



INDIANA UNIVERSITY

**SCHOOL OF DENTISTRY**

# Annual Assessment Report to the IUPUI Program Review and Assessment Committee

Doctor of Dental Surgery Program

Academic Year 2018-19

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## Introduction

Founded as the Indiana Dental College in 1879, the Indiana University School of Dentistry (IUSD) is the only dental school in the state. The concentration of its academic programs is located on the IUPUI campus. The Mission of the Indiana University School of Dentistry is to advance the oral and systemic health of the people of the state of Indiana and globally through excellence in teaching and learning, research and creative activities, patient care, civic engagement and service, with a Vision “to be one of the best dental schools for the 21<sup>st</sup> century.”

At the IUPUI campus, in addition to the Doctor of Dental Surgery (DDS) degree, academic programs include undergraduate allied dental degrees in dental assisting and dental hygiene. Advanced dental education programs include seven discipline focused master’s degree majors in dentistry and a Certificate in Oral and Maxillofacial Surgery. Graduates of international dentist programs who are seeking a license to practice in the U.S. are eligible to apply to the International Dentist Program (IDP), which awards a DDS degree. Lastly, two dual degree programs are offered, a DDS and MPH (MPH awarded from the IU Fairbanks School of Public Health) and a DDS and PhD in Dental Sciences.

On July 1, 2018, the IU Fort Wayne undergraduate dental education programs (dental hygiene, dental assisting, and dental laboratory technology) officially became a part of the IU School of Dentistry. At this time, the curricula of these programs are not integrated and are evaluated independently.

This PRAC Annual Assessment Report offers a program review for the IU School of Dentistry DDS program only. The IUSD undergraduate and advanced dental education programs are reported independently.

The DDS program is a four-year academic curriculum requiring 108 courses and 165 credit hours. Graduates of the DDS degree program will be ready for entry-level practice in general dentistry and competent to provide safe and effective patient care through demonstrated competency of the student learning outcomes:

<https://dentistry.iu.edu/academics/degrees-programs/doctor-dental-surgery/index.html>

In August 2018, the DDS program and the Advanced Dental Education programs began their voluntary, self-study institutional and program accreditation preparations for review by the Commission on Dental Accreditation (CODA) to demonstrate programmatic achievement of CODA Standards. The comprehensive institutional site visit is scheduled for September 15-17, 2020. Ongoing institutional and program review is an expectation that must be demonstrated by all accredited dental programs. All IUSD programs are on a seven-year accreditation cycle with the exception of the Oral and Maxillofacial Surgery program that is on a five-year cycle.

## Overview of Assessment Activities

The United States Department of Education recognizes CODA as the sole accrediting body, responsible for programmatic assessment of quality and performance of dental, allied dental and advanced dental educational programs. Programmatic standards set by CODA, the Accreditation Standards for Dental Education, set minimum acceptable requirements but allow institutions flexibility to determine how to meet them through a competency-based education model aligned with dental education, patient care, research and service missions. The IUSD Institutional Competencies for the Dental Graduate, which are reviewed and approved by the IUSD Curriculum Committee and Faculty Council, are modeled after the CODA standards.

Within Indiana University School of Dentistry, the IUSD Institutional Outcomes Assessment (IOA) committee, DDS Curriculum and Assessment Committee (CAC), and DDS Student Progress Committee are key IUSD standing committees charged with the ongoing evaluation of the DDS program, curriculum and individual student progress, respectively. In Academic Year 2018-19, the Offices of Academic Affairs, Admissions and Student Affairs and Diversity, Equity and Inclusion were consolidated into the new Office of Academic Programs (OAP) to support students' academic, personal and professional needs. The IUSD OAP provides administrative guidance for these committees and facilitates the routing of information to the appropriate faculty member, standing committees of the Faculty Council or administrative office in order to identify areas of strengths and opportunities for improvement.

### **Institutional Outcomes Assessment**

Ongoing assessment of IUSD's progress toward its stated mission, vision and goals is overseen by the Executive Committee of the Faculty Council and the IOA committee, a committee appointed by the Dean. A schedule exists to review these three items every five years at a minimum, for continued authenticity. The most recent review and approval of the IUSD Goals by Faculty Council occurred in 2017. IUSD Institutional Goals address 1) Teaching and learning, 2) Research and creative activities, 3) Patient care and 4) Civic engagement and service. The Institutional Outcomes Assessment Plan developed by academic and clinical deans and relevant faculty committees, identifies mission directed objectives and measures for assessment at both the school and DDS program levels. The IOA committee, chaired by the Dean, managed by the Director of Institutional Outcomes Assessment and guided by lead members of various constituencies work in concert with the Faculty Council to review the efficacy of our stated objectives and inform corrective action when needed. Members of the IOA committee work with various stakeholders to inform, review, and revise objectives and/or their measures as needed. However, any faculty member or student can make suggestions for revisions to the institutional mission, vision, or goals. Nineteen measures were assessed for Academic Year 2018-19 across the four broad domains. Our outcomes assessment process (Appendix A) informs the ongoing cycle of evaluating the objectives, performance measures and outcomes data to identify achievements, gaps or trends and actions to close the loop. Overall responsibility for the operational implementation and oversight of progress toward the mission and goals of the school rests with the Curriculum and Assessment and Quality Improvement committees.

### **Curriculum Management Plan**

For the continuing oversight and assessment of the DDS curriculum, the DDS CAC implements a multi-faceted review process. The Curriculum Management Plan (CMP) was approved by the Faculty Council in 1999, and serves as the foundation for IUSD's ongoing curricular review process (CMP Process Flowchart, Appendix B; Course Review by Course Director Form, Appendix C; CAC Course Review Form, Appendix D). The OAP houses the Senior Associate Dean for Academic Programs who has oversight of the process and ensures that the findings and recommendations of the CAC are routed properly for study, action and follow-up. The Director of Curriculum Support in the OAP provides day-to-day oversight of the process and supports the CAC by compiling and synthesizing review data, routing recommendations to the appropriate faculty, and assessing outcomes of curricular change.

The IUSD process of curricular review and assessment involves input from faculty, students, and administrators. Data for the curriculum review include: course directors' course review reports, student evaluations, student focus group reports, and course materials such as syllabi and lecture and/or topics outlines. If they wish, instructors may provide exams, cases or other materials.

The OAP and/or the CAC identify areas for curricular review, and the OAP collects, compiles and summarizes review data. Members of the CAC are responsible for reviewing courses and/or program years as part of their service to the committee. From this review, suggestions for improvement or revision are generated and appropriate action plans are outlined. Key to an effective CMP is the linking of action steps with the appropriate person (course director, department or division director, administrative office or dean) for oversight. Periodically, the action plans are reviewed by the CAC and the OAP, and progress toward the intended outcomes are documented.

### **Assessment of Student Progress**

The DDS Progress Committee meets each semester, or more frequently as needed, to address the needs of students in the program. Individual student cases are presented for discussion. In addition to elected representatives, those individuals included in the discussion (as needed) are the following: course directors, student advocates, clinic directors of students under discussion, the Deans of Academic Programs, Student and Clinical Affairs and other faculty who would have knowledge about a particular student's situation. Progress Committee members are charged with making decisions concerning student promotions and reporting these outcomes to the Faculty Council.

### **Assessment Data**

Evidence of student learning and development is captured and evaluated at both program and student levels. Direct measures of student learning outcomes are continuously tracked and compiled annually for use by faculty standing committees in planning and decision-making. Other student measures, including focus group data and senior exit surveys, inform program development, benchmarking, and curricular and advising assessment activities. The following data are reviewed annually as part of our ongoing assessment activities:

- Analysis of student performance in courses, clinics, discipline competency examinations, and on national written and regional clinical boards
- D1 to D2 retention rate
- On-time graduation rate
- Outcomes of patient care
- Patient opinion surveys
- IUSD Standards of Care audit
- Course syllabi
- Course review reports (completed by course directors)
- Course evaluation surveys
- Student focus groups reports
- Senior exit interview surveys (IUSD and American Dental Education Association)

## **Student Learning Outcomes**

To demonstrate successful completion of the curriculum, IUSD has established 20 Institutional Competencies that each student must achieve to be deemed competent for the beginning practice of general dentistry and to be eligible for graduation. Competency includes complex behaviors or abilities that include knowledge, experience, critical thinking and problem-solving skills, professionalism, ethical values, and technical and procedural skills. The IUSD Institutional Competencies have been developed by the discipline, or disciplines working together, to measure student development across the program.

Most of the IUSD Institutional Competencies map to all four of the IUPUI Principles of Graduate and Professional Learning (PGPL):

- PGPL 1: Demonstrating mastery of the knowledge and skills expected for the degree and for professionalism and success in the field
- PGPL 2: Thinking critically, applying good judgment in professional and personal situations
- PGPL 3: Communicating effectively to others in the field and to the general public
- PGPL 4: Behaving in an ethical way both professionally and personally

The IUSD Institutional Competencies for the Dental Graduate and corresponding PGPLs are listed below:

The IUSD graduate must be competent in:

- patient assessment, diagnosis, and referral (PGPL 1,2,3,4)
- treatment planning (PGPL 1,2,3,4)
- communicating and collaborating with individuals and groups to prevent oral disease and promote oral and general health in the community (PGPL 1,2,3,4)
- control of pain and anxiety, clinical pharmacology, and management of related problems, including prescribing practices and substance use disorder (PGPL 1,2,3,4)
- prevention and management of dental and medical emergencies (PGPL 1,2,3,4)
- detection, diagnosis, risk assessment, prevention, and management of dental caries (PGPL 1,2,3,4)
- diagnosis and restoration of defective teeth to form, function and esthetics (PGPL 1,2,3,4)
- replacement of teeth including fixed, removable and dental implant prosthodontic therapies (PGPL 1,2,3,4)
- diagnosis and management of periodontal disorders (PGPL 1,2,3,4)
- prevention, diagnosis and management of pulpal and periradicular diseases (PGPL 1,2,3,4)
- diagnosis and management of oral mucosal and osseous disorders (PGPL 1,2,3,4)
- collecting and assessing diagnostic information to plan for and perform uncomplicated oral surgical procedures (PGPL 1,2,3,4)
- recognizing and diagnosing malocclusion and space management needs (PGPL 1,2,3,4)
- discerning and managing ethical issues and problems in dental practice (PGPL 1,2,3,4)
- understanding and application of the appropriate codes, rules, laws and regulations that govern dental practice (PGPL 1,2,3,4)
- behavioral patient management and interpersonal skills (PGPL 1,2,3,4)
- understanding the fundamental elements of managing a dental practice (PGPL 1,2,3,4)
- performing and supervising infection control procedures to prevent transmission of infectious diseases to patients, the dentist, the staff and dental laboratory technicians (PGPL 1,2,3,4)
- providing evidence-based patient care in which they access, critically evaluate, and communicate scientific and lay literature, incorporating efficacious procedures with consideration of patient needs and preferences (PGPL 1,2,3,4)
- recognizing the role of lifelong learning and self-assessment to maintain competency (PGPL 1,2,4)

## **Assessment Measures**

### **Direct Measures of Student Learning**

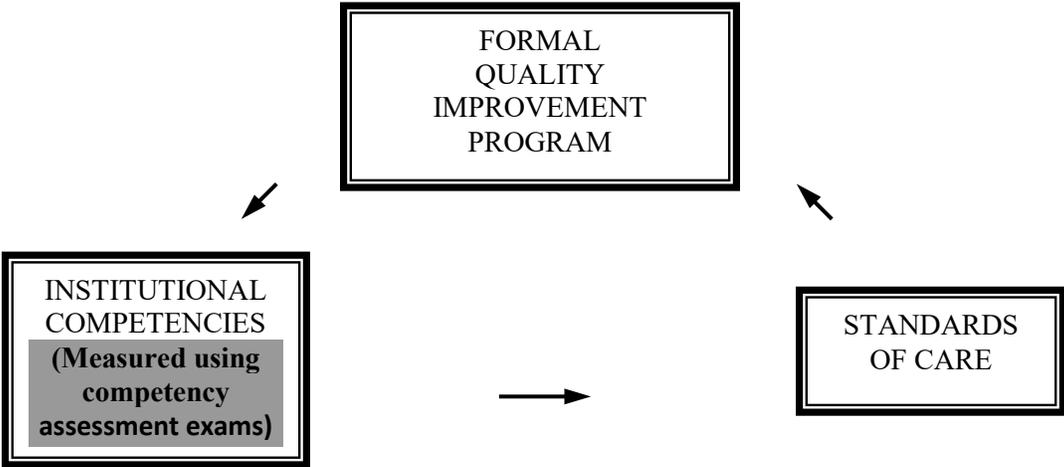
The clinical assessments used to evaluate student competence are outlined in the IUSD Competency Manual, which serves to guide faculty and students in the preparation for, and evaluation of, student competence. Each

clinical assessment is used as a direct measure of at least one of the twenty IUSD Institutional Competencies. Students are tracked individually in their progress toward each of these competencies (student learning outcomes). Student preparation for and evaluation of competence occurs as an integrated part of all aspects of the DDS program with multiple measures of student mastery of knowledge, skills, behaviors and attitudes.

**Rationale for Competency Assessment Exams**

The Competency Assessment Exams are the measurement criteria used to assess the desired outcomes for students based on the parameters of the IUSD Institutional Competencies. The Institutional Competencies are part of a triad of specifications that, along with the IUSD Standards of Care and a sound Quality Improvement Program, create a framework that fosters the development of competent beginning practitioners of dentistry. The Standards describe the proper care for the patient, the Institutional Competencies establish those skills expected of our graduates, and the Quality Improvement Program provides the mechanism that assures that the Standards are met.

**Figure 1. Flow Chart for Institutional Reporting of Competency Outcomes**



All IUSD students must successfully complete the Competency Assessment Exams as a prerequisite to clearance for graduation. The discipline-specific faculty review the outcomes for their Competency Exam(s) and determine if any changes in administration of their competencies are necessary, or, whether any didactic or clinical courses require evaluation and/or change. Any recommendations that involve course changes with regard to time or curriculum placement are submitted to the DDS CAC. This plan follows the generation of outcomes through to their use in analyzing the curriculum to prepare graduates for beginning independent practice. The Competency Assessment Exams and other capstone measures are mapped to the IUSD institutional competencies in the table below.

**Table 1. IUSD Institutional Competencies Mapped to Competency and Capstone Assessments**

| IUSD Institutional Competencies  | Clinical Competency and Capstone Assessments   |
|--|--|
| 1. patient assessment, diagnosis, and referral   | <ul style="list-style-type: none"> <li>• Caries Diagnosis, Risk Assessment and Management</li> <li>• Dental Emergencies</li> <li>• Oral Diagnosis and Treatment Planning I &amp; II</li> <li>• Endodontics</li> <li>• Screening and Risk Assessment for Head and Neck Cancer</li> <li>• Operative Dentistry</li> <li>• Oral Mucosal and Osseous Disorders</li> <li>• Oral and Maxillofacial Surgery</li> <li>• Orthodontic Malocclusion</li> <li>• Outcomes of Treatment</li> <li>• Pediatric Dentistry (Diagnosis and Treatment Planning, Operative, Pulpal Therapy, and Space Management)</li> <li>• Patient Assessment Periodontal Instrumentation</li> <li>• Comprehensive Treatment Planning and Management of an Active Periodontitis Case</li> <li>• Prosthodontic Assessment of Competency (Crown, RPD, Complete Denture, Implant)</li> <li>• Radiology – DXTR</li> <li>• Radiology Interpretation Competency</li> </ul> |
| 2. treatment planning  | <ul style="list-style-type: none"> <li>• Caries Diagnosis, Risk Assessment and Management</li> <li>• Dental Emergencies</li> <li>• Oral Diagnosis and Treatment Planning II</li> <li>• Endodontics</li> <li>• Operative Dentistry</li> <li>• Oral and Maxillofacial Surgery</li> <li>• Outcomes of Treatment</li> <li>• Pediatric Dentistry (Diagnosis and Treatment Planning, Operative, Pulpal Therapy, and Space Management)</li> <li>• Patient Assessment Periodontal Instrumentation</li> <li>• Comprehensive Treatment Planning and Management of an Active Periodontitis Case</li> <li>• Prosthodontic Assessment of Competency (Crown, RPD, Complete Denture, Implant)</li> <li>• Radiology – DXTR</li> <li>• Radiology Interpretation Competency</li> </ul>   |
| 3. communicating and collaborating with individuals and groups to prevent oral disease and promote oral and general health in the community            | <ul style="list-style-type: none"> <li>• Community-based Oral Health Promotion and Disease Prevention</li> <li>• Community-based Clinics Rotation</li> <li>• Cultural mindfulness is a standard assessed on all Clinical Competency Exams</li> </ul>   |
| 4. control of pain and anxiety, clinical pharmacology, and management of related problems, including prescribing practices and substance use disorders | <ul style="list-style-type: none"> <li>• Caries Diagnosis, Risk Assessment and Management</li> <li>• Endodontics</li> <li>• Operative Dentistry</li> <li>• Oral and Maxillofacial Surgery</li> <li>• Pediatric Dentistry (Local Anesthesia, Operative, Pulpal Therapy)</li> </ul>  |

| IUSD Institutional Competencies   | Clinical Competency and Capstone Assessments  |
|---|---|
| 5. prevention and management of dental and medical emergencies  | <ul style="list-style-type: none"> <li>• Dental Emergencies</li> <li>• Oral Diagnosis and Treatment Planning I &amp; II</li> <li>• Endodontics</li> </ul>   |
| 6. detection, diagnosis, risk assessment, prevention, and management of dental caries                               | <ul style="list-style-type: none"> <li>• Caries Diagnosis, Risk Assessment and Management</li> <li>• Oral Diagnosis and Treatment Planning II</li> <li>• Operative Dentistry</li> <li>• Pediatric Dentistry (Diagnosis and Treatment Planning)</li> <li>• Radiology Interpretation Competency</li> </ul>  |
| 7. diagnosis and restoration of defective teeth to form, function and esthetics                                     | <ul style="list-style-type: none"> <li>• Caries Diagnosis, Risk Assessment and Management</li> <li>• Operative Dentistry</li> <li>• Pediatric Dentistry (Diagnosis and Treatment Planning, Operative)</li> </ul>  |
| 8. replacement of teeth including fixed, removable and dental implant prosthodontic therapies                       | <ul style="list-style-type: none"> <li>• Prosthodontic Assessment of Competency (Crown, RPD, Complete Denture, Implant)</li> </ul>  |
| 9. diagnosis and management of periodontal disorders  | <ul style="list-style-type: none"> <li>• Oral Diagnosis and Treatment Planning II</li> <li>• Patient Assessment Periodontal Instrumentation</li> <li>• Comprehensive Treatment Planning and Management of an Active Periodontitis Case</li> <li>• Radiology Interpretation</li> </ul>   |
| 10. prevention, diagnosis and management of pulpal and periradicular diseases                                       | <ul style="list-style-type: none"> <li>• Dental Emergencies</li> <li>• Endodontics</li> <li>• Pediatric Dentistry (Pulpal Therapy)</li> <li>• Radiology Interpretation</li> </ul>   |
| 11. diagnosis and management of oral mucosal and osseous disorders  | <ul style="list-style-type: none"> <li>• Oral Diagnosis and Treatment Planning I &amp; II</li> <li>• Oral Mucosal and Osseous Disorders</li> </ul>  |
| 12. collecting and assessing diagnostic information to plan for and perform uncomplicated oral surgical procedures  | <ul style="list-style-type: none"> <li>• Oral Diagnosis and Treatment Planning II</li> <li>• Oral and Maxillofacial Surgery</li> </ul>  |
| 13. recognizing and diagnosing malocclusion and space management needs  | <ul style="list-style-type: none"> <li>• Orthodontics and Malocclusion</li> <li>• Pediatric Dentistry (Space Management)</li> </ul>   |
| 14. discerning and managing ethical issues and problems in dental practice  | <ul style="list-style-type: none"> <li>• OSCE – Application of ethical decision-making to difficult standardized patient (SP) issues</li> <li>• Ethics and Professionalism is a standard assessed on all Clinical Competency Exams</li> </ul>   |
| 15. understanding and application of the appropriate codes, rules, laws and regulations that govern dental practice | <ul style="list-style-type: none"> <li>• Jurisprudence Final Examination</li> </ul>   |
| 16. behavioral patient management and interpersonal skills  | <ul style="list-style-type: none"> <li>• Caries Diagnosis, Risk Assessment and Management</li> <li>• Oral and Maxillofacial Surgery</li> <li>• Pediatric Dentistry (Diagnosis and Treatment Planning, Local Anesthesia)</li> <li>• OSCE – Application of behavioral patient management and interpersonal communication to difficult SP issues</li> <li>• Behavioral patient management is a standard assessed on all Clinical Competency Exams</li> </ul> |
| 17. understanding the fundamental elements of managing a dental practice  | <ul style="list-style-type: none"> <li>• Dental Practice Administration Final Examinations</li> </ul>   |

| <b>IUSD Institutional Competencies</b>   | <b>Clinical Competency and Capstone Assessments</b>  |
|--|--|
| 18. performing and supervising infection control procedures to prevent transmission of infectious diseases to patients, the dentist, the staff and dental laboratory technicians   | <ul style="list-style-type: none"> <li>• Oral and Maxillofacial Surgery</li> <li>• Radiology - DXTTR</li> </ul>  |
| 19. providing evidence-based patient care in which they access, critically evaluate, and communicate scientific and lay literature, incorporating efficacious procedures with consideration of patient needs and preferences | <ul style="list-style-type: none"> <li>• Caries Diagnosis, Risk Assessment and Management</li> <li>• Oral Diagnosis and Treatment Planning II</li> <li>• Outcomes of Treatment Competency</li> </ul> |
| 20. recognizing the role of lifelong learning and self-assessment to maintain competency   | <ul style="list-style-type: none"> <li>• Prosthodontic Assessment of Competency (Crown, RPD, Complete Denture, Implant)</li> </ul>   |

In dentistry, clinical assessments are highly authentic, and capstone student experiences are very similar to those required of a practicing general dentist. As an example, a student's ability to diagnose, treatment plan, clinically prepare and evaluate the finished work for a patient requiring multiple dental procedures is done by direct evaluation of these skills (patient management and communication, diagnosing, treatment planning, clinically providing the needed treatment and then evaluating the outcomes of the treatment) within the context of an actual patient. Students who are not successful on competency examinations are remediated as needed, given additional opportunities to master the skills and then must attempt the competency again. In addition to the successful completion of all of the required courses in the curriculum, students are not eligible to graduate until they have demonstrated achievement for all 20 IUSD Institutional Competencies.

In addition to the Clinical Competency Examinations, formative and summative assessments, which measure student development toward achieving the IUSD Institutional Competencies, are embedded in all DDS courses. Examples of formative and summative assessments are listed below:

Formative Assessments:

- Annotated bibliography assessment
- Daily comp care clinical assessment
- Rotation clinical evaluations
- Lab examinations
- Objective structured clinical examination (OSCE)
- Outcomes of treatment presentations
- Reflective writing, including ethics and behavioral sciences
- Written examinations
- Standardized patient simulations
- Case-stimulated assignments
- Clinical professionalism evaluation
- Integrative biomedical-clinical sciences case presentations

Summative Assessments:

- Case-stimulated assignments
- Evidence-based literature critique
- Outcomes of treatment presentations
- Lab examinations
- OSCE
- Written examinations

- Integrated treatment planning and applied patient management presentations
- Clinical competency assessments
- Reflective writing
- Standardized patient simulations
- Patient portfolios
- Critical incident reports

### Indirect Measures of Student Learning

Indirect measures are used to evaluate student outcomes and programmatic effectiveness. Student focus groups are used to collect student feedback on a broad range of issues, including: unplanned curricular redundancy, course sequencing, applicability of content in courses and the effectiveness of new curricular components incorporated into the program. IUSD also has a student-run Student Curriculum and Assessment Committee that meets regularly and provides input directly to the DDS CAC. Each DDS class has a non-voting representative on the CAC to provide the students with a voice on the committee.

Each DDS student completes the IUSD Senior Exit Interview Survey, and all students have the opportunity to complete the American Dental Education Association (ADEA) exit survey. These surveys provide information about student satisfaction with advising, the curriculum, their sense of preparedness to practice and job placement. Additionally, all students have the opportunity to complete the IUSD Humanistic Culture and Learning Environment Survey, which assesses aspects of the learning environment such as student-student interactions, student-faculty interactions, curricular flexibility, emotional climate, student support, curricular organization, meaningful experiences and breadth of interest.

## Academic Year 2018-19 Assessment Findings and Actions

### Assessment of Direct Measures of Student Competency

The Senior Associate Dean of Academic Programs and Assistant Dean of Academic Affairs regularly review the first-time pass rates of our Clinical Competency Exams, which are the capstone direct measures supporting the 20 IUSD Institutional Competencies. Table 2 provides an example of the data reviewed.

**Table 2. Selected First-time Pass Rates for DDS Clinical Competency Exams, AY 2018-19**

| Clinical Competency Exam  | Supported IUSD Institutional Competencies | Number of first-time passes (n=114) | First-time pass rate |
|---|---|-------------------------------------|----------------------|
| Caries Diagnosis, Risk Assessment and Management                                | 1, 2, 4, 6, 7, 16, 19                     | 114                                 | 100%                 |
| Prosthodontic Assessment of Competency – Denture                                | 1, 2, 8, 20                               | 113                                 | 99.12%               |
| Endodontics   | 1, 2, 4, 5, 10                            | 112                                 | 98.24%               |
| Operative Dentistry   | 1, 2, 4, 6, 7                             | 114                                 | 100%                 |
| Comprehensive Treatment Planning and Management of an Active Periodontitis Case | 1, 2, 9                                   | 112                                 | 98.24%               |
| Oral and Maxillofacial Surgery  | 1, 2, 4, 12, 16, 18                       | 114                                 | 100%                 |

| <b>Clinical Competency Exam</b>  | <b>Supported IUSD Institutional Competencies</b> | <b>Number of first-time passes (n=114)</b> | <b>First-time pass rate</b> |
|--|--|--|-----------------------------|
| Prosthodontic Assessment of Competency – Crown   | 1, 2, 8, 20                                      | 112  | 98.24%                      |
| Prosthodontic Assessment of Competency – Implant   | 1, 2, 8, 20                                      | 114  | 100%                        |
| Dental Emergencies Exam  | 1, 2, 5, 10                                      | 95   | 83.33%                      |
| Orthodontic Malocclusion   | 1, 13  | 108  | 94.74%                      |
| Pediatric Dentistry (local anesthesia, diagnosis and treatment planning, operative, pulpal therapy, space mgmt.) | 1, 2, 4, 6, 7, 10, 13, 16                        | 114  | 100%                        |
| Prosthodontic Assessment of Competency – RPD   | 1, 2, 8, 20                                      | 112  | 98.24%                      |
| Outcomes of Treatment  | 1, 2   | 113  | 99.12%                      |

In addition to the first-time pass rates, the Senior Associate Dean of Academic Programs, Assistant Dean of Academic Affairs and DDS Progress Committee (as needed) review students' progress toward meeting the eligibility criteria (essential patient experiences) to sit for Clinical Competency Exams. The Senior Associate Dean of Academic Programs, Assistant Dean of Academic Affairs, Department Chairs, Discipline Directors and the Progress Committee work collaboratively to modify the Clinical Competency Exams based on the assessment data. Amendments to Clinical Competency Exams are submitted to the DDS CAC for review and approval. Selected examples from the AY 2018-19 are provided below:

**Table 3. Recommendation, Action Steps and Outcomes – Oral Pathology Competency Exams**

| Recommendation  | Action Step(s)  | Outcome(s)  |
|---|---|---|
| <p>1. Explore the need for capstone assessments in “Screening and Risk Assessment for Head and Neck Cancer” and “Oral Mucosal and Osseous Disorders.”</p> | <p>1. In concert with faculty in the Department of Oral Pathology, Medicine and Radiology, review DDS curriculum relative to screening and risk assessment for head and neck cancer and oral mucosal and osseous disorders to identify gaps.</p> <p>2. Develop case-based competency assessments in “Screening and Risk Assessment for Head and Neck Cancer,” and “Oral Mucosal and Osseous Disorders.”</p> | <p>1. The review of the curriculum determined a strong foundation in the two topics with appropriate assessment of student learning. However, a gap was identified relative to a formal capstone assessment in the two areas, which would provide stronger evidence of students meeting IUSD IC 11 and compliance with CODA standards.</p> <p>2. Case-based competency assessments were developed by faculty in the Department of Oral Pathology, Medicine and Radiology, and were implemented for the first time with the DDS class of 2021. The first-time pass rate for the Screening and Risk Assessment for Head and Neck Cancer Competency (n=120) was 64.16% and the first-time pass rate for the Oral Mucosal and Osseous Disorders Competency (n=120) was 95%.</p> |

**Table 4. Recommendation, Action Steps and Outcomes – Operative Dentistry Clinical Competency Exam**

| Recommendation   | Action Step(s)   | Outcome(s)  |
|--|--|---|
| <p>1. Consider revising the eligibility criteria for challenging the Operative Dentistry Competency to account for the quality of patient experiences in addition to the quantity of procedures performed.</p> | <p>1. Evaluate current eligibility criteria to explore opportunities to incorporate a quality measure of students’ qualifying experiences to challenge the Operative Dentistry Competency.</p> <p>2. Re-evaluate in one year to determine if change has met intended outcomes of: (1) ensuring more robust direct restorative clinical experiences, (2) facilitating completion of pre-competency experiences in a timely fashion, (3) aligning more with current CODA standards</p> | <p>1. Faculty in the Department of Cariology, Operative Dentistry and Dental Public Health reviewed the eligibility criteria for challenging the Operative Dentistry Clinical Competency Exam. Department leadership reviewed and revised the eligibility from 30 procedures to 20 qualified pre-competency experiences. The department defined that students’ qualified pre-competency experiences must meet the quality standards established by the department. Students have the opportunity to demonstrate continued competency on operative procedures during patient care experiences in the comprehensive care clinics.</p> <p>2. The competency eligibility criteria will continue to be evaluated as part of the Office of Academic Programs ongoing review of Clinical Competency Exams.</p> |

**Institutional Outcomes Assessment**

The IUSD IOA process is broad-based, systematic, continuous, and designed to promote achievement of our institutional goals:

1. Goal 1: Teaching and Learning
  - a. Admissions: Attract and support a well-prepared and diverse student population for all IUSD oral health profession programs.
  - b. Education/Curriculum: Enhance student learning and develop graduates who are competent clinicians, critical thinkers and lifelong learners, ethical, socially aware, and culturally sensitive oral health professionals.
2. Goal 2: Research and Creative Activities
  - a. Excel in high-quality, innovative research and scholarly activities, which engage faculty, students and staff, attract external funding, increase our national standing, and lead to improvements in oral and systemic health.

3. Goal 3: Patient Care
  - a. Provide comprehensive, evidence-based, quality oral health services to individuals from any socioeconomic or cultural group.
4. Goal 4: Civic Engagement and Service
  - a. Serve local, state, national, and global communities through partnerships involving clinical care, service-learning, and community engaged scholarship in addition to servicing the university and the profession.

The Director of Institutional Outcomes Assessment and the IOA committee regularly review the objectives and progress toward intended outcomes at both program and student levels. Each objective identifies direct, indirect and proxy measures able to determine the degree of achievement or progress toward our intended outcomes. Examples from each goal are addressed below to demonstrate the IOA process.

### **Goal 1: Teaching and Learning**

#### Admissions

IUSD aligns with IUPUI Goal 9, Promote an Inclusive Campus and supports CODA Standard 1-4, “the dental school must have policies and procedures designed to include recruitment and admission of a diverse student population”. The IUSD Admissions Committee reviews its criteria and processes during its annual admissions cycle debrief to identify opportunities for change that support IUPUI and CODA priorities and outcomes associated with student learning. Examples of admissions process outcomes include:

- Ability to handle workload in D1 year
- Need for student support to be successful

Table 5 provides an example of an Admissions objective metric, in the domain of Teaching and Learning, which supports both diversity and student success, and requires the collaborative effort of the OAP, including the Assistant Dean for Diversity and Student Success, DDS Progress Committee and DDS Admissions Committee.

In 2018-19, important happenings included the consolidation of offices into the Office of Academic Programs, the appointment of the Assistant Dean for Diversity and Student Success, and the after-action assessment report of Admissions Committee to make meaningful changes to the admissions process to support identified process outcomes.

Based on the 2018-19 review report, significant selection process changes were made and implemented in our 2019-20 admissions cycle. Changes included the institution of CASPer non-cognitive evaluations, multiple mini interviews (MMI) along with the traditional interview format and the use of subcommittees in the selection process. These changes will better address the assessment of cognitive and non-cognitive skills of applicants and reduce applicant bias.

**Table 5. Objective(s), Assessment Data, Action(s), Results Analysis, and Programmatic Recommendations – GOAL 1: Admissions**

| Objective(s)   | Assessment Data                       | Action(s)  | Results Analysis   | Programmatic Recommendations  |
|--|---------------------------------------|--|--|---|
| 1.To admit students who are successful in the program, as measured by a 98% retention rate from D1 to D2 with the student’s original cohort. | D1 spring Progress Committee outcomes | Office of Academic Programs, was consolidated, which was identified as important to support student’s academic, personal and professional needs.<br><br>Admissions process targets academically prepared students<br><br>2017-18 D1 course implemented, “Transition to Professional School” extend to all 5 weeks of summer intro course to support student success; additional support included tutoring by D2, D3 students<br><br>Review data from D1 Spring Progress Committee Outcomes; OAP provides one-on-one faculty /student academic advising | Class of 2022<br><br>ALL = 98.10%<br>103/105 (1 student transferred, 1 student did not progress due to academic reasons)<br>URM = 100.0%<br>5/5<br><br>Goal met. | Continue strategic initiatives focusing on Diversity and Student Success within OAP, supporting three-tiered mentoring, interprofessional learning and training, and professional development.<br><br>Student data management platform developed in 2018-19 through OAP to be implemented with entering class AY 2019-20 will provided targeted student assessment to identify areas for early intervention to support student success; continue to provide OAP one-on-one faculty/student academic advising; |

Education/Curriculum

Direct and indirect measures are used to assess overall curriculum and educational experiences. High-level measures of success reflect outcomes that align with CODA Standard 2-4, “the stated goals of the dental education program must be focused on educational outcomes and define the competencies needed for graduation, including the preparation of graduates who possess the knowledge, skills and values to begin the independent practice of general dentistry”. All dental licensure applicants must meet three basic requirements reflected in Table 6 and include: an education requirement, a written examination requirement, and a demonstration of clinical competency.

Progression from the didactic program into the clinical curriculum is dependent on passing the National Board

Dental Examination (NBDE) Part I exam. Successful completion of the National Board Dental Examination (NBDE) Part II is a graduation requirement. IUSD defines overall student success as the completion of the four-year doctoral program. Student sense of preparedness to practice along with a number of other measures including satisfaction with the curriculum, advising, and job placement is important to the educational outcome and captured in the voluntary ADEA Senior Exit Interview Survey. This indirect measure of student learning outcomes is both valued and shared with discipline directors to identify opportunities for curricular change and improvement, while also recognized to contain inherent limitations related to its voluntary and subjective nature.

In anticipation of an Integrated National Board exam which will replace Part I and Part II components, beginning with the Class of 2023, IUSD was busy in AY 2018-19 assessing its overall curriculum to support students' success with the new format. Better integration of the biomedical, behavioral and clinical sciences will drive these changes.

**Table 6. Objective(s), Assessment Data, Action(s), Results Analysis, and Programmatic Recommendations – GOAL 1: Education/Curriculum**

| Objective(s)  | Assessment Data  | Action(s)   | Results Analysis  | Programmatic Recommendations   |
|---|--|---|---|--|
| 4.To obtain a ≥ 98% pass rate on NB part I by June prior to the beginning of D3 clinics.  | Joint Commission on National Dental Examinations (JCNDE) via ADA Hub                                       | Mock board exam: Three opportunities during the D2 year; student-led tutoring sessions available; must pass to register for exam.   | Goal not met.<br><br>Class of 2021: 95.33%<br>102/107<br>107= total #students enrolled in D2 year;<br>103 students in original cohort;                  | Students must pass Part I board exam prior to entering clinical curriculum. Class of 2023 will be first to take the new Integrated Dental Board Exam.  |
| 5.To obtain a 100% pass rate on NB part II by spring semester graduation date or within three months after completion of clinical graduation requirements, whichever comes later. | Joint Commission on National Dental Examinations (JCNDE) via ADA Hub<br><br>CODA Annual Survey SDE1 201718 | The IUSD Office of Academic Affairs launched the IUSD Continued Competency Assessment (CCA) program in A.Y. 2017-18 to support a more integrated ongoing process of formative and summative assessment. | Goal met.<br><br>Class of 2019: 100.0% (97/97)<br><br>August is considered on-time graduation<br><br>Rate does not necessarily reflect first-time pass. | Biomedical Integration Task Force created to develop student knowledge and prepare for new board exam and integration of biomedical behavioral and clinical aspects of patient care. Will work with D701 Clinical Rounds course to create Integrated Clinical Rounds. Five integrated cases piloted summer 2019. Will review curriculum overall. |

| Objective(s)   | Assessment Data   | Action(s)  | Results Analysis   | Programmatic Recommendations  |
|--|---|--|--|---|
| 6. To obtain a > 90% first attempt pass rate on all sections of the clinical licensure board exam. | Commission on Dental Competency Assessments (CDCA) and WREB data averages, includes pass rates for Traditional and International Dental students<br>Students are not required to take both. Each exam does not require all sections.<br>Part II: manikin (endo,pros)<br>Part III: patient (perio restorative) | Pass of CDCA Mock-board exam required to register for clinical licensure board exam. Faculty-led remediation provided for students not successful with mock-board. | Goal met.<br><br>CDCA and WREB averages reported.<br>Diagnostic Skills: 100% (112/112)<br>Prosthodontics: 98.17% (107/109)<br>Endodontics: 92.11% (105/114)<br>Periodontics: 97.09% (100/103)<br>Anterior Restorative: 90.99% (101/111)<br>Posterior Restorative: 96.49% (110/114) | Continue to communicate outcomes to discipline directors and support curriculum changes that improve student knowledge, experience and skills.  |
| 7.To graduate >95% of students within 4 years of enrollment. (all class and URM)                   | Progress Committee minutes  | 2017 Faculty-driven Admissions Task Force on DDS Admissions established to review DDS admissions criteria and process  | Goal not met for original dental program cohort (ALL).<br><br>N=106 in original cohort (ALL): 90.57% (96/106)<br><br>URM: 8 out of 10 students completed the four-year program.  | CAC recommendation to revise progress related items in Student Handbook for clarification<br><br>OAP, Progress Committee and DDS Admissions Committee will continue to assess and implement actions to support student success. |

## Goal 2: Research and Creative Activities

While IUSD highly regards research activities, students in the DDS program do not have specific requirements related to research and scholarly productivity. Rather, CODA Standard 2-6 states, “dental education programs must provide opportunities, encourage, and support student participation in research and other scholarly activities mentored by faculty.” IUSD offers funded and non-funded opportunities for interested students to collaborate with faculty mentors to pursue research goals.

**Table 7. Objective, Assessment Data, Action(s), Results Analysis, and Programmatic Recommendations – GOAL 2: Research**

| Objective   | Assessment Data   | Action(s)  | Results Analysis                          | Programmatic Recommendations   |
|---|---|--|---|--|
| 12.To have student coauthors on research publications to exceed 3 articles and/or 20 abstracts. | IUSD Research Day participation; AADR; Faculty partnered publications | Director of dental student research advises and organizes student research engagement and productivity.<br><br>Research funding application due spring D1 in advance of summer D2 when student clinic attendance requirement low at 50% and supports research pursuit. | Goal met.<br><br>0 articles/ 25 abstracts | Continue to provide faculty and student support to develop student engagement.<br><br>Additional research faculty onboarded at 80% FTE will support faculty mentorship and support of student research engagement. |

**Goal 3: Patient Care**

IUSD Patient Care Goals are directed at supporting CODA Standard 5-3, “the dental school must conduct a formal system of continuous quality improvement for the patient care program that demonstrates evidence of:

- Standards of care that are patient-centered, focused on comprehensive care and written in a format that facilitates assessment with measurable criteria;
- An ongoing review and analysis of compliance with the defined standards of care;
- An ongoing review of a representative sample of patients and patient records to assess the appropriateness, necessity and quality of the care provided;
- Mechanisms to determine the cause(s) of treatment deficiencies; and
- Implementation of corrective measures as appropriate”

The IUSD Standards of Care address six areas of patient care and describe the proper care for the patient. Assessments occur at the patient level, treatment chart level and institutional performance level. Student learning outcomes are measured through QI proxy measures that also address CODA standards. The Quality Improvement Committee is responsible for the QIP and works with the Associate Dean for Clinical Affairs to conduct ongoing reviews and monitor for improvements.

Overall QIP goals include:

- To ensure that quality patient care is provided in the student clinic;
- To provide a safe environment for patients, students, staff and faculty; and
- To provide a satisfactory experience for patients.

Outcomes of IUSD Institutional Goals impact curricula changes. An example is included in Table 8. In February 2019, Faculty Council approved an update of the IUSD Standards of Care based on the outcomes learned through a partnered QI and Compliance HIPAA audit and shed light on additional curricula changes in D601/602 Applied Clinical Dentistry I/II.

**Table 8. Objective, Assessment Data, Action(s), Results Analysis, and Programmatic Recommendations–  
GOAL 3: Patient Care**

| Objective  | Assessment Data   | Action(s)   | Results Analysis  | Programmatic Recommendations   |
|--|---|---|---|--|
| <p>18. To obtain greater than or equal to 90% of audited charts with no deficiencies related to: treatment planning, timeliness of care, examination at completion of treatment.</p> | <p>Faculty chart record audits using the IUSD Standards of Care audit assessment tool</p> | <p>Chart audit completed by faculty 2x/year Standards of Care Document updated in fall 2018 to include IUSD compliance processes, approved by FC spring 2019 and included in Clinic and QI manuals online</p> | <p>Goal not fully met.</p> <p>1) A comprehensive tx. plan is developed for each pt.</p> <ul style="list-style-type: none"> <li>• Fall 2018: 90%</li> <li>• Spring 2019: 91%</li> </ul> <p>2) Appts. are made in order to receive timely tx.</p> <ul style="list-style-type: none"> <li>• Fall 2018: 93%</li> <li>• Spring 2019: 89%</li> </ul> <p>3)The pt. Is examined at the end of tx.</p> <ul style="list-style-type: none"> <li>• Fall 2018: 80%</li> <li>• Spring 2019: 100%</li> </ul> | <p>Incorporated pt. assessment/data mgmt. and documentation into treatment planning in the D601/602 Applied Clinical Dentistry I/II course.</p> <p>12/12/18 IOA committee recommendation to CAC to adopt diagnostic coding to support clinical, learning and research outcomes.</p> <p>Corrective action activities:</p> <ol style="list-style-type: none"> <li>1. Subcommitt ee of chart audit committee created Fall 2018</li> <li>2. Reviewed, updated and FC approval of IUSD Standards of Care</li> <li>3. Created a chart audit rubric</li> <li>4. Reviewed and updated the chart audit form and instructions</li> <li>5. Reviewed and update the chart audit threshold document</li> <li>6. Training and calibration of auditors</li> </ol> |

#### **Goal 4: Civic Engagement and Service**

IUSD values a dental program curriculum that includes opportunities to develop cultural competency, clinical competency, efficiency, healthcare team relations and professionalism. Service learning and community-based dental learning experiences support IUPUI's goal 7, Deepen our Commitment to Community Engagement, and CODA standards 2-26, "dental education programs must make available opportunities and encourage students to engage in service-learning experiences and/or community-based learning experiences".

A milestone for IUSD in AY 2018-19 was expansion of our community-engagement, realized through a four-year HRSA grant award that supports a required two-week community-based dental education rotation for D4 students. This opportunity, along with a required D3 Seal Indiana rotation, both support clinical competency examinations in addition to offering all students service-learning or community-based dental learning experiences and are summarized in Table 9. The IOA committee, along with other key stakeholders, has begun to review our current objective to determine how we can now move the bar, to continue to develop and enrich our students and respond to the needs of the community.

**Table 9. Objective, Assessment Data, Action(s), Results Analysis, and Programmatic Improvement – GOAL 4: Civic Engagement and Service**

| Objective  | Assessment Data   | Action(s)  | Results Analysis   | Programmatic Recommendations   |
|--|---|--|--|--|
| 19. 100% of students engaged in service learning or community-based dental learning experiences. | Participation percentage in community service programs: D1-D4 years; Clinical Competency Exams; Senior Student Curriculum Focus Group Reports; Senior Exit Interview Survey | <p>2018 four-year HRSA grant funding allowed expansion of CBDE into 2-week D4 rotation to a Dental HPSA. Measures developed by HRSA Goal 3 Assessment Committee. 2-6 experiences have been demonstrated to develop lifelong appreciation.</p> <p>Required service-learning SEAL IN rotations supports this objective.</p> <p>Curriculum Assessment Committee has incorporated service experience sequencing recommendations from Student Focus Groups.</p> | <p>Goal met.</p> <p>The DDS curriculum requires all student to engage with required service learning or community-based dental learning experiences.</p> <p>T871/872: Required CBDE (D4): 100% (114/114)</p> <p>T771/772: Required SEAL Indiana (D3): 100% (120/120)</p> <p>D2 Elective Service Learning/Community Service: 20</p> <p>D1 Elective Service Learning/Community Service: 19</p> | <p>Partner with additional Dental HPSA sites to expand experience &gt; 2 weeks and continue to calibrate off-site faculty.</p> <p>As the commitment to expand opportunities for Global Service Learning continues, additional student engagement outcomes will improve.</p> <p>An opportunity may exist to redefine or expand our objective to include a component in each year of the program. Total number of DDS students enrolled (D1-D4): 460<br/>Total percent of students engaged in experiences: 60% (273/460)</p> |

**Curriculum Assessment**

The Curriculum Management Plan (CMP), which functions as the foundation of the IUSD curriculum assessment process focuses on three key areas, as required by CODA standards:

- Elimination of unwarranted repetition and outdated and unnecessary material,
- Incorporation of emerging information and achievement of appropriate sequencing, and
- Incorporation of emerging didactic and clinical technologies

In addition to the CMP, individual faculty and/or administrators are encouraged to make recommendations to CAC for course improvement or suggest portions of the curriculum to review.

In the AY 2018-19, the CAC reviewed twenty-three (23) courses and made fifty-two (52) recommendations for

course improvement. Additionally, six (6) task forces were charged by CAC to conduct focused reviews of portions of the curriculum, which were identified by faculty, administrators and/or CAC members. Tables 10-12 have summarized selected examples of recommendations, action steps and outcomes from the three key areas previously listed (specific courses and/or academic departments have been de-identified).

**Table 10. Example of elimination of unwarranted repetition and outdated and unnecessary material**

| Recommendation  | Data  | Action Steps  | Response/Follow-up/Outcome  |
|---|---|---|---|
| 1. Consider evaluating students' perceptions of redundant content being presented in [third-year course]. | Course evals<br><br>Course Director self-study<br><br>Focus Group Reports | 1. Review course content relative to [first-year course] and [second year course] to identify areas of unwarranted repetition and unplanned redundancy. | 1. Course Director reviewed course content with the directors of the first and second-year courses in [DDS Department]. The sequencing of content and the need for planned redundancy were reviewed. The following changes have been made: <ul style="list-style-type: none"> <li>• [Third-year course] focuses on clinical application and clinical case discussion. Two topics, resin adhesives and isolation of the operating field, were removed due to unplanned overlap with [second-year course]</li> <li>• Lectures covering resin and amalgam were reviewed and 2 lectures in [second-year] course were eliminated, and the [third-year course] lecture was revised to focus on clinical application</li> <li>• Glass ionomer lecture moved to only [second-year course]</li> <li>• Luting agents will be moved to [second-year course]</li> <li>• Added matrix systems for posterior composites to [third-year course] based on CDCA results/challenges</li> <li>• Soft tissue management from a restorative perspective added to [third-year course]</li> <li>• Adding conservative unconventional CAD/CAM restorations to improve single visit esthetic cases to [third-year course]</li> </ul> |

**Table 11. Example of incorporation of emerging information and achievement of appropriate sequencing**

| Recommendations   | Data  | Action Steps  | Response/Follow-up/Outcome   |
|---|---|---|--|
| <p>1. Identify appropriate sequencing for building upon and reinforcing integrative treatment planning concepts in the DDS curriculum to facilitate application to patient care in the predoctoral clinics.</p> | <p>Admin identified</p> <p>Course evals</p> <p>Course Director self-study</p> <p>Focus Group Reports</p> <p>Senior Exit Interview Survey</p> <p>2013 CODA SV Report</p> | <p>1. Charge a task force to review how integrative treatment planning is taught in the DDS curriculum and how it is being applied in the clinic</p> <p>2. Identify opportunities to create/amend a DDS course to focus on the application of integrative treatment planning to patient care.</p> <p>3. Revise [third-year course] to focus on integrative treatment planning and its application to patient care in the predoctoral clinics.</p> | <p>1. The task force identified that foundational treatment planning concepts were taught in the first-year of the curriculum, and then reinforced by specific disciplines in the second and third-years of the curriculum, and also reinforced from a comprehensive care perspective in the third and fourth-years of the curriculum through small group rounds and during patient care experiences. Although treatment planning was being taught and reinforced in all four years of the curriculum, the task force members recommended developing a new integrative treatment planning process to facilitate teaching and learning during patient care experiences, and to create an associated course to reinforce, integrate, and build upon concepts already taught in the DDS curriculum.</p> <p>2. The task force identified [third-year course] as an ideal course to revise because of its sequencing (occurring after foundational and discipline specific treatment planning content and during direct patient care experiences) in the curriculum and its focus on aspects of treatment planning.</p> <p>3. [Third-year] course was revised to include: (1) integrative treatment planning lectures, (2) a self-directed group presentation process of a treatment plan developed for one of the students' patients, (3) a new integrative treatment planning worksheet to assist students in thinking critically about treatment planning and to facilitate completion of the treatment planning module in the EHR, (4) assessment and feedback process from discipline and clinic directors, (5) peer-assessment process.</p> |

**Table 12. Example of incorporation of emerging didactic and clinical technologies**

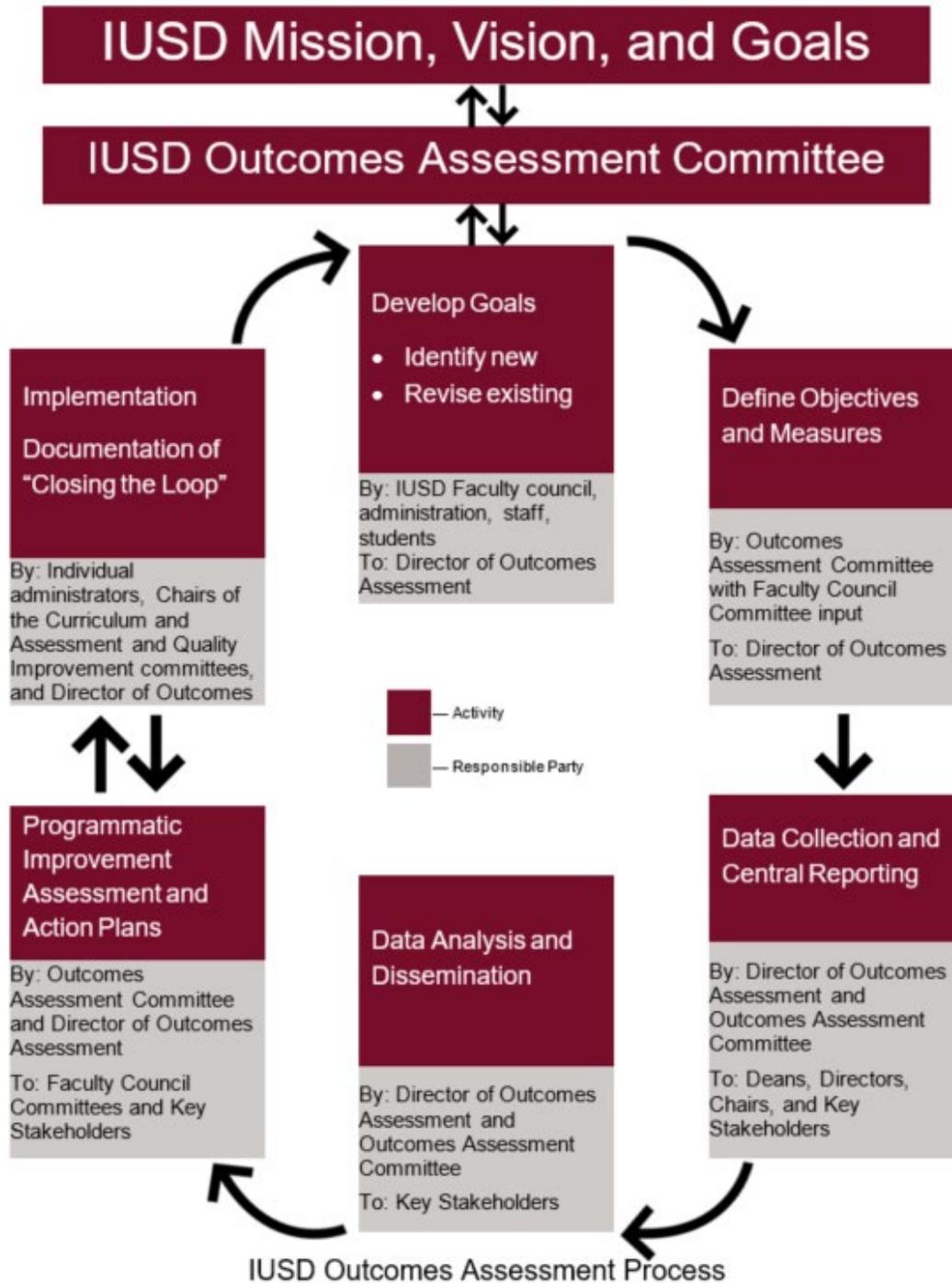
| Recommendations  | Data   | Action Steps   | Response/Follow-up/Outcome  |
|--|--|--|---|
| 1. Develop curriculum to prepare students to use CAD/CAM technologies in the IUSD predoctoral clinics. | Faculty identified<br><br>Course Evals<br><br>Senior Exit Interview Survey | 1. Identify additional opportunities beyond the preclinical curriculum for students to learn about CAD/CAM technology and prepare them to use it during patient care experiences in the predoctoral clinics.<br><br>2. Explore offering course as an intramural elective and eventually a required DDS course. | 1. Faculty responsible for teaching CAD/CAM during preclinical laboratory courses developed an online CAD/CAM course with face-to-face laboratory sessions for fourth-year students. The course was designed to review and build upon concepts taught earlier in the curriculum, with a focus on application to patient care. Successful completion of the course allowed students to use CAD/CAM technology with their patients in the IUSD comprehensive care clinics. The course was piloted with 10 students in the Fall of 2018, with all 10 students demonstrating an increase in knowledge from pre- to post-test and an average course grade of 84%.<br><br>2. The course was offered as an IUSD intramural elective beginning in the Spring of 2019, and will continue in an elective format through the 2019-20 academic year. Enrollment in the course has been limited due to the number of CAD/CAM units available, and has had student enrollment of 11, 6 and 12 students in the Spring, Summer and Fall terms respectively. |

## Summary

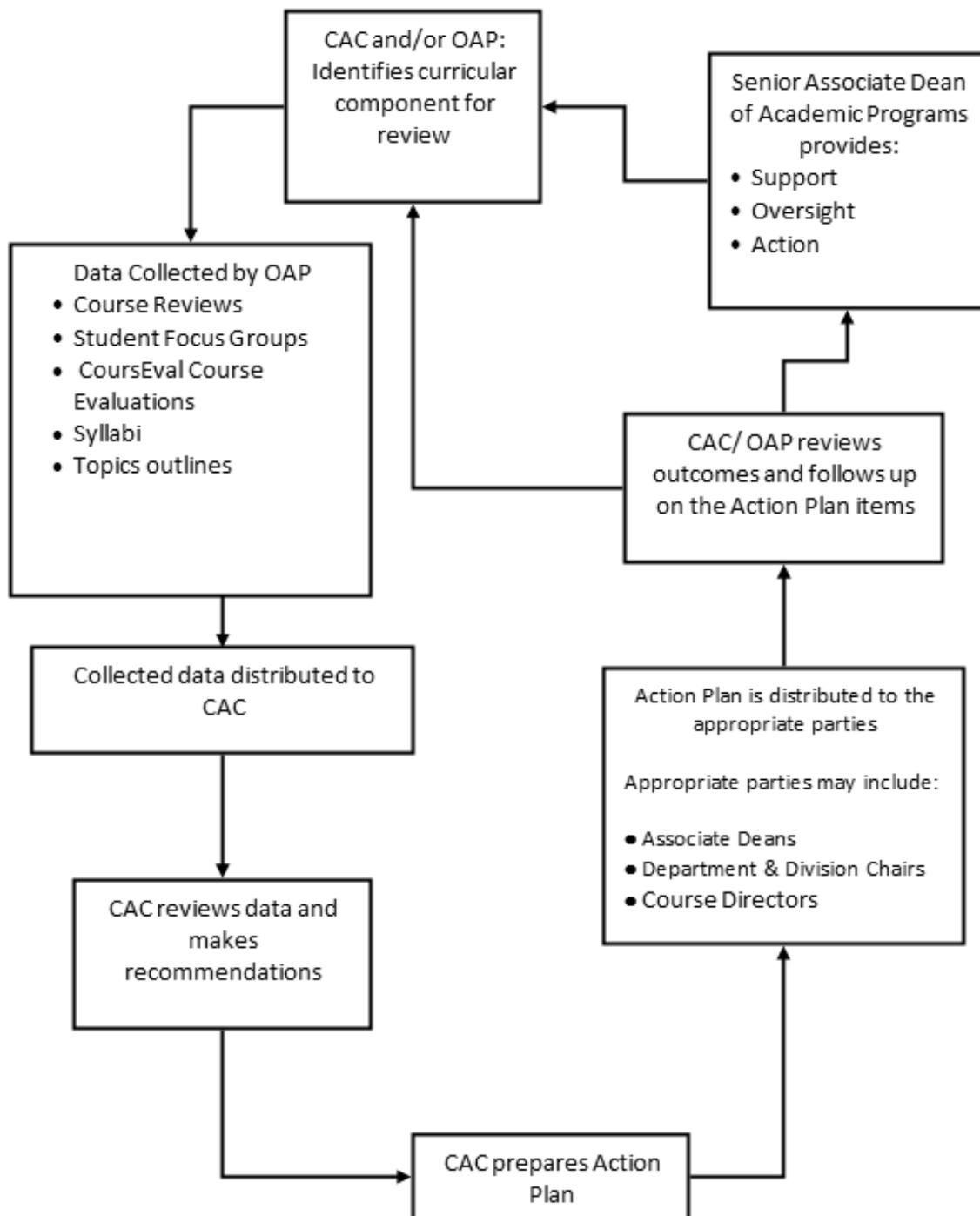
The IUSD Institutional Competencies define what a competent graduate will be able to do upon graduation. Multiple assessments are used to evaluate students across four years of the program and include the assessment of broad range of attributes, aligning with both the IUPUI Principles of Graduate and Professional Learning and CODA Standards for Dental Education Programs. Competency Assessment Exams serve as the final measurement of the defined set of knowledge, values and skills that have been developed through the formative daily feedback process.

IUSD has multiple processes in place to evaluate the content of the DDS program, the measurement instruments used in student evaluation and the outcomes of those assessments which ensure that there is meaningful, ongoing evaluation of student learning. There are processes in place that provide for continuous evaluation of the program as a whole which result in ongoing improvements in student learning.

## Appendix A: Outcomes Assessment Process



## Appendix B: Curriculum Management Plan Flowchart



## Appendix C: Curriculum Management Plan Course Director Review Forms



INDIANA UNIVERSITY

SCHOOL OF DENTISTRY

IUPUI

December 17, 2020

Dear Course Directors,

Standard 2-8 of the Commission on Dental Accreditation's Standards for Dental Education Programs requires dental schools to have a curriculum management program that ensures:

- a. an ongoing curriculum review and evaluation process which includes input from faculty, students, administration and other appropriate sources;
- b. evaluation of all courses with respect to the defined competencies of the school to include student evaluation of instruction;
- c. elimination of unwarranted repetition and outdated and unnecessary material;
- d. incorporation of emerging information and achievement of appropriate sequencing;
- e. incorporation of emerging didactic and clinical technologies to support the dental education program curriculum.

The faculty and administration have constructed multiple measures to collect this information. One of these methods is a program of in-depth study of defined portions of the pre-doctoral curriculum each academic year by the faculty members of the Curriculum and Assessment Committee (CAC) and the Office of Academic Programs. The **[defined portion of the curriculum]** has been selected for evaluation by the committee.

As a course director in a **[defined portion of the curriculum]** course, you are being asked to participate in this ongoing process by completing the appropriate forms which are included in this electronic packet. If your course is currently running, or has yet to run, please assess its most recent running.

When you have completed the appropriate review forms, please submit them electronically to **[OAP representative]**. **The CAC requests that all review packets are submitted by no later than [DATE].**

If you have questions regarding this process, please contact **[CAC Chair]**, Chairperson of CAC, or **[OAP representative]** in the Office of Academic Programs.

Thank you for your dedication to excellence in dental education.

Sincerely,



## CURRICULUM MANAGEMENT PROGRAM COURSE DIRECTOR REVIEW FORM

**Directions for completing the form:**

1. Please complete the form by typing your text responses in the designated gray response fields (the fields will expand as you type your text).
2. For the check boxes, please double click the box you would like to select and then choose "checked" from the list of options.

|                         |  |
|-------------------------|--|
| <b>Course number:</b>   |  |
| <b>Course title:</b>    |  |
| <b>Course director:</b> |  |
| <b>Date of review:</b>  |  |

1. Have students achieved the defined objectives/competencies for your course?

Yes

No

Unsure

a. What evidence do you use to support your conclusions?

2. How did you measure student achievement of the defined objectives/competencies?

3. Please summarize and discuss the student evaluations of your course.

4. Based upon the evaluations and student outcomes, what changes have you made to your course? What changes are you planning for the next academic year?

5. What difficulties or concerns do you have regarding your course? How can IUSD assist?

6. How is the use of best evidence incorporated in your course and how is it assessed?

7. How is critical thinking assessed in your course?

8. Do students self-assess in your course? If so, please describe the self-assessment process and how it is evaluated.

9. In your course, how are basic and behavioral sciences integrated with clinical practice?

10. Does your course support the core competencies of interprofessional education, which include: values/ethics for interprofessional practice, roles/responsibilities of the health care team, interprofessional communication, and interprofessional teamwork? If so, how are these aspects of IPE assessed?

## Appendix D: Curriculum Management Plan Curriculum Committee Review Form



INDIANA UNIVERSITY  
SCHOOL OF DENTISTRY  
IUPUI

### CURRICULUM MANAGEMENT PROGRAM COURSE REVIEW PACKET – CAC REVIEWER

#### Protocol:

1. Please use this packet to guide your review of the curriculum management documentation:
  - a. Course Review by Course Director Packet
  - b. Student focus group report
  - c. CoursEval course evaluations
  - d. Course syllabus
2. Please follow the instructions under each section.
3. Once you have completed the review packet, please submit it by following the instructions on the last page.

#### Course Information:

##### Instructions:

1. Please type the course number and title in the “Course for review” field.
2. Please identify the documents contained in the review packet for the course you are reviewing, and check them off in the “Items for Review” checklist by clicking on the check boxes.

|                           |  |
|---------------------------|--|
| <b>CAC Reviewer:</b>      |  |
| <b>Course for review:</b> |  |
| <b>Date of review:</b>    |  |

|                          |   |
|--------------------------|---|
| <b>Items for review:</b> | <input type="checkbox"/> Course Review by Course Director<br><input type="checkbox"/> Student Focus Group Report<br><input type="checkbox"/> CoursEval Course Evaluation<br><input type="checkbox"/> Syllabus |
|--------------------------|---|

## Summary of Syllabus

*Instructions:*

1. Please review the Course Syllabus of the course.
2. Please identify any concerns with course objectives, grading expectations or course policies.
3. Please provide a brief summary of your review in the field below.

## Summary of Course Director Self-Study Packet Review

*Instructions:*

1. Please review the “Course Review by Course Director Packet” of the course you are reviewing.
2. Please identify any themes or notable comments that may emerge. These themes or notable comments may indicate strengths of the course or areas for improvement.
3. Please provide a brief summary of your review in the field below.

## Summary of Focus Group Report

*Instructions:*

1. Please review the “Focus Group Report” of the course.
2. Please identify any themes or notable comments that may emerge. These themes or notable comments may indicate strengths of the course or areas for improvement.
3. Please provide a brief summary of your review in the field below.

## Summary of CourseEval Course Evaluations

*Instructions:*

1. Please review the “CourseEval Course Evaluations” of the course.
2. Please identify any themes or notable comments that may emerge. These themes or notable comments may indicate strengths of the course/module or areas for improvement.
3. Please provide a brief summary of your review in the field below.

## Summary of Recommendations:

### *Instructions:*

1. Based on your comments made in the summary sections above, please record your recommendations for the course in the fields below.
2. There are fields for up to 5 recommendations. Please list each recommendation in a separate field.

### Recommendation #1

### Recommendation #2

### Recommendation #3

### Recommendation #4

### Recommendation #5

## Submission Instructions:

1. Please save this document with the course number, e.g. D501, in the title and email it to [OAP Representative] in the Office of Academic Programs.