national dental education conferences will help establish program participants in the dental academic community. This presentation reviews the recruiting process, the funding sources, the interdepartmental collaborations, and the time commitments of the program.

142. Advantages and Disadvantages of Using Learning Objectives
MacPherson, Brian R., University of Kentucky College of Dentistry

Purpose: To evaluate student use of Learning Objectives and obtaining feedback on their perceived value.

Learning Objectives are generally viewed as useful features in a course where the student is expected to learn some, or all, of the material on their own. Over the past 6 years Learning Objectives, designed to give the student feedback on what they need to know about the topic as well as an indicator on level and depth of detail required have been used. Initially, answers were not included as the information was contained in the lecture text. Student evaluations in years 1-3 viewed the objectives as as extremely useful (82.3% strongly agree) and were used by 96.4% of the students. The one common dissenting comment was that the answers were not provided (73.5%). Providing the answers in a list was felt to facilitate memorization of the answers, without necessarily understanding the material. For the past 3 years, the answers were provided via a web-based database, displaying only one answer per search action. Objective student feedback indicated that 53.5% used the database to check every answer, 40.2% of them utilized it to check only certain answers. A small percentage of the students (6.3%) indicated that they did not use them at all. A common annual response (23.1%) indicated they felt the objectives did not focus on the material tested. In response one exam was coded indicating the objective where the material to answer that question was located. This example indicated 98.4% of the material was taken, or extrapolated, directly from the Learning Objectives. This demonstrated that simple memorization was not an effective method of assimilating the material as it is rarely (only 27.3% incidence) examined word-for-word as it appears in the database.

Learning Objectives are viewed by the student as an effective way of determining the depth and focus of knowledge on a subject. However, simple memorization of the answers does not ensure an above-average grade on the exam.

143. A Public and Clinic Prototype: Utilizing a Dental Hygiene Educational Facility to Increase Access to Care
Maurizio, Sandra J., Southern Illinois University Carbondale; DeMattei, Ronda R., Southern Illinois University Carbondale

The purpose of this new program is to increase access to care for an underserved rural population while also providing a unique educational environment for dental hygiene and dental laboratory technology students.

To address a shortage of Medicaid providers a new clinic was established within an existing dental hygiene educational program facility. Locating the clinic in the existing facility eliminates the cost of the building, equipment, and staffing. The clinic exposes students to a sector of society that has unique physical, mental, emotional,
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144. The Development and Implementation of a Student Clinic Implant Program
McConnell, Thomas A., University of Kentucky College of Dentistry, Abadi, Behruz J., University of Kentucky College of Dentistry, Haug, Richard, University of Kentucky College of Dentistry, Laswell, Harold R., University of Kentucky College of Dentistry, Thomas, Mark V., University of Kentucky College of Dentistry.

Dental implant therapy has become more predictable and commonplace in the general practice of dentistry. To prepare our graduates for private practice, the College of Dentistry has developed a program in which all students will place and restore single tooth implants and implant retained complete mandibular dentures. The program begins with a comprehensive preclinical course to prepare students for patient care. After a patient has been identified for implant treatment, a series of carefully planned consultations are obtained, treatment planned, and patient consent obtained. Surgical placement of implants occurs in the Oral and Maxillofacial and Periodontal graduate clinics. Students assist and observe on the first surgical placement and subsequently place an implant. The restorative treatment is performed by students in the clinic under faculty supervision. A pre-course survey of the preclinical course indicated that 95% of the fourth year students were interested in learning about implant therapy and having the opportunity to provide implants for patients. Only 45% were confident in their ability to assess a patient’s suitability for implant therapy; 30% felt confident in their ability to restore a single tooth implant and 1% felt confident to surgically place an implant. Post course survey results showed 93% were interested in learning about implants, 73% were confident in their ability to assess a patient for implants, 80% were confident in their ability to restore a single tooth implant and 13% felt confident to surgically place an implant. Since the start of the program, 31 PFM implant crowns, 7 FGCs, and 8 mandibular implant dentures have been treatment planned.

Fourteen PFMs, 3 FGCs, and one implant denture have been delivered. Complete results will be presented at the poster session.

145. Community Service versus Service Learning - A Pilot Project
McCunniff, Michael, University of Missouri at Kansas City School of Dentistry

Objective: Service learning represents a potentially powerful form of education because it provides a means of linking the academic with the practical. Yet, though there is broad support for engaging students in community service, there has been some resistance to incorporating service learning into academic courses. This abstract presents some of the resistance and obstacles that one such program encountered during planning and implementation of a RWJ grant. Methods: In response to a RFP, a Robert Wood Johnson grant was awarded for a community based outreach program through the UMKC School of Dentistry. Three dentists were hired to rotate through 5 community health centers to provide comprehensive care to primarily underserved children. Curriculum approval was obtained to incorporate third and forth year dental students in the community service. Results: Program obstacles included: minimal applicants for faculty positions; curriculum approval; program incorporation into existing community health centers operation; practice philosophies; student rotation scheduling. Program advantages included increased access to care for underserved populations and increased clinical experience for students. Conclusion: Although this service learning pilot project has identified obstacles during its implementation, the overall results have been positive, both from the community aspect as well as the dental student training component.

146. Is There a Relationship Between the Candidate’s Questionnaire Score and Performance in the Program?
Mitchell, Terry, Dalhousie University Faculty of Dentistry, Murphy, Joseph, Dalhousie University Faculty of Dentistry, Thompson, Darcey, Dalhousie University Faculty of Dentistry

Purpose: To determine whether or not applicants with low academic prerequisites and high candidate’s questionnaire scores meet with academic difficulty when accepted to the dental hygiene program. Admissions committees struggle to select the best applicants from a pool of qualified candidates. Requirements for admission to a Canadian dental hygiene program have included required subjects average (RSA), average of the last five credits taken at a university level, a structured interview and a candidate’s questionnaire. In 1996 a decision was made to use a candidate’s questionnaire instead of an interview because the latter was too labor intensive. It was found that including the questionnaire scores did reorder the applicants. The reordering made a difference especially for those whose academic qualifications were low in that a high questionnaire score would change the rank order enough to have them selected for admission. To investigate how applicants with low academic prerequisites and high questionnaire scores performed in the program, the questionnaire scores were collected and correlated with performance indicators such as GPA and the grade achieved in two didactic courses thought to be related to the questions answered by the candidates. Of 107 admissions, 20% had an RSA of 70% or less, 20% had an RSA of 80.5% or greater, 23% scored 15/25 or less and 25% scored 19/25 or greater on the questionnaire. The results indicate that those with an RSA of 70% or less and questionnaire scores of 19 or greater perform at the same level as those with an RSA of 80.5% or greater and questionnaire scores of 15 or less. The results suggest that those who have a better understanding of the profession and the program for which they are applying overcome any disadvantage presented by
147. Teaching Advocacy in Predoctoral Dental Education
Mosca, Nicholas G., University of Mississippi School of Dentistry, Silberman, Stephen, University of Mississippi School of Dentistry

Advocacy is the act of pleading for a cause, and is necessary to inform health policy makers about important health care issues. Dental educational programs are faced with budgetary constraints, trends in the dental workforce, and public concerns over disparities in access to adequate oral health care. Many educational programs rely on legislation and public programs to meet their patient care mission. Dental education should incorporate advocacy training for their students on behalf of the public good and the future of the dental practice.

Third year dental students (n=29) at the University of Mississippi School of Dentistry participated in a 16-hour course entitled Socioeconomic Factors II. This course provided students with an opportunity to review health policy concerns at the individual, state and national levels, and to make comparisons regarding various organizational and financial approaches to providing health care. Students were instructed to develop a position paper about an assigned municipal, state, or federal health program. Student assignments were paired so that both pro and con positions were stated for each program. As a final examination, students were asked to read their papers aloud, then debate their positions before an audience of their classmates and faculty. Presentations were graded on knowledge, clarity and persuasiveness. Students could request an increase or decrease in program funding, and support or abolish a program. Examples of programs discussed in student debate include the Medicaid program, the Ryan White CARE Act, Title VII Programs, Community Health Centers, Children’s Health Insurance Program, EPSDT, among others. Feedback from course evaluations demonstrated that students found writing position papers to be a good experience, and rated the course highly. Students also perceived that it was much more difficult to write a negative position paper about these programs than supportive one. Students gained experience as advocates, and may use these position papers to inform policy makers.

Training dental students to understand State and Federal public programs and become advocates for these programs may promote further advocacy for their profession and the public good.

148. Survey to Explore Ways to Improve Faculty Recruitment in Prosthodontics
Mullasseril, Paul, University of Oklahoma College of Dentistry

The objective of this study would be to develop a questionnaire to evaluate the perception among graduate Prosthodontic residents regarding faculty positions. This would help institutions develop strategies to improve recruitment.

Several reports by the ADEA and the American College of Prosthodontics indicate an acute shortage of dental educators in the field of Prosthodontics in the United States. A questionnaire was developed to address the following:

1. Develop guidelines to address the drawbacks of an academic career as perceived by residents.
2. Explore ways to match faculty salaries to the financial objectives of a graduating resident.
3. Determine ways to develop a support system within the institution to make and academic career attractive.
4. Widen the scope of intramural practice in an academic setting.
5. Increase the number of graduates that are likely to pursue a career in academics.

This survey was sent to all the graduate Prosthodontic residents in the United States. The results were analyzed and ways to improve faculty recruitment were determined.

In order to improve faculty recruitment, the needs of graduating residents have to be met by changes in the academic setting.

149. Perceived Importance of Diversity Exposure and Training in Dental Education
Novak, Karen F., University of Kentucky School of Dentistry, Whitehead, Albert W., University of Pittsburgh School of Dental Medicine, Close, John M., University of Pittsburgh School of Dental Medicine

To address the hypotheses that (1) exposure to racial and ethnic diversity in the student body, faculty, staff and patient population in dental school and (2) a dental school curriculum that includes presentations on issues concerning racial and ethnic diversity, contribute to students feeling more competent and confident to enter the multicultural work environment that is rapidly developing in the United States.

Health care practitioners may have ethnocentric biases that are in conflict with patient health care practices and beliefs found in a multicultural society. Many dentists trained in the United States treat their patients based on Western concepts, values and beliefs. Patient of diverse backgrounds may not adhere to these same beliefs, and may be considered “non-compliant” by the treating dentist. However, if the care provider is “interculturally competent” and skilled in working with those of different backgrounds, the doctor-patient relationship may be enhanced (Galvis, JDE, 1995). Exposure to individuals of diverse backgrounds during dental training may be an important step in preparing students for these future relationships. Therefore, we hypothesized that (1) exposure to racial and ethnic diversity in the student body, faculty, staff and patient population in dental school and (2) a dental school curriculum that includes presentations on issues concerning racial and ethnic diversity, contribute to students feeling more competent and confident to enter the multicultural work environment that is rapidly developing in the United States. A Likert scale questionnaire was developed and administered to approximately 627 fourth year dental students enrolled in 5 dental school schools representing geographically diverse regions of the United States. 376 questionnaires were returned for a response rate of 60%. Preliminary data analysis resulted in both the perception of diversity in the school environment and the presentation of diversity specific content in the curriculum having moderately positive and significant correlations with the students’ perception of their competency or ability to serve and work with diverse populations. The respective Pearson correlation coefficients were .497 (<.001) and .459 (<.001).

These results support the hypotheses that exposure to individuals of diverse racial and ethnic backgrounds and diversity training in dental school may help students feel more competent and confident for clinical practice in a multicultural society.

150. A Study of Basic, Behavioral and Clinical Science Integration in a Dental School Curriculum
O’Neill, Paula N., The University of Texas-Houston Dental Branch, Agostini, Francesca, The University of Texas-Houston Dental Branch, Levine, Alan E., The University of Texas-Houston Dental Branch, George, Lloyd A., The University of Texas-Houston Dental Branch, O’Keefe, Kathy L., The University of Texas-Houston Dental Branch
151. Factors Related to Career Retention in Clinical Dental Faculty

Overman, Pamela R., University of Missouri-Kansas City School of Dentistry

Purpose: To determine what variables were useful in discriminating between faculty who expressed an intention to leave dental education and those who expressed an intention to stay. Dental education faces many challenges, including a developing shortage of clinical educators. Leaders in dental education have cited many factors as contributors to this shortage, however, the viewpoints of faculty themselves have not been documented. The purpose of this study was to determine what career retention factors were important to clinical faculty. Specifically, survey research was conducted to determine what variables were useful in discriminating between faculty who expressed intention to leave dental education and those who expressed an intention to stay. Survey materials were sent to 55 U.S. dental schools for distribution to clinical dental faculty. To assure respondent anonymity, survey materials were not coded for follow-up. A total of 1080 usable surveys were returned for a response rate of 49 percent. Discriminant analysis was conducted to determine whether a set of nine variables (salary, a tenure track position, opportunity for advancement, benefits, no pressure to publish, opportunities for research, advancement, and geographic location) could discriminate between those who expressed an intent to stay and those who expressed an intent to leave. A significant Wilks' lambda indicated that the variables did discriminate between the two groups of faculty. Based on the magnitude of the structure coefficients, opportunity for research, salary, greater opportunity for advancement, and geographic location had the strongest relationship with the discriminant function. Tenure track position, salary, opportunities for research, advancement, and spouses were important in intent to leave, while geographic location, lack of pressure to publish, benefits, and opportunity to teach were important in intent to stay.

Salary is an important factor in retaining clinical faculty, but it is not the only factor that should be taken into consideration.

152. Evaluation of a Research Enhancement Program

Scheetz, James, University of Louisville School of Dentistry; Butters, Janice, University of Louisville School of Dentistry; Hill, Margaret, University of Louisville School of Dentistry; Willis, David, University of Louisville School of Dentistry

Purpose: To (1) assess the outcome of a program to enhance the research skills of dental faculty and (2) to stimulate research grant submissions. Many dental schools are seeking to increase the level of funded research obtained by faculty. However, some dental faculty members do not have the requisite skills to prepare research proposals. The University of Louisville School of Dentistry designed a program to provide skills that would be of use to faculty in grant writing. A weekly seminar series focused on the following topics: the research process, hypothesis formulation, research design, performing a literature search, ethics in research, obtaining human studies approval, statistical analysis, writing the grant (4 sessions), grant submission, federal funding opportunities, local funding opportunities and types of research. All seminar attendees were asked to evaluate each session by answering 6 Likert type questions. The number of responses varied by week from 7 to 18 depending upon the number of faculty who attended each session. Focusing on two evaluation questions: (1) How difficult was the material to comprehend? and (2) How useful will the material be in developing a proposal?, the findings are shown for the seminar topics. With regard to difficulty, the least difficult topics were: types of research and ethics in research. The most difficult topics were statistical analysis and writing the grant proposal. An assessment of usefulness in proposal preparation show that the following topics were viewed as most useful: types of research, obtaining human studies approval, the research process, hypothesis formulation, research design and performing a literature search. All of the topics presented were viewed as useful as related to research proposal preparation. Four research proposals have been completed and several more are in preparation by faculty who participated in the seminar series.

Useful and relevant information related to research proposal preparation can be presented to and applied by faculty in writing grant proposals.

153. A Longitudinal Study of Dental Students’ Tobacco Use Habits

Schoen, Diane H., University of Medicine and Dentistry-New Jersey Dental School

The Purpose of this study was to compare the tobacco use habits of one class of dental students in the freshman year and in the senior year of dental school.

Studies have shown that the prevalence of smoking among dental students is similar to that in the general population. A voluntary, anonymous survey was distributed to one class of dental students in their freshman year of dental school and again in their senior year. During the freshman and sophomore years, students were given lectures on the effects of tobacco use on general and oral health. They
were also trained to counsel dental patients in tobacco use cessation. Counseling for dental students who currently used tobacco was also offered. In the freshman year, 67% of the students responded to the survey. In the senior year, 54% responded. There were no differences in the results from one year to the other, with 7% currently smoking, 15% former smokers, and 78% having never smoked. All of the current smokers had started smoking before entering dental school.

There was no change in the tobacco use habits of one class of dental students between the freshman year and senior year of dental school. Further study is necessary to determine the barriers to students quitting tobacco use.

154. A Case Study of Televised Distance Learning Implementation in an Urban University

Shuman, Deanne, Old Dominion University; Pindur, Wolfgang, Old Dominion University; Rettie, Lindsay L., Old Dominion University; Leavitt, William M., Old Dominion University

This study explores factors that facilitated or served as barriers in the implementation of a distance learning initiative at one urban university. Further, this study addresses the process used by management to implement televised instruction.

The scope and complexity of problems faced by colleges and universities today are growing, and public institutions are being asked to do more with less. Despite limited budgets and stretched resources, institutions are expected to be responsive to the challenges of change. Distance learning using televised instruction, which brings the classroom to the learner, is an available technology that can be responsive to students’ diverse needs.

A single-case study design with embedded units of analysis was employed as the research design. Data collection consisted of faculty surveys, interviews of administrators, and a review of archival records. The entire population of faculty who had taught courses on television, comprised the sample for the faculty survey. Administrators selected for interview were a purposive sample comprised of those individuals with direct implementation involvement. Interview results were analyzed by quantifying responses and employing pattern matching based on theoretical constructs from implementation theory literature. Faculty Survey results were analyzed using frequency data and logistic regression analysis. Highlights of results include community college partnerships as key in assuring student enrollments and garnering legislative support. Faculty viewed commitment of the president, training, and support from distance learning personnel as significant facilitating factors. Faculty were most concerned with workload issues, release time, and recognition of teaching.

Analyzing the experiences of one urban university with the development of televised distance learning can assist other institutions seeking this innovation for education delivery for the purpose of expanding access to students who are bound to their geographic locations.

155. Community Collaboration to Improve Access to Oral Health Care

Sigal Greene, Terry, Northampton Community College, Coyle, Bonnie, St. Luke’s Hospital

In 1997, the Bethlehem Partnership for a Healthy Community identified dental health as a significant health problem in the low-income population residing in the City of Bethlehem’s south side. In response to the survey findings, a Dental Subcommittee of the Partnership developed, and is currently implementing a comprehensive initiative to promote dental health and improve access to care. The initiative targets low-income students from elementary schools, with special emphasis on two schools where 77% of their students qualified for free lunches. The initiative includes: 1) Community Education and Awareness, with goals to conduct a dental supply donation campaign among service organizations and to conduct at least one dental health education program in every elementary school in the Bethlehem area school district yearly, 2) Preventive Care, with the goal to increase the percent of students who receive preventive services yearly, and 3) Restorative Care, with the goals to increase the percent of students who receive restorative care yearly, and to explore grant opportunities for a mobile dental clinic. 2000-01 program results: 11,460 dental supplies were donated, 1700 children received dental health education, 122 children received preventive services at Northampton Community College’s Dental Hygiene Clinic, volunteer dentists provided restorative care to 43 children, and a mobile dental clinic was donated. Through strong collaborative efforts among community organizations, local hospitals, the school district, and government agencies the number of children from the two targeted elementary schools who received dental care increased from 17% in 1997-98 to over 95% in 2000-01, and thousands of children benefited from the dental health education campaign.

This initiative demonstrates that communities of professionals can come together and improve access to oral health care through institutional alliances and partnerships.

156. A New Program Designed to Teach Principles of Interdisciplinary Teamwork

Stewart, Arthur Van, University of Louisville School of Dentistry, Fischer, Jacqueline F., Seven Counties Health Services Program, Taylor, Laura K., Toyota Comprehensive Health Care

This new elective was added to the curriculum to offer dental students an opportunity to work with students from other health professions. The University of Louisville has developed a joint training project so that medical, dental, nursing, allied health, and social work students from 12 professional programs (and three area universities) to give students participating in the project an opportunity for discovering how difficult (but rewarding) it can be to become a member of an interdisciplinary care team. The program involved teams of 8-12 students working together for four consecutive weeks in classroom activities plus selected case work activities. A dental student was included in 93.7% of all teams created. Pre-test/post-test comparisons show (a) that by the end of the course, students consistently demonstrate more positive attitudes towards working as a member of such a team, (b) the program also produced gain scores in knowing the characteristics of an effective interdisciplinary health care team and (c) gain scores in tests taken by dental students completing the course and understanding the value of team-driven Plans of Care were also very evident (with a pre-test score of 45.6 which demonstrated an improvement on the post-test result of 68.9 on post-test. Student feedback indicated that 100% of participating students were especially liked the series of laboratory activities as marked their evaluation as either “excellent” or “very good.” Among the several activities included in the project the most-liked activity was the “Uncritical Inference” game (86.2%). The second most enjoyed laboratory activity was the series of NASA escape scenarios. Post-program assessment data also was collected from participating faculty and staff. The “Uncritical Inference” laboratory has many potential applications in dental education and, therefore, will be emphasized during the poster presentation.

The experimental program designed to improve team skills has been an attractive and useful addition to the curriculum.
157. Online Tests for Self-assessment in Dental Education
Wegmann, Ulrich, Universitätsklinik Bonn, Germany

To improve the theoretical skills of our students we have not only to hold our lectures in an adequate way. It’s more important for the success of our educational efforts to give the students the possibility to check their knowledge. Only with often repeated tests they can easily see which areas they need to improve. Therefore we use knowledge tests as an efficient and effective way to measure the need of additional education. In the past we used to do these test as multiple-choice-tests or tests with a free-text-answering-mode. To improve the quality of our tests and to reduce the time for preparing and evaluation of the tests, we decided to transfer them from a “paper-based” form into an online test. Our tests were build with the software “Enlight TestStation” and hold on a server of the “Enlight company”. With a lot of different templates it is very easy to develop not only text-based questions but also questions with interactive and multimedia components. The test can be done by the student whenever and as often he wants to do it. The evaluation is done online by the Enlight Corporation and send to the student as well as to the lecturer. Therefore both of them have information about the score. Using these tests has saved us a lot of time and educational costs.

To evaluate this system we gave access to this internet-based test-system to randomly selected one half of our course participants. At the end of this course all students had to perform a conventional “paper-based” test. Then the results of both groups were compared. As preliminary results we can say that the group with access to internet-tests showed a higher average score than those without. There was also a trend for higher scores for those students with a higher number of performed tests.

As a preliminary result we can say, that internet-based onlinetest give us and our students a better overview of their skills and the need for individual enhanced training. Using this kind of tests has saved us both time and educational costs.

158. Self-Responsible Learning of Preparation: Techniques for Fixed Prosthodontics Assisted by 3D-Computer-Scans
Wegmann, Ulrich, Universitätsklinik Bonn, Germany

A basic requirement to learn the different preparation-techniques is a good spatial imagination. The student has to compare his own preparation with a “virtual standard preparation”. Especially the estimation, which amount of tooth substance he already had removed, is a very difficult task for a beginner. Therefore it is very helpful to compare a 3D-scan of the student’s preparation with a scan of the unprepared tooth or standard preparation. This can be done very easily with the PREPassistent (Fa. KaVo). The preparation is optically scanned and then calculated to a 3D-picture, which can be rotated into all directions. The screen is divided into four windows, which show the instructors and the students preparation, each of them as a 3D-representation and an intersection. The direction (m-d or l-b) and position of the intersection-plane can be changed. In all windows you will find the original outline of the tooth as an overlay. Therefore the student can imagine very clear where he has to do his corrections. In an “instructor mode” criteria (positions, distances, angles) can be defined which were measured automatically.

In our study we compared two groups of students (each 15 participants): The first group was educated in a conventional manner with supervision by experienced dentists. The other group could use the PREPassistent as often as they wanted, but without any help by our staff. Then we compared the number of corrections, the time up to the completion and the quality of the final preparation. As a summery of our results we can say that the students using the PREPassistent had a fewer number of controls and reached a better quality in shorter time. Most students using the PREPassistent mentioned it as more useful than oral explanations.

The use of an optical scan-system (PREPassistent Fa. KaVo) can be very helpful for beginners to learn different preparation-techniques.

159. The Development and Evaluation of a Health Science Career Readiness Program for Middle School Students in the Northeast San Fernando Valley
Yamamoto, John, University of California Los Angeles School of Dentistry, Marcus, Marvin, University of California Los Angeles School of Dentistry, Maida, Carl, University of California Los Angeles School of Dentistry, Reifel, Nancy, University of California Los Angeles School of Dentistry

Purpose: To describe the conduct and evaluation of a collaborative career readiness program for middle school students designed to raise science awareness and encourage careers in dentistry.

The low-income, minority immigrant communities of Pacoima and San Fernando have been identified as having high levels of unmet dental need and limited access to dental care. Poor academic achievement and a high dropout rate have resulted in a crippled healthcare education “pipeline”. UCLA School of Dentistry in collaboration with community-based agencies and Maclay Middle School implemented a health sciences career readiness pilot project to prepare middle school students for health science preparatory courses in high school and college. A curriculum was designed to teach science using oral health concepts and introduce dentistry as a possible career choice. The curriculum covered: bacteria and infectious disease, anatomy, prevention and healing, and career development and was centered on “hands-on” experiential activities to make the concepts more relevant and interesting. Activities included a field trip to UCLA Dental School and a service-learning project teaching peers about oral health. 60 7th grade science students participated in the 6 session “micro” course. A pre and posttest was used to evaluate the effectiveness of the project in increasing students’ knowledge, improving their attitudes, and influencing their career orientation. A control group of 7th graders from the same school and track served as a comparison group.

Student response to the curriculum was positive and showed promise as a method of teaching science and oral health. Results showed that students who received the curriculum were more knowledgeable about oral health, had a more favorable attitude towards dentistry, and were more likely to consider a career in dentistry.

Block IV
Tuesday, March 5
2:30 p.m. - 4:00 p.m.

160. Comparison of Professional Activities of General Dentists and Specialists
Atchison, Kathryn A., University of California Los Angeles School of Dentistry, Lefever, Karen H., University of California Los Angeles School of Dentistry, Mito, Ronald, University of California Los Angeles School of Dentistry

The purpose of this study is to compare the activities of practicing general dentists and dentists with formal advanced training in AEGD or GPR programs.
161. Analysis of Military and VA Postgraduate Training Programs in General Dentistry

Bachand, William R., United States Army Dental Corps, Atchison, Kathryn, University of California Los Angeles School of Dentistry

The purpose of the poster is to describe/analyze the differences between Postgraduate training programs in general dentistry (AEGD/GPR) in the military and the Veterans Administration. This was accomplished as part of a larger study conducted by UCLA/HRSA evaluating the impact of Federal funding on training programs as well as differences such as quality of personnel, quality of training, and treatment of underserved patient populations.

An analysis of VA and military training programs was conducted as part of the larger UCLA/HRSA study evaluating the impact of federal funding on postgraduate training in general dentistry. Surveys addressing program infrastructure, patients demographics, resident quality and curriculum emphases were sent to program directors from all branches of the Federal Services programs as well as VA programs. (N=94) Directors were also asked to identify critical issues facing postdoctoral general dentistry in the future.

Key findings comparing VA and military (M) programs included: (1) VA programs tend to be GPR while M programs are almost exclusively AEGD; (2) M programs have a higher proportion of full-time faculty and staff than VA programs; (2) M programs served proportionately more healthy adults and fewer medically compromised patients; (3) VA programs saw more comprehensive care and fewer emergency care visits than M programs.

Over the past 3 years VA programs have the greatest increase in curriculum emphasis in implantology, medical risk management, oral diagnosis, physical evaluation and quality assurance while military programs have increased emphasis in esthetic dentistry, oral diagnosis, implantology and preventive dentistry. The greatest decrease in curriculum emphasis in VA programs came in conducting dental research while military programs decreased emphasis mostly in pediatric dentistry and orthodontics. 60% of military programs indicated incoming residents were inadequately prepared in at least 10 different content areas while 40% of VA programs indicated a similar lack of preparation. Military and VA program directors cited a lack of applicants as critical issues. Military directors also cited problems in faculty recruitment and retention as critical while VA program directors also listed devaluation of the dental programs.

Significant differences exist between programs run by the Military vs the VA. Both programs train general dentists to the level enabling minimal referrals. These well trained dentists are a valuable and are ideally suited for treating complex patient populations and could be utilized in underserved areas. Significant issues face both military and VA training programs as well as larger issues such as quality of education. Mentoring relationships are considered the “single most important factor” in the career advancement and development of dental program directors. The purpose of this study was to examine the relationship between professional development and mentoring experiences of dental hygiene directors.

The purpose of this study was to examine the relationship between professional development and mentoring experiences of dental hygiene directors. The directors were asked a series of questions (74 items; 5 point Likert-type scale) that described their professional development and mentoring experiences as professional students, faculty, and directors. The Professional Development (PD) score was the sum of seven variables (after standardizing their scores). The higher the PD scores the more professional activities the director had (grants, publications, promotions, consulting income, etc.). The target population consisted of 235 directors. As this was a census, an Internet mail survey was sent to all directors who had active electronic mail addresses (n=142). The data sample consisted of 72 usable responses. The field test was conducted to test for content and face validity. Cronbach’s Alpha was used as a measure of internal consistency and an acceptable alpha was determined to be .60. Data were downloaded from the WEB and manually entered into SPSS9. The grand mean mentoring length (years) was 20.45 (sd=21.48, n=45). There was a low negative relationship between length of the mentor relationship and professional development. Analysis using Pearson’s Product Moment Correlation revealed that the longer the dental hygiene administrator had mentoring experiences and the more mentors they had, the lower their professional development (r=-.221).

These findings do not support popular research related to the importance of mentoring for professional development. It can be speculated that the directors were involved in mentoring experiences that did not provide mentoring functions that related to their professional development.

163. A Comparison of Children’s Oral Health in a Rural Based Community: Implications for Curriculum Building within Dental Hygiene Programs


University of California Los Angeles School of Dentistry surveyed a random selection of dentists from three graduating years (1989, 1993, and 1997) as part of an HRSA-supported evaluation of the impact of federal funding on postgraduate general dentistry (PGD) programs. Using a sample drawn by the ADA, 6725 dentists were sent surveys about their current practice, advanced training, patient populations seen and services provided. 2029 dentists responded, a 30% response rate. Respondents included 963 (47%) practicing dentists with no formal advanced training in general dentistry (GD) or one of the eight ADA-specialties; 175 with AEGD experience (9%), 534 who participated in a GPR (27%) and 476 Specialists. 149 respondents had both advanced PGD training and a clinical specialty. There were no significant differences in the propensity for moving to specialty programs from AEGD vs. GPR. GPR-trained dentists were significantly more likely to be on staff at a hospital (GPR 23%, GD 9%, AEGD 10%, p<0.05), but no such difference was noted for staff privileges at a nursing home (GPR 46%, GD 33%, AEGD 40%). Comparing reported patient populations treated by GPR vs. GD and AEGD, GPR were more likely to report treating HIV/AIDS patients than GD, and more likely to treat medically compromised patients than GD or AEGD. There were no differences seen for treating children, psychiatric, same day surgery, and geriatric patients. GPR were less likely than GD dentists to treat rural patients. Comparing the proportion of 4 advanced services for which patients were treated, GPR were more likely to provide surgical extractions (p<0.0001) than GD but no differences were seen for endodontic procedures, periodontal surgery, and advanced prosthodontics. Comparing the leadership activities reported by respondents female AEGD and Specialists were more likely to report leadership positions in the profession than female GPR or GD (p<0.0001). This project was supported by HRSA, cooperative agreement D30 DH10157.

In conclusion the impact of advanced training in general dentistry appears to be subtle touching on many aspects of the professional life.

162. Professional Development and Mentoring Experiences of Dental Hygiene Directors

Barnes, W. Gail, Department of Dental Hygiene East Tennessee State University

The purpose of this study was to examine the relationship between professional development and mentoring experiences of dental hygiene directors. The aggressive pursuit of professional development is required of faculty who aspire to move into leadership positions in higher education. Mentoring relationships are considered the “single most important factor” in the career advancement and development of directors. The purpose of this study was to examine the relationship between professional development and mentoring experiences of dental hygiene directors. The directors were asked a series of questions (74 items; 5 point Likert-type scale) that described their professional development and mentoring experiences as professional students, faculty, and directors. The Professional Development (PD) score was the sum of seven variables (after standardizing their scores). The higher the PD scores the more professional activities the director had (grants, publications, promotions, consulting income, etc.). The target population consisted of 235 directors. As this was a census, an Internet mail survey was sent to all directors who had active electronic mail addresses (n=142). The data sample consisted of 72 usable responses. The field test was conducted to test for content and face validity. Cronbach’s Alpha was used as a measure of internal consistency and an acceptable alpha was determined to be .60. Data were downloaded from the WEB and manually entered into SPSS9. The grand mean mentoring length (years) was 20.45 (sd=21.48, n=45). There was a low negative relationship between length of the mentor relationship and professional development. Analysis using Pearson’s Product Moment Correlation revealed that the longer the dental hygiene administrator had mentoring experiences and the more mentors they had, the lower their professional development (r=-.221).

These findings do not support popular research related to the importance of mentoring for professional development. It can be speculated that the directors were involved in mentoring experiences that did not provide mentoring functions that related to their professional development.
Despite efforts to provide access to children who are uninsured, living in rural communities, strategies to target uninsured children, may not necessarily ensure access to this target group. Comparisons were made between two service providers serving potential children who were uninsured. A variety of factors were considered in the comparisons including access to care and the awareness of the importance and value of oral health for people under 18 years of age. The purpose of this study was to identify various aspects of oral health status in children, within two specific clinics, a university-based dental hygiene “teaching” clinic (n=134) and a Federally Qualified Health Clinic (n=212). Patterns of decayed, missing, filled (DMF) rates, sealants, and oral health status relative to payer, gender and race were examined to identify trends, similarities and differences. Preliminary findings indicated there were differences in the patient populations (Age: $F=35.172$, $p=.000$; Race: $\chi^2=124.97$, df=60, $p=.000$) and given services provided ($t$-test: $t=18.623$, df=324, $p<.01$). Preliminary findings also suggest that despite efforts to target access for marginalized groups, these groups were not necessarily the beneficiary of services available ($t^2=126.99$, df=114, $p=NS$). Implications of findings present issues for curriculum development for the education of practitioners and dental hygiene students about access to oral health care in rural settings. This data suggests recommendations for specific curriculum modifications are necessary within rural dental hygiene settings.

### 164. Comparing Traditional Lecture vs. Computer-Based Instruction for Head and Neck Anatomy

**Blue, Christine M., University of Minnesota Division of Dental Hygiene**

**Purpose:** To determine if computer-based teaching is as effective as traditional classroom teaching for Head and Neck Anatomy.

The teaching format for our Head and Neck Anatomy course has historically been lecture. In an effort to make the study of head and neck anatomy more interactive, self-paced and enjoyable, two “units” of the course, Osteology of the Skull and Cranial Nerves, were translated into computer-based instruction. Despite the rather small number of dental-related studies examining the effectiveness of computer-based instruction (CBI), numerous studies have been conducted in other disciplines. The majority of these studies report that CBI is as effective as traditional teaching methods and, in some cases, more effective. This study sought to examine the difference in effectiveness between traditional instructional methods (lecture) and computer-based instruction in teaching osteology of the skull and cranial nerves to first-year dental hygiene students at the University of Minnesota. The hypothesis being that computer-based instruction is an equally effective learning method when compared to traditional classroom lecture. Students were randomly assigned to three groups. Group A was the “lecture group” and attended the traditional lecture sessions on osteology and cranial nerves. Group B was the “lecture and computer group”; these students were given their own copy of the CD-ROM and were required to attend the lecture sessions. Group C was the “computer group”; these students were given their own copy of the CD-ROM and were asked not to attend the lecture sessions. The textbook for the course remained accessible to all three groups. Performance was evaluated by a pre-test administered in class to all students and an identical post-test. A post-study survey assessed subjects’ attitudes regarding the effectiveness of the learning method, the convenience, and their overall enjoyment of their learning method. This study showed no statistically-significant differences among the groups (using ANOVA) according to pre-test scores, post-test scores, or the change from pre- to post-test. The groups also did not differ when post-test results were adjusted for pre-test scores using linear regression. The study had adequate power to detect noteworthy differences between groups. These results support the hypothesis that computer-based instruction is as effective as traditional classroom lecture. Only one response on the subjective part of the post-study survey had a significant difference among groups: Group 3 “enjoyed the educational unit” more than Groups 1 or 2 ($p=.001$, Fisher’s Exact Test), while Group 1 reported “enjoying the educational unit” the least. The ability of CBI to teach students as effectively as lecture in the Head and Neck Anatomy course provides a significant opportunity for dental and dental hygiene education to utilize a method of instruction which is motivating, enjoyable and cost-effective. Since not all students learn the same way, the use of a variety of methods to teach students provides the highest likelihood of success for the greatest number of students.

### 165. Determining the Effect of Post Graduate Residency on Practice Location

**Booker, Carolyn, Virginia Commonwealth University School of Dentistry, Hunt, Ronald, Virginia Commonwealth University School of Dentistry**

**Purpose:** To determine whether completion of a graduate residency program influenced practice location.

Graduates of a dental program choose to practice in a particular location for various reasons. Many choose to return to the state where they grew up or return to the state as their dental program. In 2000, a study was conducted to assess whether students who graduated between 1990-1998 from Virginia Commonwealth University School of Dentistry remained in Virginia to practice or located to another state. Data on residency status upon entering dental school, practice location after graduation, gender, ethnicity and completion of a residency program were evaluated to determine the number of graduates who remained in the state to practice. The results indicated that the majority of Virginia residents tended to remain in the state to practice. Further analysis was conducted on these data to determine whether completion of a graduate residency program influenced practice locations. Of the 661 students in the study population, 212 completed a graduate residency, while 449 did not. Seventy-eight percent of those completing a residency at VCU remained in Virginia, while 41% of those who completed a residency in another state returned to Virginia to practice. Additionally, it was noted that of those who completed a residency in another state, only 30% stayed in the state of their residency. Bivariate and multivariate analysis of the data investigated the effect of the state of residency for tuition purposes upon entering dental school and the postgraduate residency location on the final practice location. Among graduates doing a residency, they were more likely to practice in Virginia if they came from Virginia and did a residency in Virginia. Both of these variables were significantly related ($p<.0001$) to practice location.

### 166. Mission-Focused Faculty Evaluation

**Boyarsky, Harvey P., University of the Pacific School of Dentistry, Chambers, David, University of the Pacific School of Dentistry, LaBarre, Eugene E., University of the Pacific School of Dentistry, Fendler, Fred, University of the Pacific School of Dentistry**

**Purpose:** To describe a newly developed mission-focused Faculty evaluation system developed at the University of the Pacific School of Dentistry.

Faculty evaluation at the University of the Pacific School of Dentistry provided Department Chairs and Administrators information that I useful for development of Faculty and in decisions regarding salaries. Historically, Department Chairs were not well calibrated. Additionally, many Faculty members felt as though decisions regarding their evaluations were made from hearsay information. This led to a feeling among many Faculty that the evaluation system was unfair and at times arbitrary. Therefore, the Dean tasked the Dental Faculty Council, the voice of the Faculty at the University at the Pacific, in collaboration with the Administration, to develop a
167. Recall Appointment Time: A Patient Survey

Oppy, Dawn M., The Ohio State University College of Dentistry, Carr, Michele P., The Ohio State University College of Dentistry, Bauchmeyer, Susan M., The Ohio State University College of Dentistry

The purpose of this study is to determine, from the patient’s perspective, views regarding the amount of time spent with their dental professional during a recall appointment. Dental hygienists have historically desired more time during recall appointments due to numerous procedures and responsibilities. Studies have reported data regarding time issues from the dental hygienist’s perspective yet limited data is available regarding these issues from the patient’s perspective. The purpose of this study is to determine, from the patient’s perspective, views regarding the amount of time spent with their dental professional during a recall appointment. A total of 312 individuals were randomly selected through the Columbus (Ohio) Metropolitan Area telephone directory and asked to answer a survey consisting of a standard introduction, research questionnaire and demographic questions. 250 participants (153-F, 97-M) completed the survey (80% response rate). Survey results indicate 83.6% of the respondents visit their dentist for recall appointments at least twice a year. 4.4% stated they visit their dentist more than 2x/yr and the remaining 12% only 1x/yr. 70.8% of the participants stated their entire recall appointments are 30 minutes or less while 29.2% stated their appointments are 45 minutes or greater. 98% indicated the allotted recall appointment time was sufficient for optimum oral health care. Results of this study indicate the majority of individuals surveyed in the Metropolitan Columbus Area are satisfied with 30-minute recall appointments. There appears to be a gap between the patient’s perspective of sufficient recall appointment time and the dental hygienist’s concerning receiving/providing optimal oral health care. Dental/dental hygiene educators need to be aware of this gap and execute measures to educate students, patients, and practitioners of the amount of time necessary to achieve the mandatory standard of care.

There appears to be a gap between the patient’s perspective of sufficient recall appointment time and the dental hygienist’s concerning receiving/providing optimal oral health care. Dental/dental hygiene educators need to be aware of this gap and execute measures to educate students, patients, and practitioners of the amount of time necessary to achieve the mandatory standard of care.

168. Clinical Behavioral Dentistry Experience in Comprehensive Care

Centore, Linda S., University of California School of Dentistry, White, Joel M., University of California School of Dentistry

Purpose: To document clinical behavioral dentistry experience with special needs patients

Behavioral dentistry clinical experience builds upon classroom behavioral science teaching. Communication and interpersonal skills are key to successfully treating patients with medical and/or psychiatric disorders impacting dental care. Other special needs include economic, social, cultural, or language issues which may impact as well. Our educational goal is to graduate students who are competent in: applying fundamental behavioral science principles for promoting, improving, and maintaining oral health; and managing diverse patient populations successfully. To solidify learning, behavioral faculty provide consultations on patients and co-treat with students in the clinic. Students observe faculty model or assist with psychosocial history-taking, dental fear assessment, assessment of priorities or ability to consent, conflict resolution, and relaxation techniques. For the time and effort students spend, they receive additional academic credit. Traditional procedure-based curriculum tends to discourage students from spending the time and effort required for these patients. Our novel educational approach encourages students to treat special needs patients by providing chairside behavioral learning and academic credit. This poster reports on tracking this new clinical behavioral dentistry experience. The class of 2001 received 2010 hours of experience treating special needs patients; this represented 40% of the total additional academic credit earned. Additional credit is granted for completing one’s own lab work or attending an externship as well. This averages to 25 hours of behavioral clinical experience per student. Experience ranged from 0-108 hours per student. Behavioral clinical experience was uneven due to random patient assignment by clinic directors.

This educational approach provides students with a rich clinical experience in treating special needs patients. The approach appears successful as students request behavioral consults and co-treatment of complex behavioral patients in clinic.

169. Managing Student Learning on a Distributed Net

Chambers, David W., University of the Pacific School of Dentistry, Glassman, Paul, University of the Pacific School of Dentistry

A prototype selective course with alternative approaches to learning is used to explore alternatives to the traditional lecture and testing format.

Computer educational technology will likely alter the “one-to-many” model of the lecture and textbook era. Although the replacement model is unclear web-based distribution and feedback systems offer an alternative. An experimental, selective course was offered using Blackboard to manage learning interactions. Five units were presented in the area of dental epidemiology. Each unit had: (a) a computerized pretest where students summarized their of from three to six topics in the unit and potential use of that information in their future practices, (b) from three to five learning exercises corresponding to the topics within the unit, and (c) a computerized posttest that repeated to questions about understanding and application, as well as five multiple-choice questions on the topic. Each week, students took the pretest on the computer and selected any two or more topics, ostensibly based on their reflection regarding the pretest. Each week, the available learning experiences included exercises on the computer, readings, and a lecture. Testing and
feedback were managed by the Blackboard system. Student ratings of the course were generally positive. Other outcomes include the fact that students’ beliefs about a topic and its potential use in practice changed little as a result of the learning experiences. No patterns were detectable in students’ selection of topics based on pretest responses, but there was a clear preference for lectures, followed by readings (the shorter the better), and finally computer exercises. Although the Blackboard system proved facile in this application, there was considerable range in computer ability among students, indicating that technology and course content are not the only issues to be addressed in a computer-mediated curriculum.

Based on experience with a single computer-mediated course, it appears that student prior experience with computers and the course content are determinants of both learning approach and outcomes.

170. Critical Issues Identified by U.S. Postdoctoral General Dentistry Program Directors
Cheffetz, Susan E., University of California Los Angeles School of Dentistry, Aitchison, Kathryn A., University of California Los Angeles School of Dentistry

Purpose: To report findings of U.S. program directors of postgraduate general dentistry on critical issues facing postgraduate education in general dentistry.

This analysis is part of a larger HRSA funded study (D30 DH10157) to evaluate the impact of HRSA funding on postgraduate general dentistry training. Specifically, we evaluated the critical issues identified by 169 U.S. postdoctoral dentistry program directors, and compared responses of GPR program directors with those of AEGD directors. An open-ended question, “As a Program Director, what do you see as critical issues facing postgraduate education in General Dentistry now and in the future?”, was asked in a mail survey to all general dentistry program directors. A combination of qualitative and quantitative analysis was conducted to identify key issues of the respondents. Qualitative analysis was conducted using QSR NUD*IST™ to identify relevant themes:

- lack of postdoctoral applicants – private practice/student debt
- student quality
- value of dental program
- faculty recruitment/retention
- special patient/population care
- program curriculum
- resident/support staff funding
- mandatory/encouraged postgraduate year
- number of postdoctoral positions
- attitudes
- dentist shortage
- facility quality.

A chi-square statistic was performed to investigate differences between the AEGD and GPR respondents. Some of the most common issues identified by both GPR and AEGD program directors are a decrease in quantity (n=67) and quality (n=55) of postdoctoral applicants, a devaluation of postdoctoral dentistry programs in general (n=41), and an increase in faculty recruitment/retention issues (n=40). A significantly larger percentage of GPR directors identified a decreased value of postdoctoral dentistry programs by the hospital (p<.05). A significantly larger percentage of AEGD directors identified increased student debt leading to drop in postdoctoral applicants (p=.05).

These results suggest that, despite the profession’s emphasis on primary care, program directors perceive a diminishing value toward postdoctoral general dentistry programs.

171. Central Dental Sterilization: The ALTernate Approach (More with Less)
Conley, Lynn, University of Medicine and Dentistry-New Jersey Dental School

This abstract presents an innovative approach to management of dental school central sterilization that provides effective and efficient service with 4 individuals and a supervisor.

Productivity generated from the central sterilization area and effective utilization of those personnel has historically been a challenge for clinic administrators. The ALTernate approach instituted at NJDS was based on old and new management concepts, Henry Ford’s assembly line manufacturing theories and team specific management protocols. The Assembly Line concepts (A1-component) guided management to set up task workstations. The stations were set up in various locations within the area in an assembly line manner. In the current set-up there are 6 stations. The Team aspect (T-component) provides for the cross training of the 4 staff members in all 6 stations. The stations provide for continuity and standardization of work. Staff are scheduled at 4 different start times with specific assembly line assignments. The ALTernate approach to staffing enables management to begin to think outside the box for all staff protocols and tasks. Time, the most critical aspect of a dental school’s personnel management formula, is thus dealt with in a new light. The result of this ALTernate methodology is that employees work an 8-hour shift but 11.5 hours of services are given to the institution. In one academic year this area processed on average 252 cassettes, 322 bur blocks and single items, and 215 handpieces per session and over 782 different items per day. This represents a 30% increase. More hours of services = more productivity.

The innovation of combining the team approach with assembly line concepts provides for maximum productivity from minimum personnel.

Thomas, John G., West Virginia University School of Dentistry, Croudt, Richard J., West Virginia University School of Dentistry, Hornbrook, Robert, West Virginia University School of Dentistry, Veselicky, Louise, West Virginia University School of Dentistry, Frere, Cathy, West Virginia University School of Dentistry, Kračekz, Ted, West Virginia University Hospitals

The purpose of the Ora/Facial Mountain State Oral Microbiological Laboratory was to provide a combined fee for service/research laboratory at West Virginia University, where microbiological information and suggested antibiotic usage could be united.

A needs assessment accomplished in 1999 followed by a resultant CE course (J Dent Educ 2001,65(1):65) with the highest attendance of any dental course revealed that many clinicians are searching for microbiological information for their periodontal patients, particularly the use of antibiotics. This was a joint venture of the Schools of Dentistry, Medicine, Pharmacy and WVU Hospitals. Selected faculty/students/administrators from these departments meet once a week to evaluate each case and make recommendations which are sent out to the referring clinicians. Results have included over 125 patients. Findings have provided unique and clinically relevant information on the quantification/identification of treated and non-treated periodontal pathogens including resistant patterns to commonly used antibiotic management. Recommendations include: various periodontal treatment regimens; +/- antibiotics; immunomodulators or follow-up cultures. Development/implementation strategies, format and illustrative cases along with research productivity will be presented.
The development of this laboratory has produced an enhanced collaboration with the Schools of Medicine and Pharmacy, increased research productivity and provided necessary microbiological information for the appropriate use of antibiotics in periodontal management.

173. The Influence of the Student Research Group (SRG) on Graduate Education

Crout, Richard J., West Virginia University School of Dentistry, Robinson, Michelle, Marquette University School of Dentistry, Gerber, Amy, West Virginia University School of Dentistry, Martin, Nicole, Marquette University School of Dentistry, Iacopino, Anthony, Marquette University School of Dentistry

The purpose of this survey was to evaluate: 1) the viability of the SRG; 2) the involvement of graduate student in this group; and 3) the skills, attitudes, and behaviors acquired through SRG involvement that were beneficial in the undergraduate research experience and later helped influence participants to seek out graduate education programs and potential interest in academics.

The Student Research Group (SRG), initiated in 1980, is a student-run and faculty-mentored organization whose main purpose is to promote research and scholarly activity for students in every dental school. A web-based survey including 10 Likert-scale and 13 free text questions was emailed to all the 300 graduate program directors and division heads instructing them to forward the instrument to their graduate students. The response rate included 40% of dental schools with an average number of responses per school of 2.52. Results thus far reveal that the majority of respondents (60.3%) went to an undergraduate school maintaining an active SRG with 64.6% being members. Over 50% strongly agreed or agreed that the SRG generated research interest, united students in research, and that research was important for graduate acceptance. Of the respondents, however, 54.3% were neutral, or disagreed that the SRG had a positive influence on the student’s research efforts.

The SRG is a viable organization in the majority of dental schools that unites and generates research interest. Modifications, however, may be needed to provide a more positive influence on research efforts.

174. Assessing the Use of a Standard Evaluation Report by CCAPA Faculty Pre and Post Calibration


Purpose: To determine the amount of deviation presented by individual faculty in testing final case presentations over a five year period.

The final case report presented by the senior dental students is analogous to the oral examination for an advanced academic degree. The presentation is a rigorous exercise designed to provide the examining faculty board with enough information to justify the student’s passing the course of Comprehensive Care Applied Practice Administration.

A Standard Grading Report is used by a panel of three faculty members to evaluate student competency.

The objective of this study is to evaluate the efficacy of the Standard Grading Report. The presentation is comprised of a written report accompanied with an oral presentation and any audio visual aid the student deems necessary delivered before at least three Faculty members. Competency is verified by this Faculty Board which uses as its chief grading tool a standard form, the format for which follows:

1. Student sets up visual aid materials while faculty reads report 5-10 mins.
2. Student presentation, 20-25 mins.
3. Faculty questions student regarding relative treatment specifics as well as any other dental topic. 20-25 mins.
4. Faculty conference without student to determine Pass, Fail, Incomplete or Conditional, 5 mins.

The grading protocol used is a set standard to provide grading unanimity. Its form is as follows:

Written Report 10 points
- Oral Presentation 20
- Patient Management 10
- Case Content and Treatment 30

Answers to Faculty Questions 30 = 100

Forty six (46) students were evaluated by one hundred and thirty eight faculty members using this protocol.

Visual and statistical analysis, using SPSS, showed that the greatest deviation was in the section-Case Content and Treatment. Faculty grading in this section showed the greatest variance which may be due to faculty predeterminations.

Faculty calibration is essential in avoiding individual predeterminations and variations.

175. Dental Faculty Perceptions of the FDA Guidelines for Prescribing Dental Radiographic Exposure for Patients

Delattre, Veronica F., University of Texas Health Science Center at Houston Dental Branch, Johnson, Ronald, University of Texas Health Science Center at Houston Dental Branch

The purpose of this study is to determine the perceptions and attitudes of the Dental Clinical Faculty toward the document entitled “FDA Guidelines for Prescribing Dental Radiographic Exposure on Patients.”

Each part-time and full-time Clinic Faculty member received a written survey, designed in three sections. The first section consists of ten items in the form of statements concerning their knowledge and perceptions of the “Guidelines.” The survey instructs the participants to express agreement or disagreement on a five-point Likert scale. The second section consists of information on the following demographics: current employment status, departmental affiliation, number of clinic sessions supervised per week, and number of years on the Faculty. The third section will consist of a statement inviting the participant to add further comments on the back of the survey. Dental Faculty members come from a variety of educational backgrounds and clinical experiences. Therefore, it is the hypothesis of the investigators that there will be a broad range of perceptions held by the respondents to the survey. Evaluation of preliminary results reveals a wide spectrum of opinions regarding use of the guidelines. All of the faculty responding indicated that they felt quite knowledgeable about the guidelines. 15% strongly agree with all of the Guidelines, 38% agree, and 31% mildly agree. Faculty in each category reported reinforcing the use of the Guidelines to the dental students, even if they did not strongly agree with them. Only 15% of the respondents report that the Guidelines strongly reflect their personal philosophy on radiographic exposures, while an additional 62% mildly agree.

54% of the respondents support the strict adherence to the Guidelines by the dental students at the Dental Branch. 38% of the respondents made additional comments in the provided area. More detailed data will be presented during the poster session.
176. Improved Local Anesthesia Curriculum

Dower, James S., University of the Pacific School of Dentistry

Purpose: Increase student competence in achieving anesthesia, especially mandibular.

A survey was taken of dental students three months prior to graduation. 67% marked having difficulty with mandibular anesthesia, 24% indicated having difficulty with anesthesia the previous week, 21% were uncertain of their confidence in inferior alveolar anesthesia and 57% recommended adding clinic rotations in local anesthesia to the curriculum. A year-around local anesthesia curriculum with three clinic rotations was then established to increase student competence in local anesthesia. Besides providing added instruction the rotations allow a more direct faculty supervision. In the first rotation during the first quarter of clinic the student takes another written competency evaluation on the injections and a simulation competency evaluation on each injection on the opposite side as it was given in the prior quarter. Also included is a directly supervised clinic competency evaluation on the inferior alveolar or Gow-Gates injection. The second and third rotations include instruction in incisive, mylohyoid, periodontal ligament and intraosseous anesthesia as well as learning how to diagnose and treat incomplete mandibular anesthesia. Three quarters before graduation the student takes another directly supervised clinic competency evaluation on the inferior alveolar or Gow-Gates injection. The faculty and students now report few problems with anesthesia in the clinic.

Little emphasis has been placed on local anesthesia instruction in dental school to the detriment of the patient, student, profession and schools. Providing more instruction, competency evaluations and remediation is beneficial to all concerned.

177. Assessing Predictors for Success on the National Dental Board Examination, Part 1

Drew, Claudine P., University of Medicine and Dentistry-New Jersey Dental School, Slifer, Michael, University of Medicine and Dentistry-New Jersey Dental School, Lametta, Joanne W., University of Medicine and Dentistry-New Jersey Dental School

Purpose: To determine predictors for the successful outcome on the National Dental Board Examination, Part 1.

Consistent factors in predicting a student’s academic success and performance on the National Dental Board Examination, Part 1 (NB1) are evaluated in this pilot study. What are the factors that predict success? The New Jersey Dental School (NJDSS) Office of Academic Affairs and Planning and Assessment investigated the correlation between the NB1 and the undergraduate overall GPA, the undergraduate science GPA, identified undergraduate majors, the undergraduate college ranking according to Barron’s Profiles of American Colleges, the Dental Admissions Test (DAT), dental school GPA from the first two years, gender, and age. The study compared these factors with the outcomes of the 63 dental students who took the July 2001 NB1.

A t-test analysis showed no significant differences on the NB1 between male and female students (p=.525). Using analysis of variance (ANOVA), there was no significant difference based on undergraduate college major (F=3.846). Based on Barron’s ranking of undergraduate American colleges, there was no difference in NB1 among the most competitive to the less and non-competitive schools (F=1.022). Pearson correlation showed there was no significant relationship between the score on the NB1 and age (r = -.028), the undergraduate science GPA (r = .242), and the undergraduate overall GPA (r = .246). However, the DATs (r = .452; p<.001) and the dental school GPA from the first two years (r = .78; p<.001) were positively correlated with the NB1. Using stepwise regression analysis, which included all of the mentioned factors as possible predictors, the only factor kept within the model was the dental school GPA from the first two years (Beta=.78).

Many variables play an important role in the student’s successful achievement on the NB1. The two factors found in this study that predict NB1 success are the DATs and the dental school GPA from the first two years. The use of predictors is an important tool when selecting students for admission to the dental school as well as for evaluating students’ performance during the entire four-year curriculum and on externally administered standardized examinations.

178. Utilizing a Hand-Held Device (PDA) to Overcome Language Barriers During Dental Treatment

Karen, Jeffrey R., New York University College of Dentistry, Eisenberg, Elise S., New York University College of Dentistry

Dentist - patient communication is an essential component of successful dental treatment, however barriers related to language and culture exist and have been shown not only to deter treatment but also to prevent patient satisfaction upon completion of treatment. This project provides an organized analysis of the use of dental language translation software (DentalWords), on-hand-held devices (Palm Pilots) by third year dental students. A comprehensive listing of dental terminology used in taking health history, oral medicine, diagnosis and treatment planning was compiled and translated into Spanish and phonetic pronunciations and the terms converted into a database for the Palm application ThinkDB. 13 3rd year students volunteered for the study. Surveys were administered every month. Data was used to analyze changes in use of the Palm OS device as well as information on the ease of use of the program and the assistance the program provides in treating Spanish-speaking patients. At the initial survey 50% of the students classified their knowledge of Spanish as ‘none’, 100% thought that they would have trouble obtaining health history information and relaying treatment options with a Spanish speaking patient. At the conclusion of the study 38% felt more comfortable in obtaining a health history and 46% were more comfortable communicating diagnostic or other treatment options to Spanish Speaking patients. The use of the PDA to obtain health history related information changed from 45% non-use to 15% non-use. Although the translations proved helpful 50% of students at the conclusion of the study did not feel comfortable treating Spanish-speaking patients. The authors believe that a basic foundation of Spanish would be beneficial in the use of the DentalWords software.
they could prepare to discuss the topic. During the lecture the professor
engaged the students in discussion by having them answer questions
about the slide presentation. The students were also required to share
information and ideas with each other. At the end of the lecture a
survey was conducted to compare the new interactive method of
teaching to the conventional method. Eighty-five percent (85%), 95% c.i.=82%-91% of students concluded that the interactive discussion was
a worthwhile experience, and the same percentage thought it
was better than a typical lecture. The students were asked on a 5
point Likert scale, with 1 being the most positive and 5 the least
positive, to grade the discussion sessions. Better than three out of
five students rated the lecture as stimulating (61%), enjoyable (61%),
and educationally valuable (65%), with negative responses by 11%-13%
(chi-squares >78.0). As a result of the students’ positive reaction to the
interactive teaching sessions, more will be added to the curriculum, maximizing the benefits derived from the lecture.

The interactive method of lecturing was found to be more
beneficial to students in comparison to the conventional method.

180. Integrated Programs: Doing More with Less
Froeschle, Mary Lynn, University of Nebraska Medical Center
College of Dentistry; Hlava, Gwen L., University of Nebraska Medical
Center College of Dentistry

The purpose of the ATP Clinic is to streamline the entry process
for patients and increase interaction among dental and dental hygiene
students.

The Assessment and Treatment Planning (ATP) Clinic evolved
by combining Admissions, Treatment Planning and new patient
Emergency into one area. The purpose of the ATP Clinic is to
streamline the entry process for patients and increase interaction
among dental and dental hygiene students. The program significantly
alters the interactions of dental and dental hygiene students. Key
features include 1) decreased number of appointments for new patients
prior to definitive care, 2) integration of dental and dental hygiene
students and faculty, 3) fewer faculty needed, 4) students graduate
competent to assess new patients, 5) reduced paperwork and 6)
decreased staff workload. A key requirement was to maintain or
surpass the number of new patients accepted for treatment in the
undergraduate clinics. Patients were overbooked to assure a patient
for each student. The importance to dental/allied dental education is
the integration of the undergraduate dental and dental hygiene
programs in a process vital to the mission of the College. By
innovatively combining the initial processes for new patients, the
number of clinical faculty hours needed was reduced. As all dental
educational programs need a mechanism for accepting new patients,
this model is widely applicable to other educational institutions.
Evaluation outcomes include 1) more new patients, a 23% increase,
2) fewer faculty, a 37% decrease, 3) positive student feedback, 70% of
students described their experience as good and 30% as okay and
64% of dental students described the coordinated experience with
dental hygiene as good, 27% as okay and 9% as not good and 4) patient satisfaction, 97% of patients were satisfied with the time
needed for treatment and 99% satisfied with their general care. The
ATP Clinic has resulted in admission and treatment planning,
emergency care and restorative and preventive appointment scheduling to occur in one visit for new patients with overall positive feedback.

The ATP Clinic has resulted in admission and treatment planning,
emergency care and restorative and preventive appointment scheduling to occur in one visit for new patients with overall positive feedback.

181. Women’s General and Oral Health Topics in Dental
Hygiene Curricula
Gibson-Howell, Joan G., West Virginia University School of Dentistry

The purpose of this research project was to examine women’s
general and oral health (WGOH) topics included in the dental hygiene
curricula of the 256 Commission on Dental Accreditation (CODA)
accredited programs and to assess the uniformity and breadth of
coverage of WGOH topics within this cohort.

A varied format survey covering demographics, resources,
satisfaction with current curricula, and 20 specific WGOH topics of
was mailed to the directors of the 256 programs with a return rate of
51%. 77% of the responding programs awarded associate degrees or
certificate (A/C). 30% had baccalaureate or degree completion
programs (BS) and 8% professional programs (D.M.D.). The
majority of the responding programs (56%) were associated with
technical, community or junior colleges. Responding directors
indicated the vast majority (80.6%) believed their program adequately
covered WGOH topics.

When questioned about WGOH topics covered in their
programs, 55% of the A/C programs require courses that address
the specified WGOH topics but only 19% of the BS programs and
1% of MS programs required similar courses. Elective courses that
cover these topics, moreover, were uncommon. 4% of A/C, 2% of BS
and 1% of MS programs offered elective courses covering WGOH
topics. 7.4% of A/C programs, 2.3% of BS programs, and 1.5% of
MS programs did not cover any of the WGOH topics included in this
survey. Additional multivariate analyses were carried out examining
differences in WGOH topics covered among the A/C, BS and MS
program subcohorts.

The results of this study suggests there are gaps and a lack of
uniformity in the curricula of the US dental hygiene programs relating
to WGOH topics. A possible solution to this problem would be to
develop a core of WGOH topics to be included in dental hygiene
curricula.

182. The Impact of Recent Changes in Medicaid Payment
on the University of Kentucky College of Dentistry
Hardison, James D., University of Kentucky College of Dentistry;
Kaplan, Alan L., University of Kentucky College of Dentistry; Ferretti,
Gerald A., University of Kentucky College of Dentistry; Cecil, James
C., University of Kentucky College of Dentistry; Pearce, Cynthia A.,
University of Kentucky College of Dentistry

In Kentucky, Medicaid has experienced an ongoing series of
struggles. This presentation will briefly review some aspects of dental
care under Medicaid and the initial effects of a recent fee increase on
the College.

Problems in delivery of Medicaid dental services in Kentucky
included provider participation, bureaucracy, behavioral issues,
geographical barriers, and reimbursement rates. Prior to the 32 % fee
increase in July 2000 Kentucky was near the bottom (approximately
the 5th percentile) in acceptance of reimbursement rates when
compared to other states. Even with the increase, Kentucky is still
below the 10th percentile. Data were reviewed for Medicaid charges
and visits as compared to all visits and charges for two clinics that
comprised over 60% of all of the College’s Medicaid visits and 67% of
all Medicaid charges. The referral of more and more Medicaid
patients by community and regional dentists to the College had created
a problem of opportunity costs. As Medicaid patients became a larger
portion of the total patient population, services for other patients that would provide a higher reimbursement level were being "crowded out." After the first year of implementation: (1) Medicare procedures increased 5.2% and visits 7.01%; Medicaid charges were up 27.56%. (2) The number of all procedures increased by 3.01%, the total of all charges increased 10.4% due, at least in part, to the increased fees for the increased number of Medicaid visits. (3) Medicaid charges were up 15.54% as a proportion of all charges. (4) After a multiyear trend of decreasing mean charges per Medicaid visit, it increased 19.2% last year. This compares to 3.58% for non-Medicaid patient visits. It is in the best interests of the patients, the Medicaid program, and all current and potential providers to have a program that promotes an equitable, economically rational process.

Recent changes in Medicaid reimbursement rates in Kentucky have had an impact on the College of Dentistry’s finances.

183. Interdisciplinary Ethics: A Development Model for a Course for Health Professions Interaction and Collaboration with Dental Hygiene as a Part

The purpose of this presentation is to share a methodology of interdisciplinary course development through a model that supports an overriding college initiative.

The emergent roles and evolving responsibilities of dental hygiene are powerful influences to teach collaboration skills with other health professionals to meet future interdisciplinary demands. Objectives for development included collaboration and interaction. The rationale for developing an interdisciplinary course in ethics utilizing a multidisciplinary participant and development base was to create a course to explore shared ethical commonalities and collaborative problem solving skills between seven disciplines: dental hygiene, physician assistant, nursing, nurse anesthesia, occupational therapy, physical therapy, and social work. The model has general implications for use to develop similar courses at other universities of which dental hygiene is a part. A schematic of the process in the form of a model will be presented. Key features of this model explore questions through development research, i.e. “What content areas should be included in an interdisciplinary ethics course?” and “What design format should such a course take?” Literature review and comparative analysis, course development and evaluation were also used. Convening a multidisciplinary committee was vital to success. Common elements to all involved disciplines were identified through comparative analysis results. Evaluation strategies included using university criteria for course development to assess interdisciplinary curricular integrity and comparing course objectives that support integrated interdisciplinary competencies. After faculty review, the result was a successful design process using a development model. Few interdisciplinary models are documented, therefore, disseminating the results of this model effort are significant.

In conclusion this model facilitated a smooth and meaningful process for integrated interdisciplinary course and curriculum development to support program and college objectives.

184. Extramural Experience in Comprehensive Care
Herren, Michael C., University of Kentucky College of Dentistry

The purpose of this program is for students to gain experience in comprehensive treatment.

The University of Kentucky Area Health Education (AHEC) Program is a collaborative effort with the University of Kentucky and the University of Louisville. There are eight centers, or AHECs, throughout Kentucky. The centers, affiliated with the University of Kentucky are strategically located at Morehead, Berea and Hazard. An Advisory Board of community leaders, physicians and dentists from that area directs each AHEC. The College of Dentistry has primarily been involved with AHEC when placing student dentists in the AHEC area’s for extramural experiences in private dental offices during their third year. The AHEC center in Northeast Kentucky offers student dentist an opportunity to gain treatment-planning skills in a unique setting. A team comprised of a student dentist, nursing student, medical student and pharmacy student work together in forming treatment protocols for patients. The treatment planning sessions are conducted under a nurse practitioner preceptor. The students gain experience interacting with other members of a health care team. The students also are involved in projects with the patients assisting them get proper utilities, plumbing and shelter. The student dentist gets to see the role oral health can play in the overall well-being of patients. 5 students have participated in the program since its inception. Students were questioned about their experiences at the end of the externship. 100% enjoyed their experience. 100% would recommend the program to others. Only 40% were unaware of the programs available to patients who are living in poverty. 100% of the participants expressed a greater understanding socioeconomics plays in health care. 80% had never considered living conditions role in healthcare.

This program serves an important role in developing social awareness and community advocacy in student dentists.

185. A Latex Allergy Management Program
Hodges, Kathleen O., Idaho State University, Rogo, Ellen J., Idaho State University

The purpose of this program is to educate and screen dental hygiene students for latex allergy.

A new latex allergy management program (LAMP) was introduced into a dental hygiene curriculum in 1999. LAMP was initiated based on recommendations from NIOSH, OSHA and professional literature. Latex allergy is a major occupation health problem. Its prevalence among health care workers is about 12% and among dental hygienists and assistants is approximately 9.4%. LAMP has two components: education and screening. The educational component addresses routes of exposure, risk factors, reactions, prevention, latex products, alternative products, and the department’s latex reduced protocol for students. Screening includes a review of a student questionnaire designed to assess risk factors, a review of the student’s personal health history, and an interview to discuss risk factors and personalize the latex allergy education. Students who exhibit high risk, multiple risk factors, and/or a reaction are referred for a medical consultation and definitive diagnosis by a qualified allergist. These students also are instructed to care for patients in a latex reduced environment. Students who reported no or a low risk factor are advised to self-asses risk factors and report new risk factors or reactions to a faculty member for further screening. Results of LAMP are that students are knowledgeable about latex allergy as evidenced by testing and evaluation, students have difficulty applying the knowledge to their personal health history, and the department’s clinic has become a latex reduced environment. Also, medical consultation was recommended to 17 students (N=84), 17 students have cared for clients in a latex reduced environment, two students sought medical consultation and a definitive diagnosis (N=10), and only one student reported a reaction after entering the program.

It is concluded that LAMP is valuable in fulfilling the department’s role and mission statement to provide quality and contemporary education. Also, it is important for health care education programs to implement a LAMP program to protect future health care workers.
186. Subjective Evaluation of Problem-Based Learning in a Large Class Setting
Jahangiri, Leila, New York University College of Dentistry; Scherer, Warren L., New York University College of Dentistry; Rattet, Alan H., New York University College of Dentistry; Matheson, Pamela B., University of Medicine and Dentistry—New Jersey Dental School

Purpose: To evaluate the perceived effectiveness of Problem-Based Learning in a large class setting

In order to evaluate student assessments of Problem Based Learning (PBL), a pilot course in Prosthodontics was implemented in the Senior Class of New York University, College of Dentistry (NYUCD). All students (320) in the class of 2001 were required to participate in this 6-hour case-based series of discussions. Thirteen trained facilitators led discussion group of 12-15 students. Participation in the study was voluntary and involved a one-time answer to a questionnaire which included 11 questions and a score of 1-4 was to be given to each question. Questions were statements and outcomes from published studies related to the effectiveness of PBL. The answers were designed so that the same score did not remain favorable throughout the questionnaire. In accordance with the NYUCD Internal Review Board, the students’ identities were maintained anonymous and a subject number was assigned for ease of data entry and analysis. The data was computed and analyzed using the SAS program. 245 students responded to the questionnaire (76.6%). 5 of the respondents (1.6%) were excluded from the analysis because they had provided uniform answers throughout. Analysis of the remaining 240 students revealed that 81.97% of the respondents had described their previous exposure to PBL as minimal, 95.88% perceived this method to enhance the retention of materials, 95.47% strongly agreed/agreed that PBL improves interaction between faculty and students. The majority of the students (67.08%) strongly agreed/agreed that traditional lectures could cover a greater volume of material. However, 79.84% of the students thought the lecture format was less enjoyable. Students could not determine whether they would prefer a curriculum based entirely on PBL (55.68% in favor).

This pilot study indicates that a curriculum that includes case-based teaching in the PBL format is perceived to be beneficial and may have a positive impact on the educational experience of the dental students.

187. Building an Instructional Intranet: The Faculty Development and Support Component
Johnson, Lynn A., University of Iowa College of Dentistry; Rubbright, David, University of Iowa College of Dentistry; Krenz, T. Scott, University of Iowa College of Dentistry

Recognizing that high-quality content is critical to the success of an Instructional Intranet the University of Iowa College of Dentistry developed a multifaceted approach to faculty development and course web sites. These components are: 1) development of course “template”; 2) 2-day Faculty Development Workshops; 3) “side-by-side” follow-up meetings; 4) ongoing faculty support; and 5) ongoing faculty development. By customizing WebCT, the course template gave each course similar components (Syllabus, Presentations, Links, etc.) and navigation. A sample web site demonstrates “best practices” of web instruction. While keeping the same “look-and-feel”, the template can be customized to meet the specific needs of a course (add a Quiz or Image Database, etc.). Two 2-day faculty development workshops taught 11 faculty and 3 staff how to use the template to build their course web site. Evaluations of the workshops revealed the strengths: work completed on actual course site, focus on independent work, exposure to instructional strengths of the web, and individualized help. Weaknesses included: amount of required information, and difficulties with transferring PowerPoint to the web. Following the workshop, a staff member met with each participant to help them continue to organize and plan their web site. Three levels of ongoing faculty support were provided: 1) None—for faculty who could build their web site unassisted; 2) Some—for faculty who could complete portions independently and portions with support; and 3) Full—for faculty who want a staff person to place all content on the web site. Finally, ongoing presentations will be made at collegiate faculty meetings, departmental meetings and other opportunities to continue to educate faculty on enhancing their teaching with the web.

188. The Investigation of the Influence of the Multiple Procedural Changes on the Promptness of the Endodontic Treatment
Gortler, Deborah L., University of Pennsylvania School of Dental Medicine; Jou, Yi-Tai, University of Pennsylvania School of Dental Medicine; Karabucak, Bekir, University of Pennsylvania School of Dental Medicine

Purpose: To evaluate the outcome of the procedural changes in clinical endodontic treatment, using number of clinical sessions needed to complete an endodontic case as the indicator of the promptness of the treatment.

It has been our aim to provide superior service in both personal and professional dimensions. In addition to striving for continuous improvement in clinical efficiency and quality assurance, starting in 1998 several major changes were implemented by the Predoctoral Endodontic Program, such as using Gates-Glidden Burs, detailed preparatory preparations and competency evaluation. The purpose of this study is to evaluate the outcome of the procedural changes in clinical endodontic treatment, using number of clinical sessions needed to complete an endodontic case as the indicator of the promptness of the treatment. In order to do so, 2000 predoctoral endodontic charts were randomly selected from January 1996 to June 2001. The number of clinical sessions needed to complete the endodontic treatment were recorded and categorized according to the calendar year, tooth position and student status (third or fourth year dental student). Results of this study reveal that the average time for a fourth year student to complete an endodontic treatment on a posterior tooth, 1999-2001, was 2.55 sessions, as compared to an average of 3.13 in 1996-1998. In average it took 2.42 sessions for the third year students to complete the endodontic treatment for the cases of anterior or premolar tooth in 1996-1998. In 1999-2001 it only took 2.02 sessions for the same situation. This difference amounts to a reduction of hundreds of clinical hours. These results clearly indicates that the attempt to improve the efficiency of the Predoctoral Endodontic Program has been successful and the quality of service that the University of Pennsylvania School of Dental Medicine provides has soared to a new height.

This study clearly indicates that the major procedural changes to improve the efficiency of the Endodontic Program has been successful.

189. The Use of Human Extracted Teeth in Preclinical Dental Education: Institutional, Professional, and Safety Concerns
Karns, Leslie, University of Mississippi Medical Center School of Dentistry; Sandoval, Victor A., University of Mississippi Medical Center School of Dentistry

The purposes of this study were fourfold: (1) to assess the number of dental schools using human extracted teeth in preclinical settings; (2) to determine the sources of these teeth; (3) to assess the methods utilized in disinfecting them; and (4) to assess whether newer methods of simulation (e.g., electronic) are emerging.
Traditionally, extracted human teeth have played a predominant role as preclinical teaching models in North American dental schools. They are relatively plentiful and provide actual human tissue on which to learn and practice dental restorative procedures. However, infectious diseases such as Hepatitis and the Human Immunodeficiency Virus, and the discovery that pulps of extracted human teeth can harbor HIV have raised the following concerns: (1) the risk of novices manipulating potentially-infected teeth, (2) the reluctance of some dentists to store teeth for dental students; and (3) the most effective means of disinfecting teeth. The purposes of this study were fourfold: (1) to assess the number of dental schools using human extracted teeth in preclinical settings; (2) to determine the sources of these teeth; (3) to assess the methods utilized in disinfecting them; and (4) to assess whether newer methods of simulation (e.g., electronic) are emerging. A 5-question survey was distributed to the academic deans of 54 US dental schools, and 31 responded (57% response rate). Of the respondents, 77% reported that their dental school was in the process of closing and was not included. All but three responding schools (90%) continue to use human extracted teeth in preclinical settings. 74% of responding schools continue to rely on private dentists as their source of extracted teeth. 68% of respondents reported that they sterilize these teeth, while 10% do not. Autoclave (22%), formalin (29%) and sodium hypochlorite (29%) were reported as the most common methods of sterilization or disinfection. Only 2 responding schools (6%) reported using electronic simulation. Therefore, despite ongoing concerns, institutions are continuing with the procurement, disinfection, and use of extracted human teeth, and they continue to play a central role in predoctoral dental education. Newer methods (such as electronic simulation) do not appear to be replacing them at this time.

Therefore, despite ongoing concerns, institutions are continuing with the procurement, disinfection, and use of extracted human teeth, and they continue to play a central role in predoctoral dental education. Newer methods (such as electronic simulation) do not appear to be replacing them at this time.

190. An Analysis of Computer Skills of Entering Dental and Hygiene Students
Karshmer, Bernard A., University of Colorado School of Dentistry
Purpose: To assess the computer readiness of all first year dental and dental hygiene students in an effort to provide remedial training to those not demonstrating a minimum competency deemed necessary for success in professional dental education.
All first year dental students (DS1s) and first year dental hygiene students (DH1s) are being asked to complete a detailed questionnaire to assess their computer skills. This questionnaire dealt with Internet access, applications software, communications software, and the use of personal digital assistants (PDAs). Every student was required to evaluate their own skills in nineteen (19) areas and to indicate areas in which they would like additional training. Instead of using a traditional Likert Scale for skills evaluation, the questionnaire presents five (5) alternative evaluative phrases. These phrases include “I Don’t Know How,” “I Barely Know How,” “I use at a Novice Level,” “I Use It Regularly,” and “I Can Help Others.” This final statement allows faculty to create a potential mentoring base of students who are able to help other students in each of the nineteen areas. While all incoming dental students are required to purchase a laptop computer specified by the School, we also questioned all students (DS1s and DH1s) about their other computing equipment and their ability to connect to the School and the World Wide Web from their homes. Questionnaire results will be used to design computers skills training sessions to address the three most frequently reported skills deficiencies. This poster session will report on the results of the questionnaire analysis and the effectiveness of the training modalities implemented.

While the two groups of students are just now submitting these questionnaires, and analysis of the data will not be complete until the end of September 2001, early analysis suggests that the first year students queried report significant variation in skill levels in the areas surveyed. Virtually the same questionnaire was administered to the dental school faculty last year. The response rate to that questionnaire was 87.8%. The response rate to the student questionnaire will be 100%. Preliminary review implies that the students possess higher skill levels in a number of on-line skills areas than the faculty surveyed last year. On the other hand, self-assessed skills levels in the areas of applications software appear to by somewhat lower. Results of the analysis student-provided data will be used to develop skills training opportunities for the incoming students. The faculty analysis resulted in the development and offering of professional development seminars in several areas. These faculty seminars were widely accepted and it is anticipated that the sessions developed for students will also be popular.

191. An Updated Quadrant Dentistry Instructional Model to Increase Clinical Productivity
Kenyon, Brian J., University of the Pacific School of Dentistry, Dower, James S., University of the Pacific School of Dentistry, Louie, Kenneth G., University of the Pacific School of Dentistry
Purpose: An instructional program to increase the number of same visit, back-to-back amalgam restorations completed in our dental clinic.
Experienced clinicians usually prepare and restore back-to-back Class II amalgams at the same appointment. It is common practice at our school for such restorations to be completed one tooth per appointment. An instructional model is being constructed to increase the number of same visit, back-to-back restorations for increased student/clinic productivity and fewer appointments for the patient. To compare the quality of two back-to-back Class II preparations and restorations, twelve students participated in an amalgam selective on a simulator. Initially, preparations were completed one at a time, as normally done in the clinic, and then the two preparations were done together. A nine-point evaluation system was used to evaluate the preparations. The average grade of the preparations done together was a 6(C), and the average grade of the preparations done individually was a 5(C). This represents an 11.1% increase in the grades for preparations done together. In a survey, eleven of twelve students favored preparing both teeth together. The students used two demonstrated techniques to restore the preparations; the first set of teeth with the Tofflemire matrix system and the Composi-Tight® sectional matrix band and ring system for the second set of teeth. Both techniques resulted in clinically acceptable restorations for ten of the twelve students. However, with the Composi-Tight® technique, the interproximal contacts were tighter, broader, and had better anatomical contours. The instructional model will consist of an expansion of the back-to-back amalgam selective to include the participation of all second year students. In addition, third year students will be required to pass a competency exam on back-to-back restorations.
An updated quadrant dentistry instructional model is being constructed to increase the number of same visit, back-to-back amalgam restorations.

192. Correlation of the PMAT and 1st Year Operative Dentistry Competency Exams to an Initial Carving Exam
Kwapis-Jaeger, Judy A., University of Detroit Mercy School of Dentistry, Abbott, Lawrence J., University of Detroit Mercy School of Dentistry, Pink, Frank E., University of Detroit Mercy School of Dentistry

The purpose of this study was to test whether a carving dexterity test correlates with 1st year operative competency exams. The identification and development of hand skills has always been an issue in dental education. Today, U.S dental schools use the PMAT of the DAT to assess potential psychomotor skills, while Canadian schools and Louisiana State University also use a carving test for this purpose. The purpose of this study was to assess the relationship between a carving test similar to that used by the CDA and LSU and 1st year performance in pre-clinical courses, as represented by operative dentistry competency exams. On the first day of class in the fall of 2000, first year students, without prior notice, carved a specific design into standardized sticks of soap. The carvings were evaluated by a team of 8 faculty who had been calibrated using the standardized criteria and format used by the CDA. The criteria used were flatness of straight planes, sharpness of angles, symmetry, and accuracy of overall reproduction. One pair of faculty evaluated the same criterion on each carving. Scores for each criterion were 0-4. At the end of the freshman year relevant summary data of the class was obtained, including PMAT, 1st year GPA, 1st year Science GPA, and competency scores for the freshman amalgam course. This data was then statistically analyzed using Kruskal-Wallis, regression, and correlation analyses. Weak correlations were observed between carving scores and the PMAT and 1st year competency scores. No correlation analyses. Weak correlations were observed between carving scores and 1st year GPA or 1st year carving scores and 1st year competency scores for the freshman amalgam course. This data and accuracy of overall reproduction. One pair of faculty evaluated the same criterion on each carving. Scores for each criterion were 0-4. At the end of the freshman year relevant summary data of the class was obtained, including PMAT, 1st year GPA, 1st year Science GPA, and competency scores for the freshman amalgam course. This data was then statistically analyzed using Kruskal-Wallis, regression, and correlation analyses. Weak correlations were observed between carving scores and the PMAT and 1st year competency scores. No correlation analyses. Weak correlations were observed between carving scores and 1st year GPA or 1st year Science GPA were observed. With the 1st year of dental school being mostly didactic, and since 1st year competency scores may not truly reflect inherent manual dexterity, strong conclusions cannot be drawn at this time. Further studies are necessary and will be conducted.

A carving dexterity test weakly correlates with 1st year operative competency scores, which may not reflect inherent manual dexterity.

193. Curriculum Emphasis and Resident Preparation in Advanced General Dentistry

Lefever, Karen H., University of California Los Angeles School of Dentistry; Atchison, Kathryn A., University of California, Los Angeles School of Dentistry; Lin, Sylvia, University of California, Los Angeles School of Dentistry

A study funded by the Health Resource Services Administration analyzed curriculum emphasis and preparation of incoming residents in advanced general education programs over a 5-year period.

In 1999 HRSA contracted with the UCLA School of Dentistry to evaluate the impact of federal funding on postgraduate general dentistry programs. As part of that evaluation, directors of 416 AEGD and GPR programs were surveyed about the curriculum content of their programs, increased or decreased emphasis in 30 subject areas over the past five years and resident recruitment and quality ( GPA and National Board scores). Directors were also asked about the preparation of in-coming residents in each of 30 subject areas. Key findings included (1) increased emphasis on implantology, medical risk management, esthetic dentistry and oral diagnosis / treatment planning; (2) decreased emphasis on orthodontics, pediatric dentistry, pediatric behavior management, and conducting dental research; (3) 55% or more directors reported inadequate resident preparation in hospital organization/ function, implantology, practice management, conducting dental research, orthodontics, care of medically compromised patients, and quality assurance. Subanalysis included AEGD / GPR differences in curriculum emphasis and perceived adequacy of resident preparation. Programs sponsored by Veterans Administration and military services were compared with those sponsored by schools and hospitals. Iterative logistic regression identified characteristics of programs least likely to have difficulty filling resident positions. Independent variables significant in the model ( p < .10) were number of full-time faculty, number of children treated and student quality as defined by GPA and Board scores.

This project was funded by the HRSA under cooperative agreement number D30 DH10157.

Curricular emphases have shifted over the last 5 years and more than half of advanced general dentistry program directors report specific inadequacies in resident preparation.

194. Recruitment and Retention: Comparisons Between African-American and Hispanic Dental Students

Lopez, Naty, University of Pennsylvania School of Dental Medicine, Wadewna, Rose, University of Pennsylvania School of Dental Medicine, Berthold, Peter, University of Pennsylvania School of Dental Medicine

Purpose: To determine students’ reasons for selection of a dental school and to identify issues that influence their continuation in their degree program.

Underrepresented minority students themselves can be an effective resource for the development of recruitment programs for minority students. This qualitative study aims to determine students’ reasons for selection of a dental school and to identify issues that influence their continuation in their degree program. It used in-depth personal interviews and focus groups with 33 African-American and Hispanic students enrolled in a dental school in the Northeast. This preliminary report focuses on a comparison of experiences and perceptions of African-American and Hispanic students. Both groups cite scholarships and financial aid, a friendly admissions office and positive interview experience as common reasons for selecting the school. While African-American students cite the presence of a minority dean and other black students as a positive factor during the selection process, for the Hispanics, influence from parents was an important factor in their choice. African-Americans feel they are “being watched” while Hispanics express feelings of acceptance and care from faculty. Support for the African-Americans come from black students in the upper classes and look to the black professional organization for models and encouragement. The Hispanic student group is mixed and open to non-Hispanics and is not a primary source of support. A significant finding emerging among non-American black students, who like the Hispanics, do not perceive themselves as minority and do not experience the same issues that African-American students identify. These results show the need for admissions officers and student affairs personnel to be aware and sensitive to students’ self-perceptions on being minority and for continuing education of faculty and staff on diversity issues among students.

These results show the need for admissions officers and student affairs personnel to be aware and sensitive to students’ self-perceptions on being minority and for continuing education of faculty and staff on diversity issues among students.


Manwell-Jackson, Mary A., University of Texas Health Science Center at San Antonio Dental School, Geurink, Kathy M., University of Texas Health Science Center at San Antonio Dental School

Learners in a certificate level dental hygiene program evaluated two courses, Critical Analysis of the Literature and Community Oral Health, as low in relevance to their education. Moreover, learning outcomes and learner satisfaction were considered less than optimal. To enhance and improve course relevance, learning outcomes and life-long learning skills, learning activities in the two courses were combined through technology and problem-based learning in a real life setting.

Learners were enrolled in both courses concurrently and were assigned to consistent teams between courses. In the context of the community course, each team chose a target population (e.g., children,
Special needs, geriatric) of interest within a community setting (eg. day-care center, geriatric facility). Learners assessed each setting, and then designed and implemented an oral health education program for site residents, based on site assessment and recommendations in the literature. Utilization of oral health aides were required to be substantiated in the literature for the chosen population. In the Critical Analysis course, learners analyzed the chosen literature, and evaluated the custom program. Learners met with course directors eight times over the semester: other course communication was conducted primarily through WebCT courseware and e-mail. Students were assessed by participation and quality of program evaluation presented in poster format. Independent reviewers quantitatively evaluated all posters on a 28 point scale. Mean score on poster evaluations improved from 22.4 (1999) to 23.2 in 2000 and 26.9 in 2001. Learner participation, performance and satisfaction also increased in 2000 and 2001. However, graduate scores on questions (20) relating to Community Health did not improve.

Merging learning activities in Community Health and Critical Analysis of the Literature improves learning outcomes and learner satisfaction.

196. Students’ Self-Assessment of Competency as a Curriculum Evaluation Tool

Mitchell, Gail S., University of Florida College of Dentistry, Dolan, Teresa A., University of Florida College of Dentistry,

Curriculum Development is a dynamic process. Outcome measures are essential when assessing the impact of an educational program on student learning and attainment of competency. This study focused on data from the “Student Self-assessment of Competency” (SSAC) instrument completed by graduating DMD students in 1998-2001. The UFCD completed its competency document in 1998. Major curriculum changes began at the University of Florida College of Dentistry (UFCD) in fall 1999. The SSAC included items about our 18 major competencies and 91-124 supporting statements. Students were asked, “To what extent do you feel the curriculum has prepared you to perform these skills independently?” using the response set: (0) no skill; (1) partial skill; (2) complete skill with guidance, (3) competency, and (4) proficient. Findings from the class of 1998 indicated that graduates did not feel competent in: community involvement (mean 2.95), treat and manage functional disorder involving the masticatory system (2.99), evaluate and manage limited developmental or acquired occlusal discrepancies of the primary, mixed, and permanent dentition (1.85), and recognize, manage and/or promptly refer limited or common non-life-threatening oral mucosal diseases (2.89). SSAC data and (2.89) SSAC data and (2.89) were used to direct curricular changes and to refine our competency document. Data from the Class of 2001 indicate that students felt competent in all of the major competencies and supporting statements; opportunities for improvement were identified. Curriculum development is a journey. The SSAC instrument is a useful tool to improve our curriculum and to assess students’ perceptions of competence attainment as they transition from dental student to practitioner.

197. Validity Evidence for the Canadian National Dental Examining Board (NDEB) Examinations

Murphy, Joseph, Dalhousie University Faculty of Dentistry, Gerrow, Jack, Dalhousie University Faculty of Dentistry, Boyd, Marcia, University of British Columbia Faculty of Dentistry, Scott, David, University of Alberta Faculty of Medicine and Dentistry.

The overall purpose of the study was to contribute to the validity of the NDEB examinations. Specifically, the study sought to answer three questions. (1) How difficult are the NDEB-OSCE and NDEB-Written examinations? (2) What is the correlation between NDEB scores and fourth year GPA; and what is the correlation between NDEB-OSCE and Written scores? (3) Is the relationship between NDEB scores and performance in dental school consistent over time?

The purpose of the study was to contribute to the validity of the NDEB examinations.

Rationale/Significance: The validity of NDEB examinations is of interest to dental educators, licensing authorities and the profession as it determines who enters the profession.

Methodology: 2300 new graduates completed the NDEB examinations between 1995 and 2000. Their NDEB scores and school GPAs were compiled and analyzed.

Results: The average scores, both OSCE and Written, sections are approximately 80%, with the OSCE slightly higher. Further, 5.4% of candidates scored 90 or above on the OSCE while 1.3% scored in this range on the Written examination. Only 1.0% scored below 65 on the OSCE while 1.5% scored below 65 on the Written section. The correlation between GPA and OSCE is 0.46 (p<.0009) and between GPA and Written is 0.43 (p<.0009). Also OSCE and Written scores are positively correlated with each other; r=0.54 (p<.0009). The majority of candidates, regardless of their GPA, tend to score between 75 and 84 on the NDEB-OSCE. Also, the percentage scoring 85 and above is higher for students within the top GPA group than within the bottom one, and the percentage scoring below 75 is greater for those at the bottom than at the top of their class. However, whether all candidates are considered together or separately by GPA grouping, there appears to be considerable variability from year to year in terms of their performance on the OSCE. For example, in 1995 only 6.6% of candidates achieved a score of 85 and above while 34.2% had scores below 75. Conversely, in 1999 almost half (47.6%) had scores of 85 and above while only 7.6 percent had scores below 75.

Conclusions/Importance: Both the OSCE and Written components of the NDEB are reasonably valid instruments.

Conclusions: Importance: Students who have higher GPA’s in their fourth year of dental school tend to have higher scores on both the OSCE and the Written portions of the NDEB examinations, and those with lower GPA’s tend not to do so well on the NDEB examinations. The moderate correlation between the two sections of the NDEB indicates that each is measuring a separate factor and that the two examinations are not identical and therefore redundant. The study indicates that both the OSCE and Written components of the NDEB are reasonably valid instruments and dental educators, licensing authorities, and graduating students ought to have considerable confidence in the inferences made from the results of these examinations.

198. Teaching in U.S. Dental Schools - Gender and Career Perceptions

Nesbitt, Paula E, Meharry Medical College School of Dentistry, Inglehart, Marita R, University of Michigan, School of Dentistry, Sinkford, Jeanne C, American Dental Education Association

The purpose of this research was to explore gender differences of full time dental faculty concerning their career perceptions. The relevance of these findings for faculty recruitment and retention is discussed.

In May 2001, a questionnaire was mailed to 2,203 ADEA members who are full time faculty members in US dental schools. The objective was to identify workplace perceptions that may influence female faculty recruitment and retention. Key features are (a) that a large group of faculty was contacted, (b) that a comprehensive data set was collected (questions about demographics, educational / professional activities, mentoring relationships, workplace environment, career success, and personal / family situation), and (c) that open ended as well as closed ended questions (with 5 point answer
scales) were included. 870 faculty members responded (response rate: 40%), 34.4% of the respondents were female, and 65.6% were male. The results show that although men and women spend the same number of hours per week at work, female faculty are less likely than male faculty to have available academic resources such as secretarial support (85% vs. 76%; p<.001) and lab space (23% vs. 10%; p<.001). 39% of female faculty vs. 26% of male faculty do not expect to be a faculty member in ten years. The responses of male and female faculty differed quite significantly (p<.001). 25% of the women and 12% of the men do not feel welcomed as members of the dental school scientific community. 31% of female respondents perceive the climates in their departments as less supportive of female than male faculty, in comparison to 9% of male respondents. Female and male respondents (40% vs. 8%) perceive that female faculty are recommended for promotion later than male faculty of comparable accomplishment. 44% of female faculty as compared to 9% of male faculty perceive that male faculty are more likely to be sought for collaborative research, given comparable scientific expertise. 33% of women perceive the presence of gender specific biases to career satisfaction in their environment as compared to 9% of men. The data show that there are significant differences in male and female faculty members’ perceptions of the academic climate at US dental schools. The perceptions may affect the performance and career choices of females in the future. These data need to be considered in the context of projected shortages of dental school faculty in the future and when considering interventions in this context.

199. A Comparison of Local Anesthesia Teaching Styles: Traditional Versus Web-Based
Paarmann, Carlene S., Idaho State University, Herzog, Anita, Idaho State University

The purpose of this pilot study was to compare an interactive web-based teaching/learning style with the traditional classroom style for teaching local anesthesia.

An interactive web-based preclinical local anesthesia course was developed collaboratively by a group of dental hygiene educators. A pilot study was conducted at Idaho State University to test the effectiveness of this style of teaching and learning. The purpose of the study was to compare three instructional techniques for teaching local anesthesia to dental hygienists: 1) an on-line (WebCT) course; 2) traditional classroom instruction; 3) a combination of the two techniques. Thirty dental hygiene students enrolled in Idaho State University’s DENT 320, Local Anesthesia, were randomly divided into three groups. Each group was assigned to a particular teaching/learning style category. Group A participated in the traditional classroom style only. Group B was assigned to the web-based format only. Group C attended class, and also had access to the web-based course materials for use as adjunctive learning. Students from all three groups completed identical written midterm and final exams. Additionally, following the clinical component of DENT 320, all students in all three groups were evaluated on a final clinical exam. Preliminary data analysis indicates that no significant difference exists among groups.

While preliminary analysis indicates no significant difference among groups, conclusive evidence is yet to be determined.

200. An Evaluation of the Use of Video Conferencing for Delivery of Continuing Professional Education
Patterson, Steven K., University of Alberta Faculty of Medicine and Dentistry, Cobban, Sandra J., University of Alberta Faculty of Medicine and Dentistry

This study was conducted to determine if videoconferencing, or the use of two-way audio and video transmission using conventional telephone lines, would provide satisfactory opportunities for continuing professional education delivered by faculty from a research university to dental health professionals located in smaller centres. Exponential increases in scientific information and the subsequent rapid pace of change occurring in professional knowledge have led to a realization and expectation that members of professions will become lifelong learners. This study was conducted to determine if videoconferencing, or the use of two-way audio and video transmission using conventional telephone lines, would provide satisfactory opportunities for continuing professional education delivered by faculty from a research university to dental health professionals located in smaller centres. Two different faculty members delivered three videoconferences to two separate locations, covering two separate topics. Evaluations were conducted to measure factors related to the setting, the course content, the use of technology, perceived learning outcomes, satisfaction, and factors related to remaining in their home community. 91.3% of respondents felt that the videoconference increased their access to continuing professional education. 83.7% of respondents found the delivery method to be good, and 76.9% felt that it was no different or somewhat better when compared to traditional face-to-face delivery. 93.5% of respondents indicated that remaining in their home community after participating in continuing education is more important than it was two years ago. 93.9% felt that it gave them extra family time, 100% responded that it saved them travel time, 74.2% indicated that it gave them extra family time, 100% responded that it saved them travel time, 74.2% indicated that it gave them extra family time, and 81.5% of respondents felt that remaining in their home community to attend the videoconference had economic benefits for their community. The findings of this study suggest that videoconferencing can be a satisfactory method for delivery of continuing professional education. The findings of this study suggest that videoconferencing can be a satisfactory method for delivery of continuing professional education.

201. Digital Video as a Supplemental Tool in the Education of Health Care Students
Pelok, Scott D., University of Michigan School of Dentistry, Gest, Thomas, University of Michigan School of Medicine, Durka-Pelok, Geraldine, University of Michigan, Cell and Development Biology Dept.

Purpose: Creation of an educational knowledge base of digitized interactive movies to be utilized in the training of dental and medical students in gross anatomy.

Gross anatomy laboratories are an integral piece of health care education. Traditional educational models involve intensive didactic instruction in conjunction with hands-on laboratory exercises to familiarize the student with the required knowledge of human anatomy. Continued pressure to trim course load throughout the educational track of the student has often resulted in the elimination of the review of some systems not immediately related to the health care discipline being taught. Students will focus on the areas pertinent to their discipline while overlooking, and even bypassing, systems outside their domain. Add to these disadvantages, the insufficiency of human memory to handle the knowledge explosion, and it becomes evident that new models for acquiring and processing information and knowledge are desirable. Electronic management of this knowledge base enhances accessibility and allows the faculty to efficiently maximize their teaching schedule. By linking the components used in teaching head & neck anatomy, i.e.; lectures, text, diagrams, and video of a hands-on dissection, a review module may be created which then is navigable by a student much in the same way that one navigates points of interest on the web. This combination of didactic and visual materials will enhance normal lecture and gross dissections by allowing the student to self-pace his/her study of complex topics that often intertwine and overlap. Interactive educational modules allow the viewer to choose the speed.
and the amount of information necessary to assimilate required material. By allowing a more individualized approach to the acquisition of knowledge, disadvantages created by student differences in educational background should be reduced and efforts spent in learning may be maximized.

This approach is original in that the student may search for a specific movie event by chapter or topic and be presented with the video, audio, and didactic portions relevant to that event within one interface. This project is a core element of information technology, i.e., it is the multimedia presentation of large amounts of material in a form that allows an individualized interaction between material and viewer.

202. Implementation of Distance Learning Model Using Audio/Video Internet Technology
Pelok, Scott D., University of Michigan School of Dentistry.

Purpose: Establishment of a distance-learning system using streaming audio/video technology as a educational tool for curriculum development.

Information management technologies continue to grow at an astounding pace. The foremost requested format of support at the School of Dentistry is the creation of digital educational resources and the broadcast of that material to and from remote locations. We have utilized developing technologies in an effort to expand the functionality of the dental school’s web presence. Communication tools are placed in remote locations where students and faculty have access to the information resources. Implementation of this technology allows the school to answer several of its key technology requests. 1. Formation of an interactive teaching platform to allow contact between faculty and students at remote locations. Two-way communication programs have been established that allow students off-campus to participate in didactic requirements. 2. Asynchronous delivery of Faculty InService educational resources to standardize the teaching methods in the clinic. Full and part-time faculty would be able to access recorded material anywhere, anytime. 3. Creation of a more robust Continuing Educational program that would allow interactive education with alumni and dental associate members. This function has the potential to generate significant income for the school. Stored and live “webcast” material has been formatted for creation of virtual classrooms. Implementation of ITD’s CourseTools in conjunction with QuickTime technology and PlaceWare Web Conferencing allows for high quality interactive multimedia presentations.

Information Technology is advancing and utilization of this technology in the curriculum is on the increase. To further integrate information technology into the curriculum, we need to get to train both the faculty and the students in the utilization of these tools as early as possible.

203. Assessing Communication in a Dental School Setting
Price, Shelia S., West Virginia University School of Dentistry, Crout, Richard J., West Virginia University School of Dentistry, Mullins, Wesley S., West Virginia University School of Dentistry, Wearden, Stanley, West Virginia University School of Dentistry.

The purpose of this study was to assess dental (DENT) and dental hygiene (DH) student perceptions concerning communication effectiveness within the school, use of electronic media, interest in receiving general information via an electronic newsletter, and preferences regarding its content.

The West Virginia University School of Dentistry pursues a student-focused environment with efficient and effective lines of communication. In addition to traditional communication methods, information technology opens avenues for improved communication. A confidential number-coded mail survey was sent to all DENT (151) and DH (74) students. The overall response rate was 57.3% (DENT= 59.6%; DH= 52.7%). On average (32.3%), DENT and DH students report disagreement concerning communication between faculty and students meeting their needs and whether information on issues of student concern is provided in a timely manner. No significant difference exists in personal computer ownership between DENT (72%) and DH (79%) students. Over one-third (36.1%) of all respondents read their email once daily. DENT students are more likely to agree that an electronic publication would be helpful for conveying information to students (p=0.04). 89% support receipt of an electronic student publication. On average, 54.5% of the student body agree that all proposed sections in the publication would be beneficial. Respondents were divided concerning preferred frequency of an electronic publication, with 61.5% DENT and 69.2% DH students favoring bi-weekly or weekly publication.

Results of this assessment indicate the potential usefulness of an electronic student newsletter in a dental school environment.

204. The Enrollment, Support, and Postgraduate Employment of International Dental Students
Rice, Chris D., University of Missouri - Kansas City School of Dentistry, Tira, Daniel, University of Missouri - Kansas City School of Dentistry, Alton, Gregory, University of Missouri - Kansas City School of Dentistry.

Purpose: To survey student affairs officers about the enrollment, support, postgraduate employment, social adaptation, and academic success of international students enrolled at U.S. dental schools.

Little is known about international dental student (IDS) enrollment in the US. The purpose of this follow-up study was to find out more about the enrollment, support, postgraduate employment, social adaptation, and academic success of international students enrolled at U.S. dental schools.

Employment of International Dental Students
Patterns of enrollment, support, and postgraduate employment of international dental students varied widely between schools. Respondents generally felt their international students adapted well socially and performed at an average to above-average level academically.
205. Development of a Group Practice System that Encompasses Dental Students and Dental Hygiene Students Assigned to the Same Groups

Rogers, Thomas C., Loma Linda University School of Dentistry. Walter, Robert B., Loma Linda University School of Dentistry. Fitzpatrick, Michael J., Loma Linda University School of Dentistry

Purpose: To establish a group practice environment in the predoctoral clinic that follows a general dentistry model as much as possible within the confines of an educational program. The School of Dentistry recently instituted a group practice system for its predoctoral clinic. Ten student group practices were established, each with a faculty group leader. The group practices are vertically integrated with nine junior and nine senior students each. A general dentistry model is followed as much as possible within the confines of an educational environment. The assigned faculty are responsible for patient assignment to students within their groups and provide clinical coverage. The faculty monitor the progress of their students toward meeting graduation requirements. They also meet with their students on a weekly or biweekly basis to discuss clinical issues. Each group practice has an administrative practice coordinator. The clinical requirements for displaying competency and qualifying for graduation have remained the same as those existing prior to these changes.

During the fall 2001 quarter, dental hygiene students will be assigned to the groups and will assist the dental students in the care of their patients. Two senior hygiene students will be assigned to each group practice initially. Junior hygiene students may also be assigned in the near future. For a typical patient with four quadrants of root planing, the dental student will instrument two quadrants and the hygiene student will instrument the other two quadrants. These same students will continue to collaborate for subsequent evaluation and maintenance activities. In addition to increasing the clinical experience of the hygiene students, the intention of this collaboration is to foster an appreciation of the dental students and the hygiene students for each others skills.

The measured outcomes of the Group Practice System (GPS) thus far are:

(As of this writing, we are still in the first quarter of operation under the new system and do not have substantial comparative data as yet with respect to numbers of patient experiences and procedures. In terms of monetary production, clinic income has increased substantially since inception of the GPS with respect to the comparable period in the preceding year. By the time of the ADEA Convention in March 2002 we should have three quarters of dental student data and two quarters of hygiene student data to report.)

There has been a significant increase in clinical activity among dental students. We do not have data as yet regarding the outcome of the dental student/hygiene student interaction.

206. Disciplinary Actions against Dentists and Dental Hygienists Associated with the Administration of Local Anesthetics and Nitrous Oxide

Scofield, JoAnn, Collin County Community College, Gutmann, Marylou E., Baylor College of Dentistry

The purpose of this study was to provide quantitative data addressing the safety issue of dental hygienists administering local anesthetics and nitrous oxide.

Research studies have demonstrated the need for and the ability of dental hygienists to provide local anesthetics for pain control and reduction of patient anxiety. Controversy between organized dentistry and dental hygiene exists regarding the administration of local anesthetics and nitrous oxide by dental hygienists. Some dentists believe the quality of care would be compromised and patient safety jeopardized because dental hygienists do not have adequate background knowledge to prevent complications and recognize emergencies caused by anesthetics. However, more than half the states’ dental practice acts allow these services to be performed by dental hygienists. The purpose of this study was to provide quantitative data addressing safety when dental hygienists administer local anesthetics and nitrous oxide. A survey was designed and faxed to 26 State Dental Boards where the administration of local anesthetics and/or nitrous oxide by dental hygienists was legal. A second fax was sent to non-respondents. Descriptive statistics were used to analyze the data. Eighteen responses were received for a response rate of 69 percent. Over a ten-year period, there were minimal reports of disciplinary actions (dental hygienists = 0; dentists = 2) for the administration of local anesthetics. The findings were similar for the administration of nitrous oxide (dental hygienists = 1; dentists = 2). This study provided evidence-based support for states considering statutes to allow the administration of local anesthetics and nitrous oxide by dental hygienists. This study suggests that properly educated dental hygienists may administer local anesthetics and nitrous oxide to dental patients without harm.

This research substantiates the position that dental hygienists administering local anesthetics or nitrous oxide can do so safely and without harm to patients, as measured by the low number of disciplinary actions reported by states where this service is legally performed by dental hygienists. It has been found that dental hygienists have demonstrated successful and safe administration of these substances. It is hoped that the results of this study will aid the remaining state licensing districts by providing quantitative data substantiating safe administration of local anesthetics and nitrous oxide by dental hygienists.

207. Factors Influencing Dental Applicant Decisions

Shorrock, Ann L., University of Illinois at Chicago School of Dental Medicine, Johnson, Judy A., University of Illinois at Chicago School of Dental Medicine

The purpose of this study is to determine those factors that most influenced applicants to choose our College of Dentistry.

The purpose of this study is to determine those factors that most influenced applicants to choose our College of Dentistry. This information is important to us in finding out what factors are within our control, refining our interview process, and better representing our dental school to highly qualified applicants. A nine item open-ended questionnaire was distributed to first year dental students one month after matriculation into the College. Questions focused on the importance of location, cost, reputation of the College, and influence of the interview in deciding which dental school to attend. Participation was voluntary and questionnaires were returned anonymously in a drop box.

Results are as follows: 61 (95%) of the D-1 students responded. Of those who responded, 42 (69%) indicated that “location” was the main reason the College was chosen. 14 (23%) indicated “cost” was the major reason, 4 (7%) indicated “reputation of the school” and 1 (2%) indicated “campus facilities.” 50 (82%) responded that the College was their first choice, and 24 (39%) indicated that the interview influenced their decision to attend. Additionally, 44 (72%) indicated that the interview process was positive.

Although the applicants’ major reason for choosing our college was location, a factor not within our control, results encourage us to continue and refine the interview process. Written comments give more specific direction on what should be modified. For example, the students generally felt that more information about facilities and financial aid would have been helpful during the interview process. We will continue such surveys each year. Further studies would be directed to applicants who did not choose our college.
208. Early Introduction of the Treatment Planning Process
Stefanac, Stephen J., University of Iowa College of Dentistry

Dental treatment planning is usually taught during the second and third years of dental school. As a result, students may not appreciate the significance of diagnoses and treatment procedures when this information is first presented in the curriculum. The purpose of this program was to: 1) introduce first-year dental students to the principles of comprehensive treatment planning, and 2) guide them through the application of the treatment planning process with an actual patient case. A student focus group defined previously learned dental diagnoses and treatment procedures. This information guided the design of the Web-based practice patient case.

Instruction consisted of two 1-hour case-based learning (CBL) seminars. Between the lecture and CBL seminar students evaluated the Web-based patient case history and radiographs. Additionally, each student in the six-person CBL group was e-mailed a different treatment topic to research along with links to four relevant Web sites. During the CBL seminar, the students created diagnosis and problem lists for the patient. Each student made a 5-minute presentation on their research topic to educate the group. With direction from a faculty leader, the group created a sequenced treatment plan that addressed the patient’s problems.

Test and survey results demonstrated that first year dental students were competent at creating comprehensive treatment plans and enjoyed researching and discussing the case. With the introduction of treatment planning early in the curriculum, students understand the significance of various diagnoses and treatment recommendations and are better prepared to begin comprehensive care for patients.

209. Survey on the Teaching of Abuse and Neglect in the Dental Curriculum
Stewart, Arthur V., University of Louisville School of Dentistry. Bernstein, Mark L., University of Louisville School of Dentistry. Furnish, Guy M., University of Louisville School of Dentistry

The purpose of this study was to determine the manner in which dental curricula deal with child abuse/neglect and elder abuse/neglect.

There is increasing sensitivity to the problem of abuse/neglect among children and also abuse and neglect found among the elderly. A two-page, 13-item survey on the Teaching of Abuse and Neglect in their current curriculum. Thirty-three (or 76.4% return rate. 100% of the programs reported that they included child abuse/neglect in their current curriculum. The academic deans estimated that 55% of graduating seniors could adequately describe the Panda Project. They also estimated that on average 4.75 curriculum hours would be spent on this topic. A similar set of data was collected from questions similar to those posed about child abuse.

Thirty-three (87%) reported that elder abuse/neglect was being taught in the current curriculum. The academic deans estimated that 56% of graduating seniors would be familiar with Adult Protective Services. Thirty percent of respondents indicated that their curriculum committees were planning to “improve or expand” its teaching in the area of child abuse. Only 10 (24%) indicated that their school plans to expand or improve that part of the curriculum dealing with older person abuse or neglect.

The survey suggests that there seems to be some interesting differences in the manner with which dental education deals with child abuse/neglect and elder abuse/neglect.

210. Clinic Information Systems: A Plan for Implementation
Stewart, Denice CL., Oregon Health and Science University School of Dentistry. Monner, Melissa, Oregon Health and Science University School of Dentistry. Russell, Rose, Oregon Health and Science University School of Dentistry. Pearson, Robert J., Oregon Health and Science University School of Dentistry. Morita, Peter, Oregon Health and Science University School of Dentistry.

Purpose: Design an implementation strategy for a new clinic information system (CIS) and assess outcomes.

Significance: Many dental schools are faced with decisions regarding clinic information systems. Implementation of a new system requires careful planning and execution to be successful.

Methods: A project plan for implementation of a commercially available clinic information system (Axium, ExanAcademics, Inc.) was developed and overseen by an implementation workgroup. A qualitative assessment of the implementation was conducted by review of project plans, meeting notes, communications, and other data.

Outcomes: A new CIS was implemented in 6 mo. from initial installation to go live - including data conversion, set-up and customization, training of faculty, staff, and students, documentation, and reporting. Several actions were identified as key to the implementation success: Key 1: Diverse, knowledgeable, and respected implementation workgroup: 7 faculty and staff in clinic management and information systems and a university rep from information technology (IT). Key 2: Clear project plan and timeline: endorsed by school administrators and university IT. Key 3: Analysis of work: comprehensive analyses of work processes identified how clinical areas and users operated, use of the existing CIS, and requirements for the new CIS. Key 4: User involvement: representatives (n=30) from each clinical dept/area (1 faculty, 1 staff per dept.) were identified to serve as liaisons between the workgroup and clinical areas. Key 5: Communication and collaboration: presentations at faculty meetings, administrative meetings, student seminars and meetings with individuals, depts and groups. Effective communication with the vendor and university IT occurred throughout the process. Key 6: Ongoing analysis, planning, expansion and improvement of system utilization.

Keys features of a structured planning approach and school-wide involvement that are critical to successful implementation of a new clinic information system are presented.
211. Strategic Plan Outcome - Performance Standard Assessment
Stewart, Carol M., University of Florida College of Dentistry, Smith, Gregory E., University of Florida College of Dentistry, Gale, Marc A., University of Florida College of Dentistry, Bates, Robert E., University of Florida College of Dentistry

The purpose of this study was to examine the relationship between performance on the state dental licensure exam, entering DAT, entering GPA, senior Mock Board performance, graduating GPA, and numbers of clinical procedures completed for graduating classes from 1996-2000.

Performance on a state or regional licensure exam is generally one outcome measure used by dental institutions to assess the success of a dental curriculum. A Strategic Plan outcome at the University of Florida College of Dentistry (UFCD), is that 85% of graduates who take the Florida State Dental Board Examination will pass on the first attempt. Dental educators continuously seek to identify predictors for successful performance on licensure exams and may modify their curriculum to adequately emphasize key areas. The purpose of this study was to examine the relationship between performance on the Florida state dental licensure exam, entering DAT, entering GPA, senior Mock Board performance, graduating GPA, and numbers of clinical procedures completed for graduating classes from 1996 – 2000. Using a one-way analysis of variance (ANOVA), the results indicated a significant correlation between the “pass rate” for the State Licensure Exam, the graduating GPA, and the “pass rate” for the senior Mock Board exam (p=0.05). Additionally, positive correlation was found between successful Mock Board performance on the patient-based Class II amalgam, and the same procedure on the licensure exam. Other correlations and possible performance predictors will be presented for each area of the Florida licensure exam. The entering DAT showed no positive correlation with successful performance on the state licensure exam.

Details of these results with discussion of their significance to a competency-based curriculum will be discussed.

The results of this study have implications for curriculum modifications and successful attainment of performance standards.

212. Impact of a Graduate Endodontic Program on Predoctoral Clinical Experiences
Stewart, Carol M., University of Florida College of Dentistry, Vertucci, Frank J., University of Florida College of Dentistry, Bates, Robert E., University of Florida College of Dentistry

A national concern for U.S. Dental Schools is the adequacy of clinical endodontic experiences to certify competence for predoctoral students. The purpose of the study was to assess the impact of a graduate endodontic program on the availability of clinical endodontic experiences for the predoctoral program.

A national concern for U.S. Dental Schools is the adequacy of clinical endodontic experiences to certify competence for predoctoral students. The purpose of the study was to assess the impact of a graduate endodontic program on the availability of clinical endodontic experiences for the predoctoral program. The completed endodontic cases from the four 2001 graduates of the graduate endodontic program were reviewed to determine their origin and complexity. The goal was to assess what percent of the graduate cases were obtained from referrals from the predoctoral comprehensive care pool and what portion of those could have been completed by predoctoral students. Four residents during the two-year program completed one thousand and six (1,006) root canal procedures (excluding retreatments cases). Every third chart was reviewed for validation of the referral source listed in the graduate program database. During the two-year graduate endodontic residency, the four residents completed 314 anterior and bicusp idi initial treatment cases. Of those, 21.3% (67 cases) were obtained by transfer from the student program to the graduate program. Blinded review by three dentists indicated that 9 (13.4%) of those should have remained in the predoctoral program as they met the criteria for treatment by predoctoral students. Of the total 1006 cases treated by graduate students, the 9 cases that could have been assigned to the student program represented 0.89% (<1%) of the total graduate endodontic case pool. The results of this study would indicate that the graduate endodontic program has a very modest impact on the availability of predoctoral cases. Future projects will focus on alternative strategies to enhance the availability of predoctoral endodontic clinical experiences.

The results of this study would indicate that the graduate endodontic program has a very modest impact on the availability of predoctoral cases. Future projects will focus on alternative strategies to enhance the availability of predoctoral endodontic clinical experiences.

213. Six and Twelve Month Evaluations of a Dental School’s Practice Management/ Clinical Operations Software System
Yorty, Jack S., West Virginia University School of Dentistry, Crout, Richard J., West Virginia University School of Dentistry, Wearden, Stanley, West Virginia University

This survey was conducted to compare the acceptance of a new generic computer software system for dental school operations and management at six and twelve months.

Past research has compared an older unsupportable custom software system, QAS/IDX, with a new generic system for dental school operations and management, Axium (Exan Corporation, Inc.), after three months of service (J Dent Ed 2001, Vol 65 (1): 95). The same 5 response Likert scale survey instruments were again used to survey each user group, (faculty, staff, dental students, and dental hygiene students), about their experiences with the new Axium system at six and twelve months. The instruments were distributed at six months to 214, and at twelve months to 199 dental school faculty, staff and clinical students. The response rates for the six month and twelve month surveys were 66.8% and 74.3% respectively. These new results were compared to the initial and three month survey evaluations. Results, analyzed using the Kruskal-Wallis test revealed a similar pattern of responses for all groups except for the faculty. Generally, greater satisfaction with the Axium system was seen at three months and twelve months with a trend toward slightly lower satisfaction at six months for all groups except the faculty. The trend toward a lower satisfaction at six months could be attributed to a variety of factors. The faculty showed a trend toward more favorable responses at each new survey time period.

This study showed a trend toward greater acceptance for the Axium dental school operations software system over the previous system, after one year of use.