The JCNDE's State Dental Board Forum

June 26, 2023

JCNDE JOINT COMMISSION ON NATIONAL DENTAL EXAMINATIONS

Presenter and Disclosures

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  - Senior Director, American Dental Association (ADA) Department of Testing Services (DTS)
  - Ph.D. in Industrial/Organizational Psychology

Overview

- The purpose of the JCNDE
- The purpose of this forum
- The JCNDE as a Commission
- JCNDE initiatives
- Updates on the National Board Examinations
- The INBDE
- The DLOSCE and the DHLOSCE
- Q & A

The Purpose of the JCNDE

- The JCNDE provides information to dental boards to inform licensure decisions concerning dental and dental hygiene candidates.
  - Dental boards have the critical task of using this information to understand whether a candidate has the skills necessary to safely practice.
  - The actions of dental boards are vital to the oral health and general health of the public.
- The JCNDE extends its thanks to dental boards and dental board members for their work in protecting the public health.
- The JCNDE appreciates the opportunity to be of service to boards, in providing important information concerning candidate qualifications for licensure.
- The JCNDE recognizes the importance of its task and shares dental boards' concern for the protection of the public.

The Purpose of the State Dental Board Forum (SDBF)

- The SDBF was created to encourage dialogue between the JCNDE and dental board members.
- The JCNDE's examinations are designed to help dental boards understand whether a candidate possesses the skills that are needed to safely practice.
  - The content outlines for National Board Examinations (NBEs) are available online in Candidate Guides and Technical Reports.
  - Dental board members can use this material to understand the nature of NBE skill evaluation, and the validity evidence that supports use of these examinations.
- The SDBF provides an opportunity for the JCNDE to communicate with board members in order to understand their unique perspectives and identify any areas for improvement concerning the examinations.

The JCNDE is a Commission of the ADA

- There are four (4) Commissions within the ADA:
  - Commission for Continuing Education Provider Recognition (CCEPR)
  - Commission on Dental Accreditation (CODA)
  - Joint Commission on National Dental Examinations (JCNDE)
  - National Commission on Recognition of Dental Specialties and Certifying Boards (NCRDSCB)
- Why are there Commissions in the first place?
- Why are the Commissions housed within the ADA governance structure?

Definition of a Commission

- "A group of people officially charged with a particular function"
  - Deliberative body
  - Independent decision-making authority
  - Public good/consumer protection/regulatory
  - Objectivity-controls for conflict of interest
  - Quality assurance/standards
  - Multiple stakeholders/wide representation
  - Can be ongoing, or task specific

For example:

- Consumer Product Safety Commission
- Nuclear Regulatory Commission
- Middle States Commission on Higher Education
- National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research
- State Licensing Boards

Goals of Commissions

- Quality assurance is necessary:
  - to protect the public; to protect students/dentists; to help assure long-term viability of a profession serving the public health
- Maintain integrity of public service by properly separating private interests from public duties.
- Avoid conflicts of interest (in actuality, and even with respect to the appearance of impropriety).
  - increase transparency
  - help separate private and public interests for the protection and benefit of the public.
- Ensure fairness in decision-making by demanding integrity, confidentiality, and due process.

Why were Commissions created within the ADA?

- For the good of the public and the profession (e.g., avoids confusion and differing standards)
- ADA can help provide support
  - Shared Services: HR, Legal, IT, Accounting, office space
- ADA can establish supportive governance mechanisms.
- Foster self-improvement and a self-regulating profession
- Consensus within the profession that input from all communities of interest and the public strengthens the process
- Ensure decisions are consistent and free from bias/conflict of interest (as objective as possible)
  - no single community of interest can have undue influence in the decision-making process, including the ADA

Relationship between ADA and Commissions defined by:

- ADA *Constitution and Bylaws* and ADA *Governance and Organizational Manual*
- *Standing Rules for Councils and Commissions*
- *Rules* (operational procedures) as promulgated by the Commissions
- *Policy and Procedure Manuals* as promulgated by the Commissions
- CODA only:
  - USDE Criteria for Recognition

Commonalities among the ADA Commissions

- Agencies of the ADA defined in the ADA *Bylaws*
- ADA approves and monitors commission budgets
- ADA has direct appointments to each commission, with appointments made by ADA Board of Trustees (BOT)
- Dentists must be ADA members
- Members have privilege of the floor at ADA HOD, but not the right to vote
- ADA appoints a BOT Trustee Liaison for each Commission
  - Non-voting
  - Serves as a conduit between each commission and the BOT
  - Observes commission activities and acts in an external auditing capacity (i.e., the commissions are administering their programs in the appropriate manner, including financial)

Commonalities among the ADA Commissions

- Independence of stakeholder appointments
- Qualifications of members is expertise-based
- Conflict of interest provisions, including simultaneous service clauses
- Appeals process available to request reconsideration of adverse action
- Commission is granted sole authority to carry out their program
- Commission members have fiduciary responsibility to their commission, not the ADA

Commonalities among the ADA Commissions

- Many stakeholders outside the ADA, including the public
- Elect their own chairs
- Select their own consultants (test constructors, site visitors, etc.)
- Four (4) year member terms (except students)
- Public members selected by the Commission itself
- Adopt their own *Rules* and *Operational Policies*
- Can remove a Commissioner for cause
- Commissions can expand their membership to meet their needs

ADA-Commission Relationship

"arms-length"

vs.

independent

vs.

semi-autonomous agencies of the ADA with sole authority to carry out their program ….

ADA Councils Compared to Commissions

	Councils	Commissions
Membership basis:	• Trustee district (except CSA and CDEL) • no public members	• communities of interest and their expertise • public members
Members approved by:	• ADA House of Delegates	• appointing associations and the JCNDE (public member)*
Primary role:	• ADA policy, approved by HOD	• administer specific program, no HOD approval
Fiduciary responsibility:	• ADA	• The Commission
Strategic Direction	• ADA mission, vision, strategic plan	• Commission mission, vision, strategic plan
Rules	• ADA *Standing Rules*	• Commission *Rules*
Policies	• ADA *Policies*	• Commission *Operational Policies*

* The JCNDE's three (3) ADA appointments are made by the ADA Board of Trustees

Joint Commission-ADA *Bylaws* Duties

a. Provide and conduct examinations for all purposes, including assisting state boards of dentistry and dental examiners in exercising their authority to determine qualifications of dentists and other oral health care professionals seeking certification and/or licensure to practice in any state or other jurisdiction of the United States.

b. Make rules and regulations for the conduct of examinations and the certification of successful candidates.

c. Serve as a resource for dentists and other oral health care professionals concerning the development of examinations.

d. Provide a means for a candidate to appeal an adverse decision of the Commission.

e. Submit an annual report to the House of Delegates of this Association and interim reports, on request.

f. Submit an annual budget to the Board of Trustees of the Association.

JCNDE Strategic Direction

Mission

Protecting public health through valid, reliable, and fair assessments of knowledge, skills, and abilities to inform decisions that help ensure safe and effective patient care by qualified oral healthcare team members.

Vision

The JCNDE is the nation's leading resource for supporting standards of oral healthcare professionals through valid, reliable and fair assessments.

Composition of the JCNDE

Appointing Organizations	Number of Members	Term Lengths (in years)
Voting Members		
AADB	6	4
ADEA	3	4
ADA	3	4
ADHA	2	4
ASDA	1	1
Public	1	4
Non-voting Members		
ASDA Observer	1	1*
ADA BOT Liaison	1	1

*The ASDA Observer transitions to a Commissioner role in their second year.

Appointing Organizations and Current Appointees

AADB (6)	**Anthony E. Herro, DDS (JCNDE Vice-chair)** Julie W. McKee, DMD Jeetendra Patel, DDS Mary A. Starsiak, DDS, FAGD, FACD, FICD, FADI, FPF (Open Position) (Open Position)
ADA (3)	M. Reza Iranmanesh, DMD, MSD, PA Frank E. Schiano, DMD, FAGD, MScD Patrick J. Tepe, DDS
ADEA (3)	**John D. Da Silva, DMD, MPH, ScM (JCNDE Chair)** Rachel Hogan, DMD, M.Ed. Peter Loomer, B.Sc., DDS, Ph.D., MRCD(C), FACD
ADHA (2)	Han-Na Jang, RDH, MSDH Tami Grzesikowski, RDH, MEd
ASDA (1)	Tommy Lau, DDS
Public (1)	James R. Sherrard, PhD
Liaisons & Observers	Chris Elkhal, BS (ASDA Observer) Karin Irani, DDS (ADA Board Liaison) Liaisons and observers do not participate in voting

The JCNDE

Dr. John D. Da Silva
Chair

Dr. Anthony E Herro
Vice-chair

Tami Grzesikowski

Dr. Rachel Hogan

Dr. M. Reza Iranmanesh

Ms. Han-Na Jang

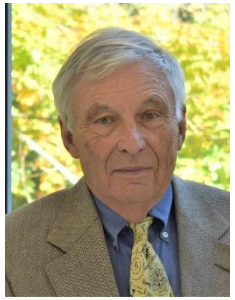
Dr. Peter M. Loomer

Dr. Julie W. McKee

Mr. Tommy Lau

Dr. Jeetendra Patel

Dr. Frank Schiano



Dr. James R. Sherrard

Dr. Mary A. Starsiak

Dr. Patrick J. Tepe

Chris Elkhal
(Observer)

Dr. Karin Irani
(ADA BOT Liaison)

Commissioners are dental and/or dental hygiene board members, educators, practitioners, students, and/or members of the public.

Key Points

- The composition of the JCNDE reflects the important perspectives that must be considered in the construction and implementation of dental and dental hygiene examinations, with particular emphasis given to boards.
- The JCNDE has a long track record of helping boards identify those who are not qualified to safely practice.
- The JCNDE monitors administrations through internal procedures and close collaboration with key vendors (Prometric and Pearson VUE)
- The JCNDE monitors examination and examinee performance closely and regularly, and reviews examination policy on an ongoing basis to address any issues that arise.
- The JCNDE updates examination content and programs to ensure clinical relevance and to help ensure consistent, accurate identification of those who do not possess the skills necessary to safely practice.

The Department of Testing Services (DTS)

DTS Development

Test Development	Dental Content and Media Development	Research & Development - Psychometrics	New Psychometric Development & Innovations
Conducts Test Construction Team (TCT) meetings for seven operational examination programs (80+ meetings annually) and new programs under development.	Develops, reviews, and manages dental content and media assets for examination programs (3D models, illustrations, radiographs, clinical photographs, clinical simulations, Patient Boxes).	Oversees analysis and scoring of examinations (45,000+), professional investigations, and technical publications in support of examination programs	Provides psychometric support in the development of new testing programs.

DTS Operations

Test Administration	Test Security and Fraud Prevention	Project Management and Operations	Communications	Volunteer and Meeting Coordination
Oversees application processing and test vendor administrations (45,000+) Responds to phone calls, live chats, emails, faxes (nearly 70,000 annually) Resolves testing day problems.	Monitors test security policies, procedures, irregularities and candidate appeals; risk assessment.	Project management and services to outside clients.	Provides communications for stakeholders and communities of interest.	Oversees volunteer activities and meeting logistics for TCT and governance meetings.

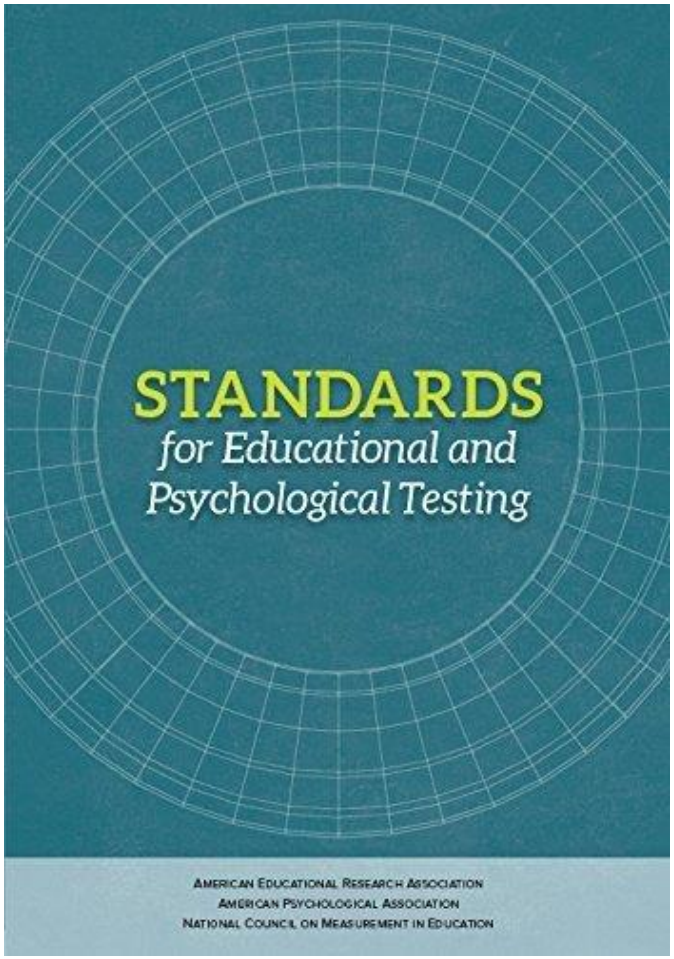
Governing Bodies and Testing Programs

DTS implements high-stakes licensure and admissions testing programs under the purview of the following governing bodies:

Joint Commission on National Dental Examinations (JCNDE)	Council on Dental Education and Licensure (CDEL)
• Integrated National Board Dental Examination (INBDE) • National Board Dental Hygiene Examination (NBDHE) • Dental Licensure Objective Structured Clinical Examination (DLOSCE) • Dental Hygiene Licensure Objective Structured Clinical Examination (DHLOSCE)	• Dental Admission Test (DAT) • Advanced Dental Admission Test (ADAT) • Admission Test for Dental Hygiene (ATDH)
Outside Clients	
• Optometry Admission Test (OAT) • Canadian Dental Aptitude Test (CDAT) • Additional clients	

Professional Standards

- The *Standards* were developed by the American Educational Research Association (AERA), American Psychological Association (APA), and the National Council on Measurement in Education (NCME).
- The *Standards* and industry best practices guide the design, construction, scoring, and reporting of examinations implemented by the Department of Testing Services (DTS).
- The *Standards* provide considerations for developing and implementing valid, reliable, and fair examinations.



Ongoing and Upcoming Strategic Initiatives

- Conducted a thorough self-assessment in 2022 to consider the efficiency and effectiveness of the JCNDE as it implements its Bylaws duties.

- Held a JCNDE strategic planning meeting on May 4, 2023. This meeting involved careful scrutiny of the JCNDE's needs, values, scope, mission, vision, goals, governance, operating environment, stakeholders, communities of interest, projects, resources, and deliverables, as well as careful consideration of the JCNDE's strengths, weaknesses, opportunities, and threats.

- The JCNDE anticipates updating its strategic plan in accordance with the findings of this strategic planning meeting. Corresponding decisions will be made at the JCNDE's upcoming meeting on June 28, 2023, with those decisions reported in July 2023 in the JCNDE's Unofficial Report of Major Actions.

Dental Hygiene Strategic Initiatives (5-year roadmap)

Dental Hygiene 5-Year Roadmap

- Updates and improvements involving examination content areas
  - Development and implementation of an **updated, comprehensive practice analysis** for dental hygiene [Under development, occurring in 2023]
  - Updates to the **NBDHE test specifications** (i.e., percentages of items assigned to topic areas), based on the updated practice analysis [proposed complete implementation date in 2025]
- Improvements to scoring/results precision, the candidate experience, and test security
  - Implementation of the **3PL scoring model** for the NBDHE, to more precisely evaluate candidate skills. Note: while results precision will improve, this change is not anticipated to change the candidate experience. [Proposed for 2025]
  - Implementation of an **updated NBDHE performance standard** [Under discussion, proposed for 2025]
  - Designing and implementing a framework for **multi-stage adaptive testing** for the NBDHE [Under discussion, proposed for 2026]
- Designing, constructing, and successfully implementing the Dental Hygiene Licensure Objective Structured Clinical Examination (DHLOSCE)
  - Proposed launch at the end of 2024

Dental Examination Strategic Initiatives (proposed 5-year roadmap)

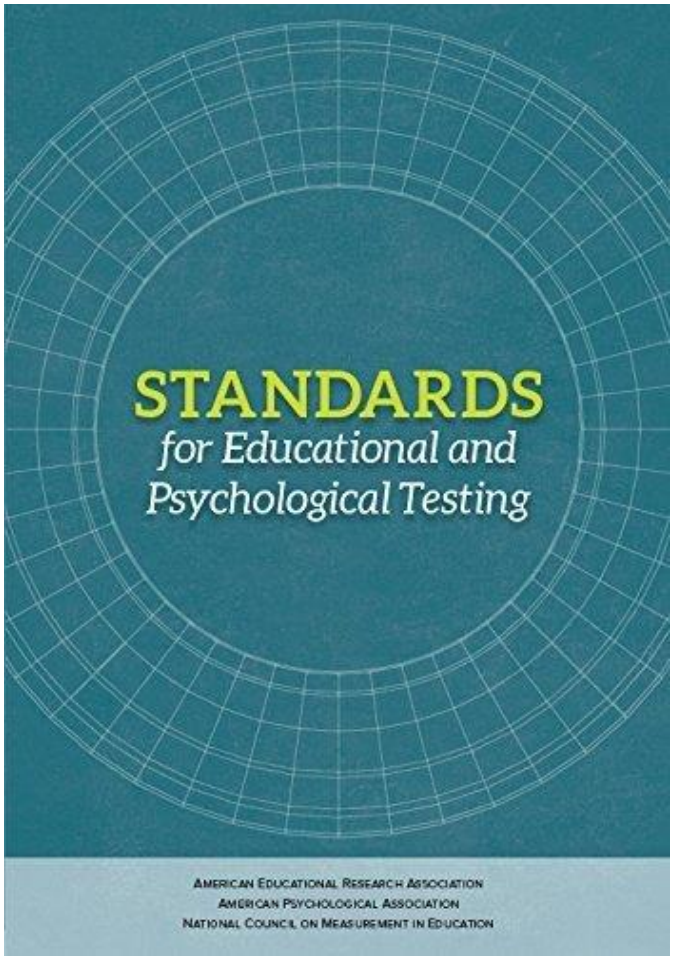
Dental Examination 5-Year Roadmap

- Implementation of an **updated INBDE performance standard** [Proposed for 2023 with implementation of new cut score occurring January 1, 2024]
- Development and implementation of an **updated, comprehensive practice analysis** for dentistry [Under development, beginning in 2023 and concluding in 2024]
- Updates to dental examination **test specifications** (i.e., percentages of items assigned to topic areas), based on the aforementioned updated practice analysis:
  - INBDE test specification review panel [Q4 2024]
  - DLOSCE test specification review panel [Q1 2025]
  - JCNDE review of updated INBDE and DLOSCE test specifications [2025]
- Review and update of **INBDE and DLOSCE performance standards** (as appropriate), based on updates to INBDE and DLOSCE test specifications [2026]
- **Milestone:** INBDE and DLOSCE updated test specifications and updated performance standards fully implemented [2026]
- Designing and implementing a framework for **multi-stage adaptive testing** for the INBDE [recommendation to be discussed by JCNDE in 2024, with implementation date TBD]

Professional Standards and Fairness

"Validity refers to the degree to which evidence and theory support the interpretations of test scores for proposed uses of tests. Validity is, therefore, the most fundamental consideration in developing tests and evaluating tests." (p11).

"Fairness is a fundamental validity issue and requires attention throughout all stages of test development and use." (p49)



Fairness and Sensitivity

- Initiatives involving fairness are incredibly important.
- The JCNDE and DTS work extremely hard to ensure that the JCNDE's National Board Examinations treat everyone fairly.
- The Mission and Vision of the JCNDE emphasize the criticality of utilizing valid, reliable, and fair examinations.
- Testing professionals work diligently to remove "construct irrelevant variance" from the measures they create.
- In 2023 the JCNDE will be piloting updates to its fairness and sensitivity review process, using a subset of INBDE, DLOSCE, and NBDHE items.
- This update involves the establishment of a separate Fairness and Sensitivity Test Constructor Pool, which will evaluate examination content through the lens of the values of diversity, equity, and inclusion, to help ensure that National Board Examination questions continue to fairly and accurately measure candidate knowledge, skills, and abilities.
- This effort supplements existing JCNDE fairness and sensitivity efforts and practices, to further support the fairness of National Board Examinations.

Test Construction

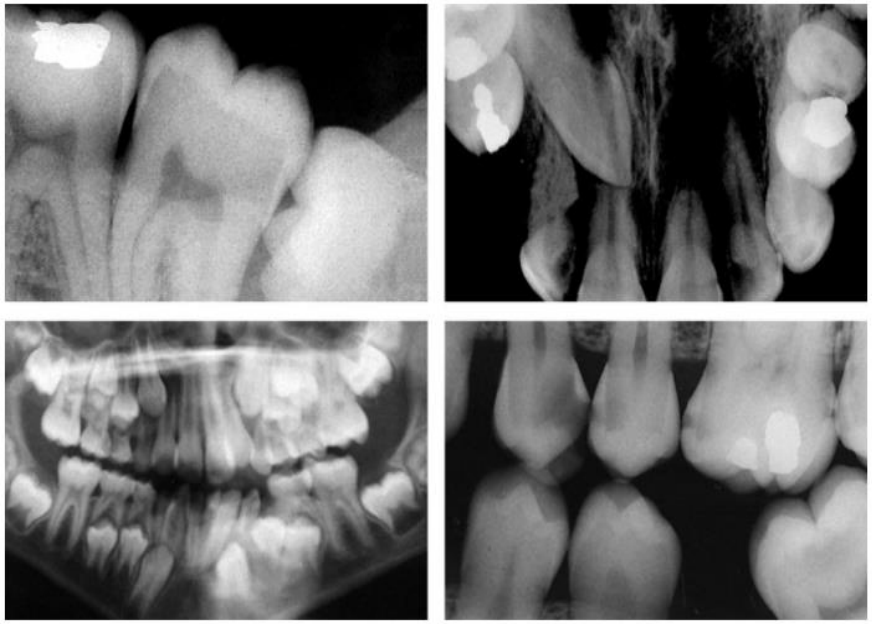
Interested in contributing to the National Board Examinations?

Consider Becoming a JCNDE Test Constructor!

https://www.ada.org/education/testing/volunteer-test-constructor

Please Submit Images for Use on National Board Examinations!

- The JCNDE relies on the dental community to provide actual patient case materials and quality images for use in licensure testing.
- New contributions help replenish examination item pools with new content and case materials.
- The **Image Portal** is a mechanism for submitting images for consideration and possible use in examinations
- Submissions may include:
  - radiographs, intraoral or extraoral photographs.
  - photos of study casts.
  - supplemental case information including dental charts, or medical history.
- Submission guidelines and policies are provided on the Image Portal website.
- https://jcnde.ada.org/en/examinations/test-construction/image-portal



Dental Therapy

- Since 2014, the JCNDE has monitored the progress of dental therapy as a profession within the United States.
- Dental therapists can practice in at least some settings under state and/or tribal jurisdiction in the following 14 states*:

  Alaska, Arizona, Colorado, Connecticut, Idaho, Maine, Michigan, Minnesota, Montana, New Mexico, Nevada, Oregon, Vermont, and Washington
- In 2023 the JCNDE surveyed dental boards to better understand the status of the profession of dental therapy within each board's jurisdiction, and boards' perceptions of the need for a National Board Dental Therapy Examination (NBDTE).
- The JCNDE will be reviewing survey results at its June 2023 meeting, and reporting any decisions in July 2023 (in the JCNDE Unofficial Report of Major Actions).
- A number of boards requested presentations on the DLOSCE, DHLOSCE, and INBDE. Staff will reach out to these boards in July to setup days/times.

* https://dentaltherapy.org/about/about-dental-therapy (June 23, 2023)

Update on the National Board Examinations

JCNDE JOINT COMMISSION ON NATIONAL DENTAL EXAMINATIONS

JCNDE Governance

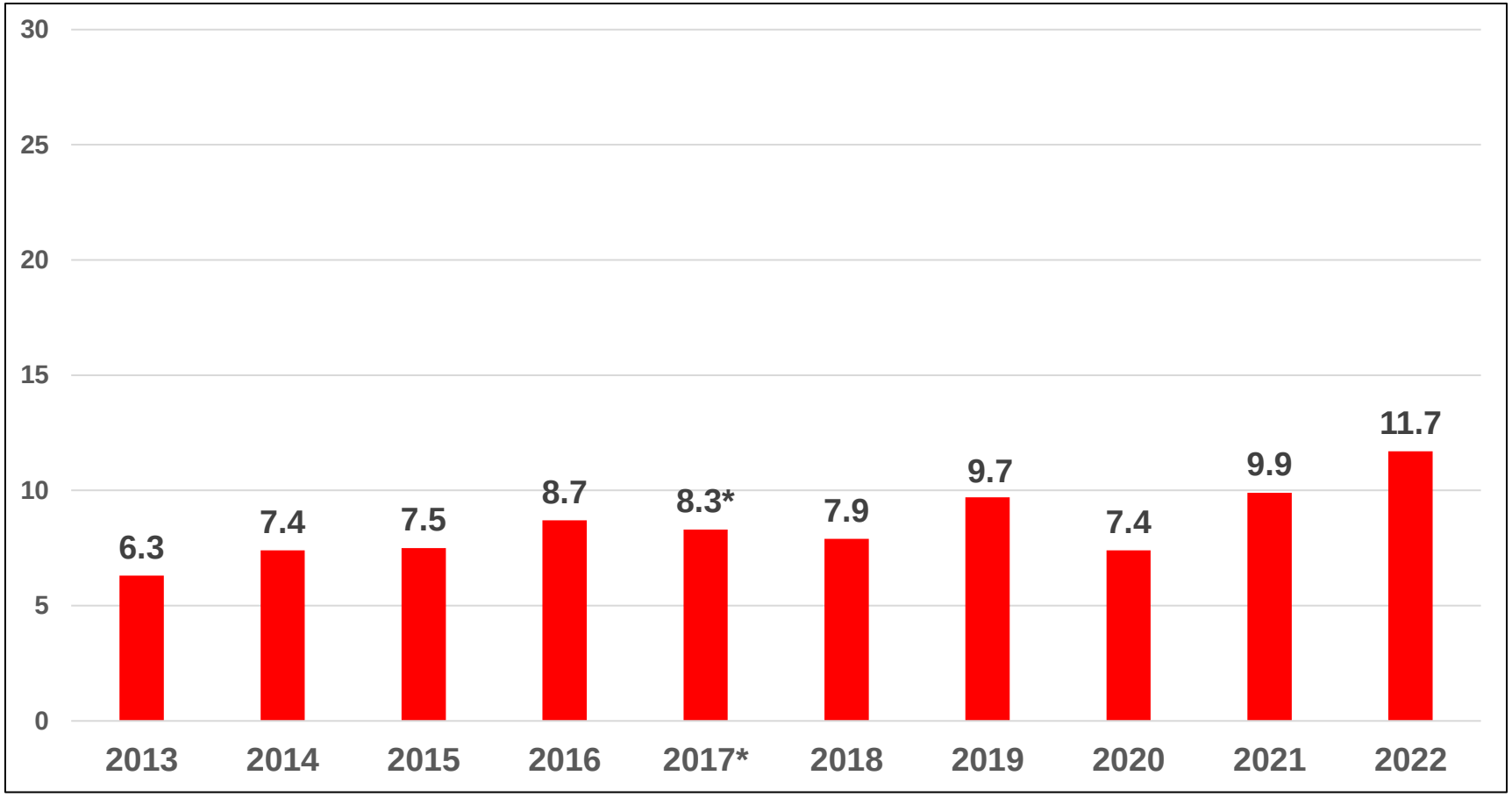
In fulfillment of its *Bylaws* duties, the JCNDE oversees the following licensure examination programs:

- National Board Dental Hygiene Examination (NBDHE)
- Integrated National Board Dental Examination (INBDE)
- Dental Licensure Objective Structured Clinical Examination (DLOSCE)
- Dental Hygiene Licensure Objective Structured Clinical Examination (DHLOSCE)*

- The following slides show failure rates for first-time candidates educated by CODA accredited programs.

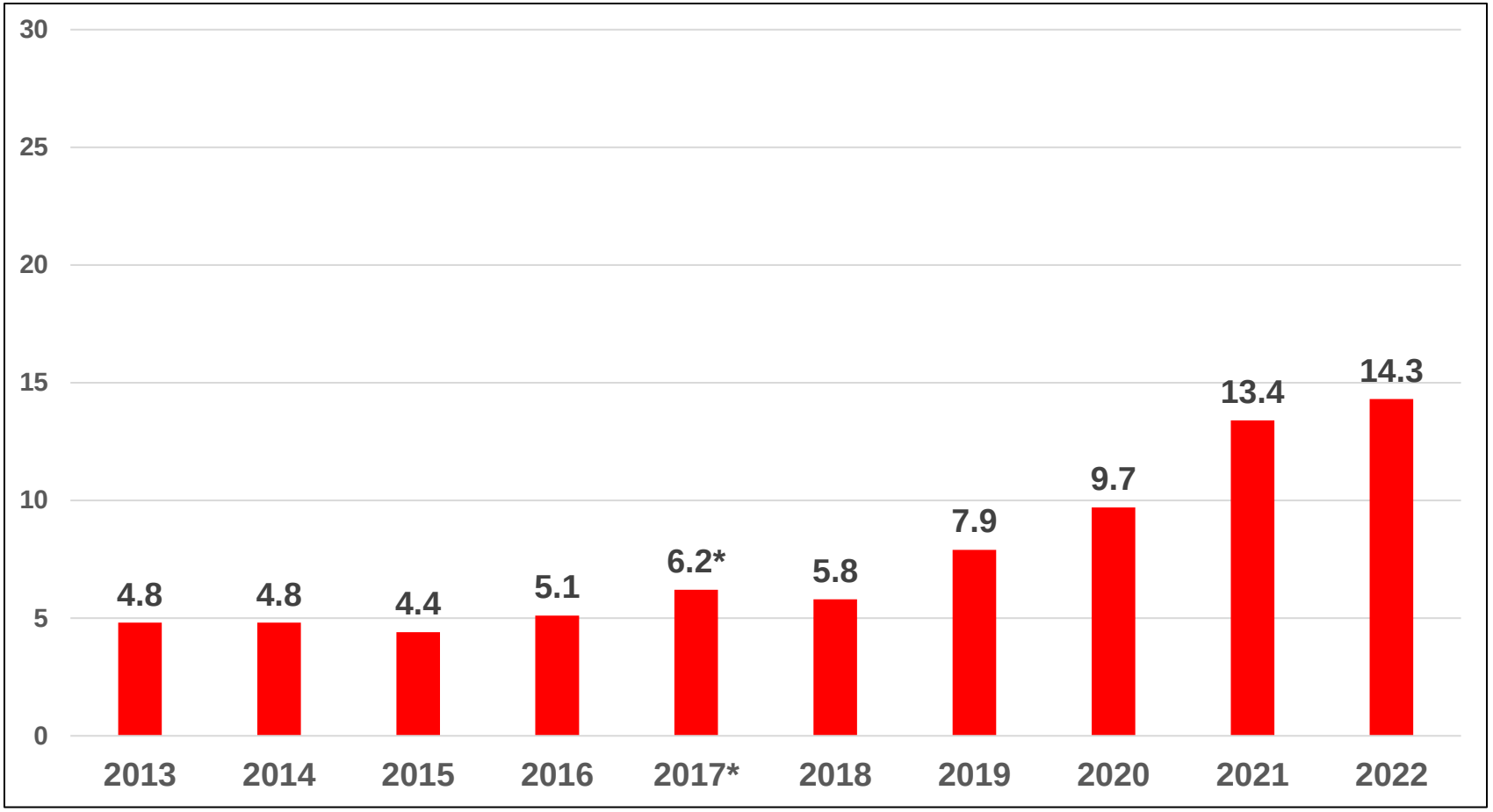
* Under development.

NBDE Part II Failure Rates (%)



* A new standard was introduced this year, based on updated standard setting activities.

NBDHE Failure Rates (%)



* A new standard was introduced this year, based on updated standard setting activities.

The Integrated National Board Dental Examination (INBDE)

JCNDE JOINT COMMISSION ON NATIONAL DENTAL EXAMINATIONS

The INBDE

- The INBDE is designed to better protect the public through a clinically relevant, summative cognitive assessment that integrates the biomedical and clinical.
- The INBDE is the product of over 10 years of hard work by dedicated JCNDE subject matter experts and volunteers; most notably, the Committee for an Integrated Examination (CIE) and teams of test constructors.
- The INBDE has completely replaced the NBDE Parts I and II, as of December 31, 2022.
- The INBDE is designed to answer the following question:

  Does the candidate possess the level of knowledge and cognitive skills required to safely practice dentistry?

- Focus on increased accuracy, validity, fairness, and clinical relevance.
  - Standardized presentation format and conventions for presenting information.
  - Direct and concise wording that focuses examinees on the concept tested as opposed to language/item wording.
  - Inclusion of general dentists in item writing and review

56 Clinical Content Areas

#	Diagnosis and Treatment Planning
1	Interpret patient information and medical data to assess and manage patients.
2	Identify the chief complaint and understand the contributing factors.
3	Perform head and neck and intraoral examinations, interpreting and evaluating the clinical findings.
4	Use clinical and epidemiological data to diagnose and establish a prognosis for dental abnormalities and pathology.
5	Recognize the normal range of clinical findings and distinguish significant deviations that require monitoring, treatment, or management.
6	Predict the most likely diagnostic result given available patient information.
7	Interpret diagnostic results to inform understanding of the patient's condition.
8	Recognize the manifestations of systemic disease and how the disease and its management may affect the delivery of dental care.
9	Recognize the interrelationship between oral health and systemic disease, and implement strategies for improving overall health.
10	Select the diagnostic tools most likely to establish or confirm the diagnosis.
11	Collect information from diverse sources (patient, guardian, patient records, allied staff, and other healthcare professionals) to make informed decisions.
12	Formulate a comprehensive diagnosis and treatment plan for patient management.
13	Discuss etiologies, treatment alternatives, and prognoses with patients so they are educated and can make informed decisions concerning the management of their care.
14	Understand how patient attributes (e.g., gender, age, race, ethnicity, and special needs), social background and values influence the provision of oral health care at all stages of life.
15	Interact and communicate with patients using psychological, social, and behavioral principles.

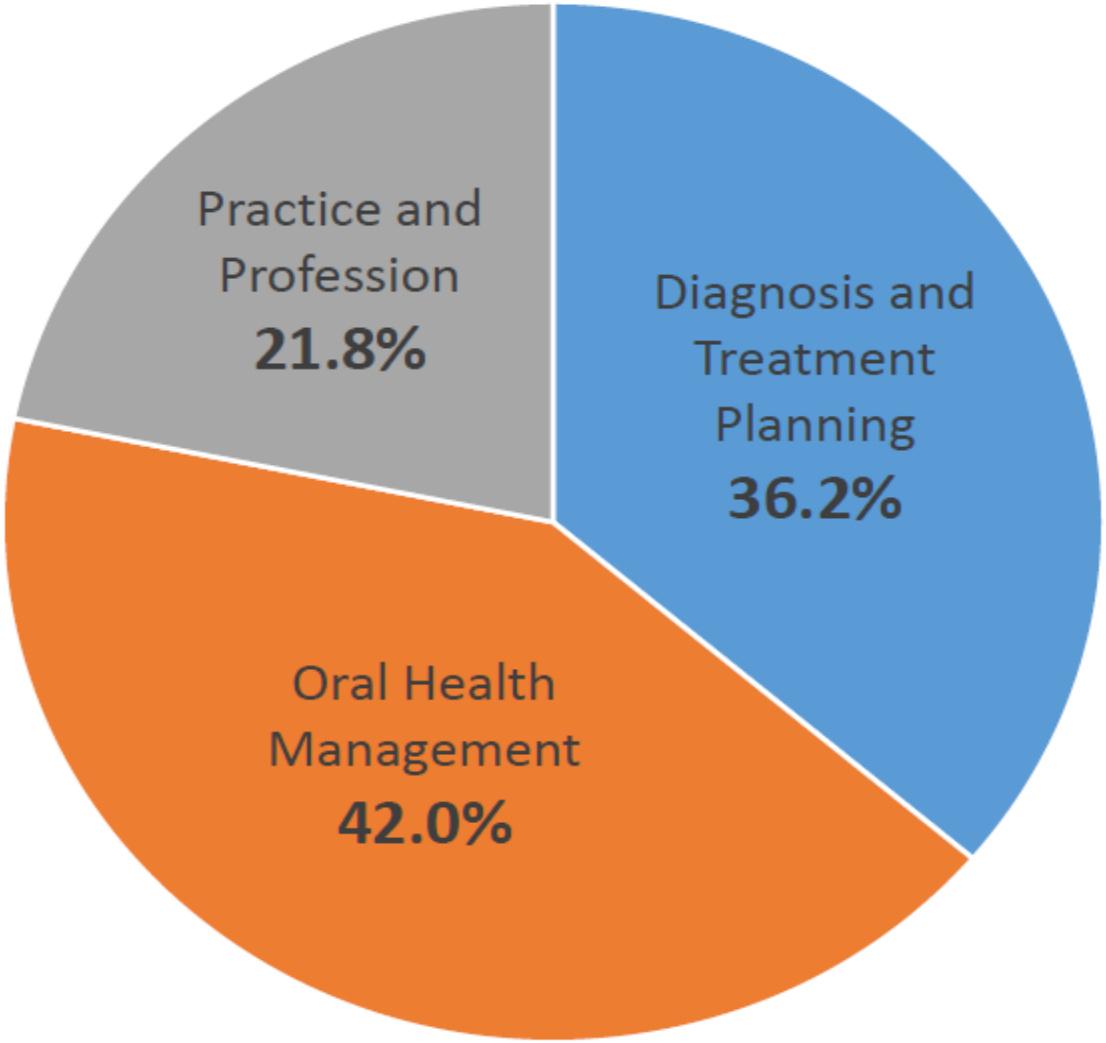
56 Clinical Content Areas

#	Oral Health Management
16	Prevent, recognize and manage medical emergencies (e.g., cardiac arrest).
17	Prevent, recognize and manage dental emergencies.
18	Recognize and manage acute pain, hemorrhage, trauma, and infection of the orofacial complex.
19	Prevent, diagnose and manage pain during treatment.
20	Prevent, diagnose and manage pulpal and periradicular diseases.
21	Prevent, diagnose and manage caries.
22	Prevent, diagnose and manage periodontal diseases.
23	Prevent, diagnose and manage oral mucosal and osseous diseases.
24	Recognize, manage and report patient abuse and neglect.
25	Recognize and manage substance abuse.
26	Select and administer or prescribe pharmacological agents in the treatment of dental patients.
27	Anticipate, prevent, and manage complications arising from the use of therapeutic and pharmacological agents in patient care.
28	Diagnose endodontic conditions and perform endodontic procedures.
29	Diagnose and manage the restorative needs of edentulous and partially edentulous patients.
30	Restore tooth function, structure, and esthetics by replacing missing and defective tooth structure, while promoting soft and hard tissue health.
31	Perform prosthetic restorations (fixed or removable) and implant procedures for edentulous and partially edentulous patients.
32	Diagnose and manage oral surgical treatment needs.
33	Perform oral surgical procedures.
34	Prevent, diagnose and manage developmental or acquired occlusal problems.
35	Prevent, diagnose and manage temporomandibular disorders.
36	Diagnose and manage patients requiring modification of oral tissues to optimize form, function and esthetics.
37	Evaluate outcomes of comprehensive dental care.
38	Manage the oral esthetic needs of patients.

56 Clinical Content Areas

#	Practice and Profession
39	Evaluate and integrate emerging trends in health care.
40	Evaluate social and economic trends and adapt to accommodate their impact on oral health care.
41	Evaluate scientific literature and integrate new knowledge and best research outcomes with patient values and other sources of information to make decisions about treatment.
42	Practice within the general dentist's scope of competence and consult with or refer to professional colleagues when indicated.
43	Evaluate and utilize available and emerging resources (e.g., laboratory and clinical resources, information technology) to facilitate patient care, practice management, and professional development.
44	Conduct practice activities in a manner that manages risk and is consistent with jurisprudence and ethical requirements in dentistry and healthcare.
45	Recognize and respond to situations involving ethical and jurisprudence considerations.
46	Maintain patient records in accordance with jurisprudence and ethical requirements.
47	Conduct practice related business activities and financial operations in accordance with sound business practices and jurisprudence (e.g., OSHA and HIPAA).
48	Develop a catastrophe preparedness plan for the dental practice.
49	Manage, coordinate and supervise the activity of allied dental health personnel.
50	Assess one's personal level of skills and knowledge relative to dental practice.
51	Adhere to standard precautions for infection control for all clinical procedures.
52	Use prevention, intervention, and patient education strategies to maximize oral health.
53	Collaborate with dental team members and other health care professionals to promote health and manage disease in communities.
54	Evaluate and implement systems of oral health care management and delivery that will address the needs of patient populations served.
55	Apply quality assurance, assessment and improvement concepts to improve outcomes.
56	Communicate case design to laboratory technicians and evaluate the resultant restoration or prosthesis.

INBDE Test Specifications



INBDE Test Specifications

#	Foundation Knowledge Area	Percent
1	Molecular, biochemical, cellular, and systems-level development, structure and function	12.2%
2	Physics and chemistry to explain normal biology and pathobiology	6.8%
3	Physics and chemistry to explain the characteristics and use of technologies and materials	8.0%
4	Principles of genetic, congenital and developmental diseases and conditions and their clinical features to understand patient risk	10.6%
5	Cellular and molecular bases of immune and non-immune host defense mechanisms	9.0%
6	General and disease-specific pathology to assess patient risk	11.8%
7	Biology of microorganisms in physiology and pathology	10.6%
8	Pharmacology	10.6%
9	Sociology, psychology, ethics and other behavioral sciences	10.6%
10	Research methodology and analysis, and informatics tools	9.8%

INBDE Core Facts

- **Administration:** The INBDE contains 500 questions and requires 1½ days to administer
  - Administrations occur at Prometric professional testing centers located throughout the US and Canada
  - National Board Examination fees in 2023 are as follows:
    - INBDE — $845; DLOSCE — $975; NBDHE - $565
  - Examination regulations are strictly enforced, with corresponding penalties for rule violations (e.g., mandatory wait periods)
  - Irregularity handling and appeal procedures are described in the INBDE candidate guide, and mirror those present for other examinations of the JCNDE.

INBDE Administration Schedule

INTEGRATED NATIONAL BOARD DENTAL EXAMINATION SCHEDULE		
DAY 1		
Section	**Content**	**Minutes**
Tutorial (optional)		15
Section 1	100 standalone items	105
Scheduled Break 1 (optional)		15
Section 2	100 standalone items	105
Scheduled Break 2 (optional)		30
Section 3	100 standalone items	105
Scheduled Break 3 (optional)		15
Section 4	60 items (item sets)	105
DAY 1 TOTAL TIME		8 hours 15 minutes
DAY 2		
Section	**Content**	**Minutes**
Tutorial (optional)		15
Section 5	70 items (item sets)	105
Scheduled Break 4 (optional)		15
Section 6	70 items (item sets)	105
Post-Exam Survey		15
DAY 2 TOTAL TIME		4 hours 15 minutes
TOTAL TIME		**12 hours 30 minutes**

Retest Policy

- Candidates who have failed to successfully complete the NBDE Part I or Part II must successfully test on the INBDE to obtain National Board certification. The NBDE Part I and Part II have been sunset and are no longer available for administration.
- INBDE attempts are independent of NBDE attempts with respect to the Five Years/Five Attempts Eligibility Rule. This rule will continue to apply to all NBDE Part I and Part II testing attempts, and candidates will also have five years/five attempts on the INBDE. Subsequent to the fifth year or fifth attempt, failing candidates may test once every 12 months after their most recent attempt.
- As of January 1, 2022, candidates must wait a minimum of **60 days** between unsuccessful test attempts. A maximum of four (4) candidate administrations are permitted in a 12-month period within any given National Board Examination program. This policy cannot be appealed.
- In providing INBDE results, all attempts on the National Board Dental Examinations (i.e., NBDE Part I, NBDE Part II, and the INBDE) will be reported.

Convergent Validity Evidence: Relationship between INBDE and NBDE

Candidate performance on the 2017-2018 INBDE Field Test was positively correlated with performance on NBDE Parts I and II

Correlation Between INBDE Field Test and NBDE Performance (N = 1,180 participants)

	Observed Correlation	Disattenuated Correlation
NBDE Part I	.58	.65
NBDE Part II	.74	.84

Note. Disattenuated correlations were estimated using the following reliability coefficients: Field Test=.87; NBDE Part I=.94; NBDE Part II=.91

INBDE Standard Setting

- The standard for each examination is criterion-referenced (not norm-based) and determined through a process called “standard setting.”
- INBDE standard setting activities were facilitated in February 2020 by Dr. Gregory Cizek, a nationally recognized expert in standard setting who has authored several books on the subject.
- The standard setting panel consisted of 10 subject matter experts.
- Panel members were selected to be broadly representative and aligned with the purpose of the examination:
  - Practitioners
  - Dental school faculty
  - Joint Commission members
  - Members of dental boards
  - Dental school deans and associate deans (NBDE)
  - Current and former JCNDE Test Construction Team members
  - Geographically representative

Standard Setting Panelist Feedback

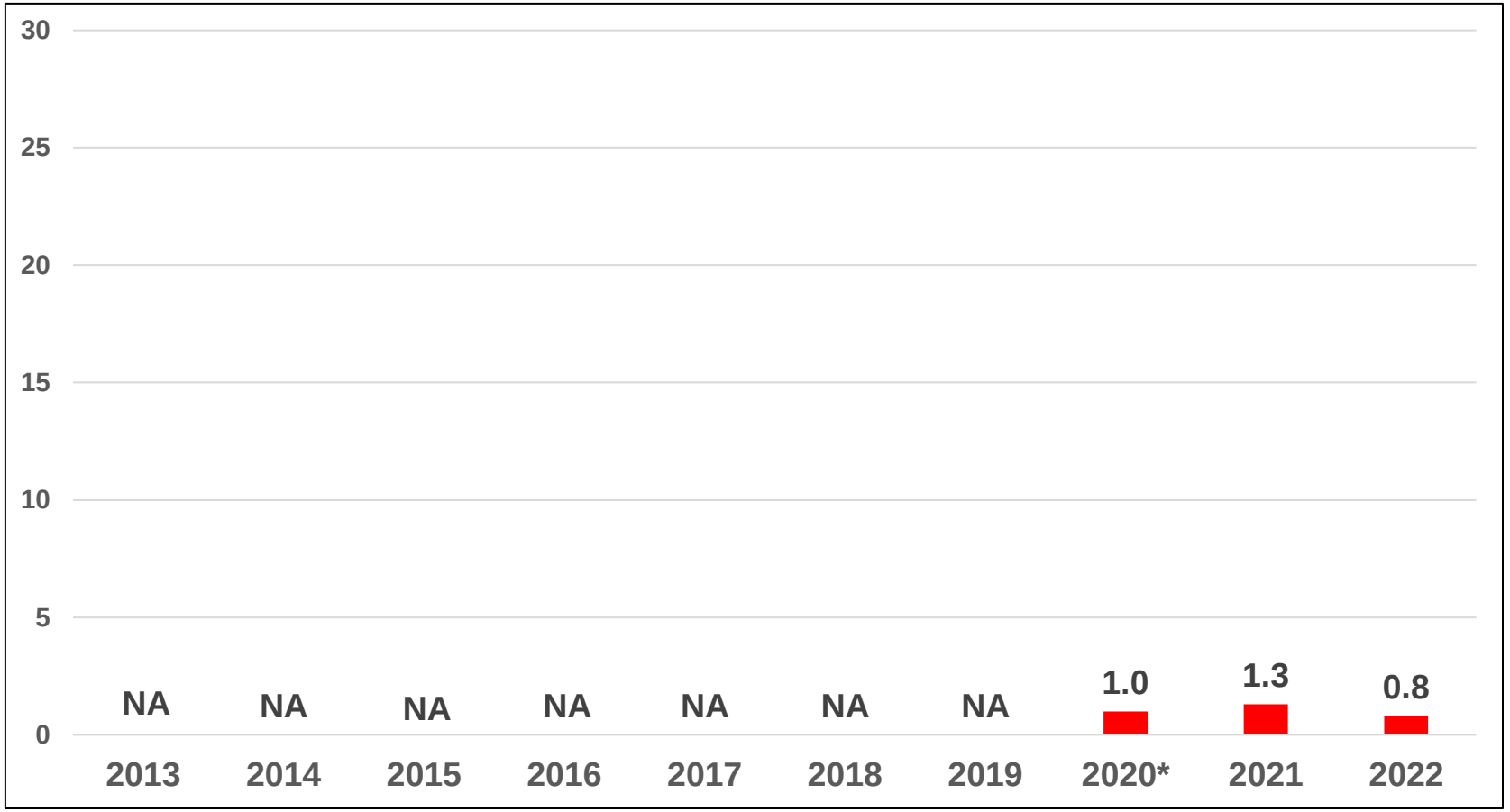
- Participants were thoroughly trained and underwent a multi-stage exercise.
- At the conclusion of all activities, participants' evaluations of all aspects of the process were uniformly strong and supportive, with each panelist indicating that they supported the final group-recommended performance standard.
  - Panelist feedback on the last item of the final evaluative questionnaire:

Survey Item Number and Statement	Mean Rating
14. Overall, I support the final group-recommended cut score as fairly representing the appropriate performance standard for the INBDE.	**4.89**

Key: Values are on a five-point scale, ranging from 1=Strongly Disagree to 5=Strongly Agree; NR = no response. One panelist did not answer evaluation question 14, so the mean rating is based on responses from nine of the ten panelists.

- The panel's recommendation was approved by the JCNDE in June 2020 and implemented in August 2020.

INBDE Failure Rates (%)



* The INBDE standard was introduced this year, based on standard setting activities.

INBDE Failure Rates (Details)

INBDE Failure Rate, by Candidate Group and Year

	Accredited†						Non-Accredited‡						Total	
	First Attempt [a]		Mixed Attempt [b]		Retake [c]		First Attempt [a]		Mixed Attempt [b]		Retake [c]		All Attempts	
	N	% Fail	N	% Fail	N	% Fail	N	% Fail	N	% Fail	N	% Fail	N	% Fail
2020	204	1.0	1	0.0	69	7.3	147	38.8	0	-	117	58.1	538	24.5
2021	2,018	1.3	3	0.0	245	16.0	1,340	33.1	1	0.0	971	55.8	4,578	22.3
2022	5,837	0.8	15	0.0	234	13.2	2,144	25.3	10	20.0	1,145	44.7	9,385	12.1

[a] Indicates candidates who had never previously attempted the INBDE, NBDE Part I, or NBDE Part II.
[b] Indicates candidates who passed NBDE Part I on their first attempt and subsequently elected to attempt the INBDE instead of NBDE Part II.
[c] Indicates candidates who had previously attempted and failed the INBDE, NBDE Part I, or NBDE Part II.
† Indicates candidates trained by dental education programs accredited by CODA.
‡ Indicates candidates trained by dental education programs not accredited by CODA.

INBDE Resources

- The JCNDE website (http://ada.org/inbde) contains useful, INBDE-related resources:
  - INBDE Candidate Guide
  - Foundation Knowledge for the General Dentist
  - INBDE Test Specifications
  - INBDE Domain of Dentistry
  - INBDE Practice Questions
  - INBDE Item Development Guide
  - INBDE Technical Report

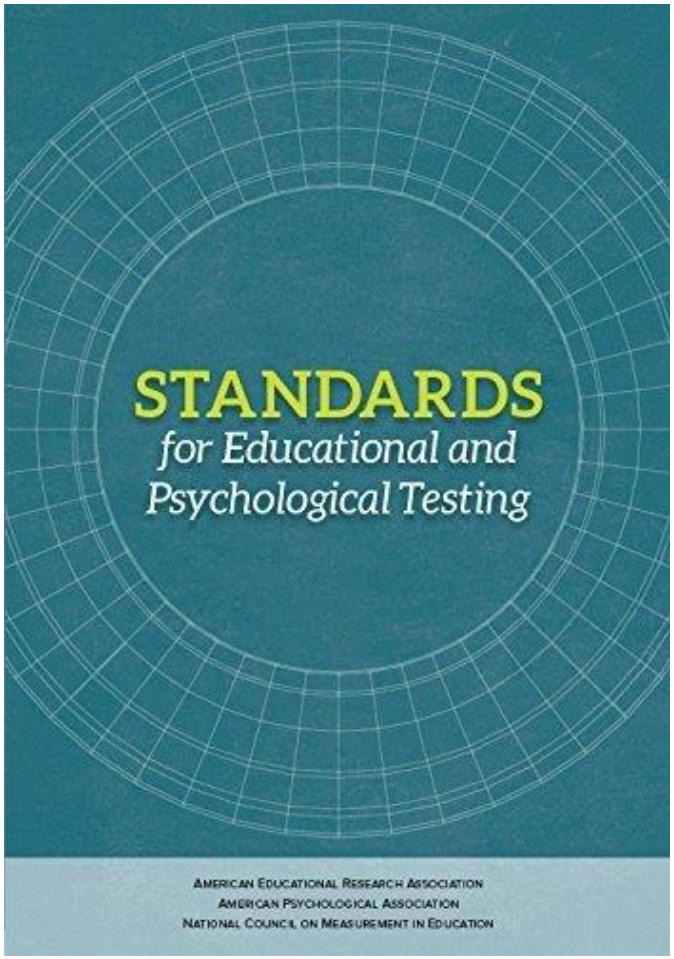
The Dental Licensure Objective Structured Clinical Examination (DLOSCE)

How Should Dental Boards Choose Licensure Exams?

- Does the exam protect the public?
- Is the exam valid and reliable?
- Does the exam treat candidates fairly?
- Do exam results accurately reflect candidates' knowledge, skills, and abilities?
- Was the exam professionally developed, using both dental subject matter experts and psychometricians?
- What evidence is available to support using the exam for licensure purposes?

Professional Standards

- The *Standards* were developed by the American Educational Research Association (AERA), American Psychological Association (APA), and the National Council on Measurement in Education (NCME).
- The *Standards* provide considerations for developing and implementing valid examinations.
- The *Standards* and industry best practices guide the design, construction, scoring, and reporting of examinations implemented by the JCNDE and the Department of Testing Services (DTS).



Evidence for Existing Examinations

“There is no peer-reviewed scientific evidence that correlates [clinical licensure examination] outcomes with other validated assessments of clinical competence … the process yields no verifiable value in its ultimate objective of providing for the protection of the public.” (p640)

Friedrichsen, S.W. (2016). Moving toward 21st-century clinical licensure examinations in dentistry. *Journal of Dental Education, 80*(6), 639-640.

Convergent Validity Evidence

Measures of related things should correlate with each other. Scores on clinical dental licensure examinations should correlate with relevant clinical outcomes (grades in dental school clinical courses, faculty ratings of student competence, etc.). If they don't, validity is brought into question.

Correlations Between Performance on Single-encounter, Patient-based Clinical Examinations, and Performance in Dental School: Patient-Based and Manikin Procedures

Study	Relationship Studied	Correlation
Gadbury-Amyot et al. (2014)	WREB examination result (pass/fail) with dental school GPA	-0.08
Chambers (2011)	WREB amalgam restoration score with dental school GPA	-0.01
	WREB composite restoration score with dental school GPA	0.06
	WREB amalgam restoration score with faculty ratings of student competence	-0.06
	WREB composite restoration score with faculty ratings of student competence	0.06
	WREB root planing score with dental school GPA	0.12
	WREB endodontics score with dental school GPA	0.29
	WREB root planing score with faculty ratings of student competence	0.06
	WREB endodontics score with faculty ratings of student competence	0.15
	WREB amalgam restoration score with score on test case simulations for clinical disciplines	0.02
	WREB composite restoration score with score on test case simulations for clinical disciplines	0.05
	WREB root planing score with score on test case simulations for clinical disciplines	-0.02
	WREB endodontics score with score on test case simulations for clinical disciplines	0.18
Hangorsky (1981)	NERB restorative score with 4th year dental school grades in operative dentistry	0.05
	NERB restorative score with 4th year dental school grades in fixed prosthetics	-0.01
	NERB restorative score with 4th year dental school grades in removable prosthetics	0.03
	NERB restorative score with 4th year dental school GPA	0.10
	NERB prosthetics score with 4th year dental school grades in fixed prosthetics	0.15
	NERB prosthetics score with 4th year dental school grades in removable prosthetics	0.11
	NERB prosthetics score with 4th year dental school GPA	0.11

Let's summarize, focusing on exam procedures involving a patient …

Average correlation of the patient-based portion of the clinical examinations, with performance outcomes (as presented in previous slide).

Average Correlation	Description
.03	Patient-based clinical examination procedure (OVERALL)
.07	Dental school GPA
.02	Faculty ratings of student competence
.04	Competency assessment in clinical area
.02	Clinical course grades
.02	Test case simulations

Interpreting Correlations

Correlation	Interpretation
.00	Zero correlation (flipping a coin)
1.0	Perfect positive correlation
General guidelines (Cohen, 1988)	
.10	Small relationship
.30	Medium relationship
.50	Large relationship

University of Iowa - Fourteen Year's Experience (Dr. Michael J. Kanellis, 2019)

Exam	Year	Manikin Portion			Patient Portion			Final
		Initial	Initial	Retake	Initial	Initial	Retake	
		Pass	Fail	Pass	Pass	Fail	Pass	Pass
CRDTS	2018-2019	83.3	16.7	100	91.1	8.9	100	100%
CRDTS	2017-2018	88.3	11.7	100	86.4	13.6	100	100%
CRDTS	2016-2017	86.8	13.2	100	92.0	8.0	100	100%
CRDTS	2015-2016	88.1	11.9	100	94.1	5.9	100	100%
CRDTS	2014-2015	89.3	10.7	100	81.6	9.2	100	100%
CRDTS	2013-2014	85.4	14.6	100	91.0	9.0	100	100%
CRDTS	2012-2013	90.1	9.9	100	91.6	8.5	100	100%
CRDTS	2011-2012	84.3	15.7	100	91.9	8.1	100	100%
WREB	2010-2011				96.0	4.0	100	100%
WREB	2009-2010				94.0	6.0	100	100%
WREB	2008-2009				93.0	7.0	100	100%
WREB	2007-2008				97.0	3.0	100	100%
ADEX	2006-2007	92.0	8.0	100	86.1	13.9	100	100%
ADEX	2005-2006	90.0	10.0	100	87.2	12.8	100	100%

Conclusions for Current Clinical Examinations

- Subject to substantial random error (unreliable)
- Virtually everyone passes in the end … and if a candidate does fail, they can simply try again with another patient-based examination
- Results fail to accurately reflect candidate skills (validity, fairness)
- Prevent qualified candidates from obtaining a license
- Lack sufficient validity evidence to support their usage
- Fail to protect the public

Why develop the DLOSCE?

- Gives dental boards the ability to identify those who lack the skills necessary for safe practice, using a professionally developed examination backed by strong validity evidence.
- Eliminates undesirable situations and complications that can arise from the use of patients in the examination process (e.g., patient's more pressing needs not treated in lieu of pursuing the "perfect lesion").
- Allows for more objective and comprehensive measurement of candidate skills.
- **Helps dental boards in their mission to protect the public.**

What Does the DLOSCE Cover?

- Focal topic areas:
  - Restorative Dentistry (24%)
  - Prosthodontics (19%)
  - Oral Pathology, Pain Management, and TMD (13%)
  - Periodontics (10%)
  - Oral Surgery (9%)
  - Endodontics (8%)
  - Orthodontics (6%)
  - Medical Emergencies (6%)
  - Prescriptions (5%)
- Diagnosis and Treatment Planning—as well as Occlusion—are covered across the topics listed above.
- The DLOSCE includes questions involving patients of various types and backgrounds, including pediatric, geriatric, special needs, and medically complex patients.
- DLOSCE questions are modeled on dental clinical situations.

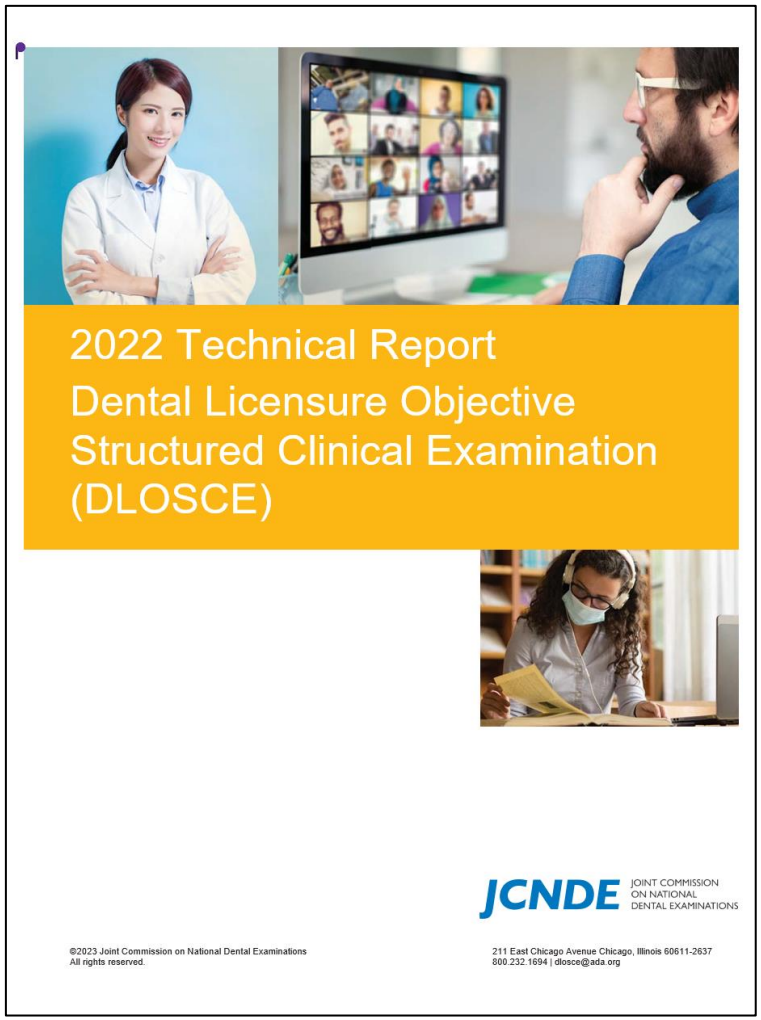
DLOSCE 3-Dimensional Models

Rationale for not Including Hand Skills

- Questionable ethics of performing irreversible procedures on a live patient as part of the licensure process (often not a “patient of record”)
- Potential for patient extortion when live patients are involved.
- Narrow focus (not comprehensive) of clinical licensure examinations, with extremely limited performance sample obtained.
- Clinical grading criteria may not reflect current recommended practice.
- Exams are costly, the logistics of their implementation interfere with the ability of qualified dentists to practice in different states, and nearly everyone ultimately passes (many with no remediation between testing attempts if a failure occurs).
- Dental board disciplinary actions can predominantly be attributed to failures in clinical judgment, ethical issues, substance abuse, etc. (not psychomotor skill deficiency).
- Rigorous accreditation standards and dental education training involving psychomotor skills, currently in place in dental education.
- Published, peer-reviewed research findings from NDEB Canada supporting utilization of an OSCE for licensure purposes, with implementation for two decades without apparent issue.

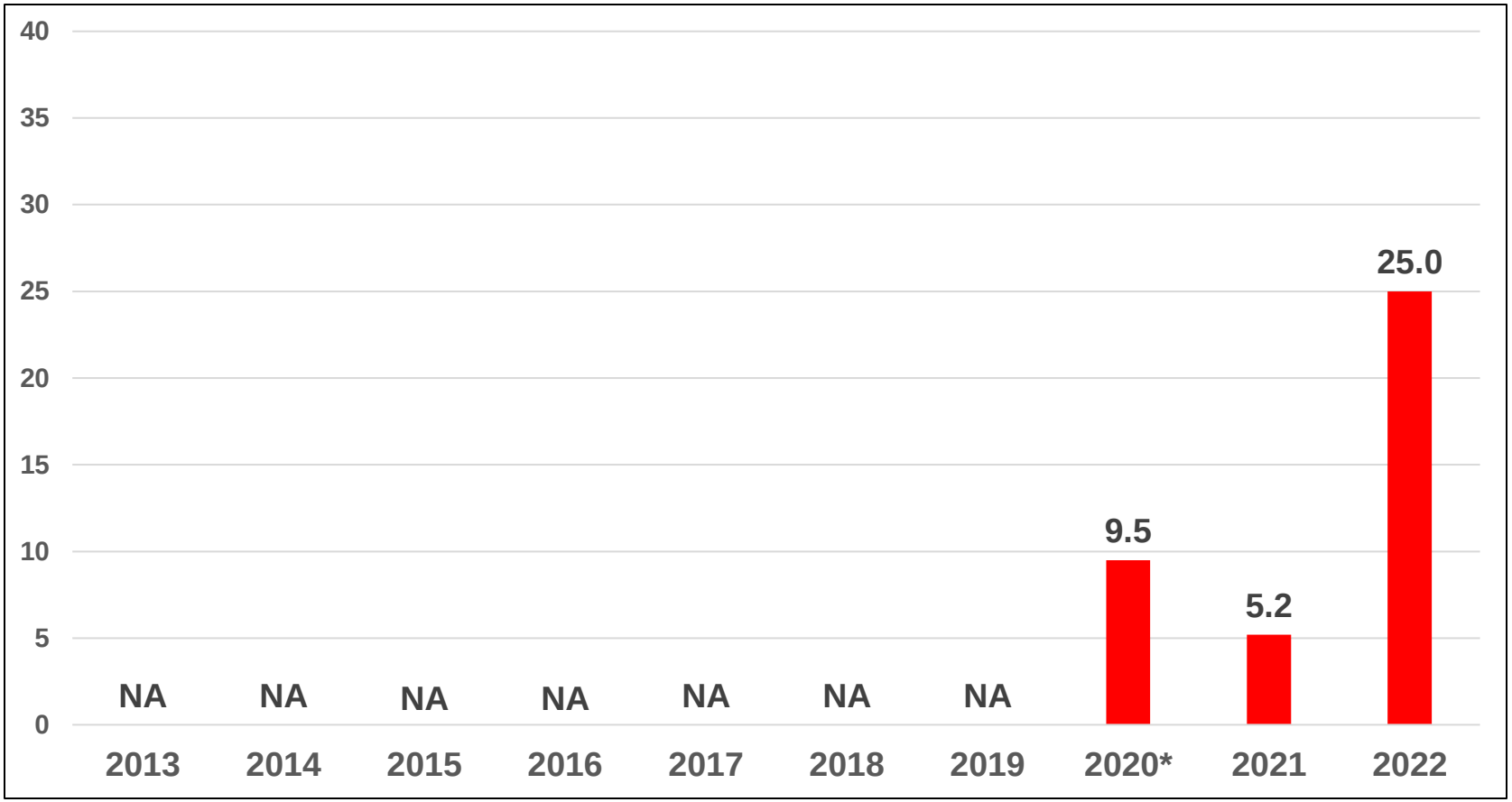
See the DLOSCE Technical Report for a comprehensive discussion.

DLOSCE Technical Report



- DLOSCE Technical Report available on DLOSCE website (ada.org/dlosce).
- Documents DLOSCE psychometric properties and validity evidence.
- Includes expanded discussion of DLOSCE content and the question of psychomotor skill evaluation.

DLOSCE Failure Rates (%)



* A new standard was introduced this year, based on updated standard setting activities.

Evidence Supports the DLOSCE

The DLOSCE and Performance in 3rd Year Dental Clinical Courses[1]

	Observed Pearson Correlation	Partially Disattenuated Pearson Correlation	Fully Disattenuated Pearson Correlation
Full Study Sample (N=40)	.37*	.46*	.51*
Study Sample with Outlier Removed (N=39)	.57*	.70*	.76*

[1] The third-year courses covered the following areas: Oral Pathology, Oral Surgery, Pediatric Dentistry, Prosthodontics, Endodontics, Orthodontics, Medical Emergencies, Management of Medically Compromised Patients, Health Promotion, and Dental Practice Operations. The partially disattenuated correlations were estimated assuming a reliability coefficient of .66 for the letter of commendation (LOC) sum scores. The fully disattenuated correlations were estimated assuming reliability coefficients of .66 for the LOC sum scores and .83 for the DLOSCE scores. *p < .05

Evidence Supports the DLOSCE

- A Senior Associate Dean for Academic Affairs was asked to rate dental student clinical performance:

  Please place each student into one of the following categories, with regard to their final clinical performance in dental school, relative to their 4th year peers.

  Top 20% Middle 60% Bottom 20%

- Students placed in the top 20% performed 1.28 standard deviation units higher on the DLOSCE, than those in the bottom 20%.
- In layman's terms, a 1.28 standard deviation unit difference corresponds to:
  - the difference between having an NFL pro-bowl quarterback (or not), with regard to pass completions.
  - the difference in average daily high temperatures in Chicago, between April and December.

Acceptance by Dental Boards

- The states below have adopted regulations which permit the acceptance of the DLOSCE. In some states, passage of the DLOSCE only partially fulfills the clinical examination requirement for licensure.
  - Alaska*
  - Colorado
  - Indiana
  - Iowa*
  - Oregon
  - Washington
- Dental boards in several additional states have expressed interest in learning more about the examination.

* - Partial fulfillment of states clinical licensure examination requirement

Criteria for Selecting Examinations Used to Protect the Public

Criteria	Patient-Based Exams	Manikin	DLOSCE
Amount of time exam has been available	50+ years	50+ years	3 years +
Evidence for validity, reliability, and fairness	Weak	Weak	Strong
Cost and inconvenience (dental schools, students)	High	Moderate	Low
Potential for patient harm during administration	Yes	No	No
Candidate can influence the passing "bar"	Yes	No	No
Likelihood of "false passes"	High	High	Low
Likelihood of "false fails"	High	High	Low
Comprehensiveness of measurement	Low	Low	High
Protection of the public	Low	Low	High

Additional Resources

- Webpages (ada.org/dlosce and ada.org/dhlosce)
- Practice Questions
- 3D Model Tutorial
- DLOSCE Candidate Guide
- DLOSCE Quick Facts
- DLOSCE Technical Report
- Summary of Content Validity Evidence
- Recorded Webinars … Request a Presentation!
  - Dental Boards
  - Dental Students
  - Dental Educators
- Key links for additional information (ada.org/dlosce)
  - https://www.ada.org/en/jcnde/dental-licensure-objective-structured-clinical-examination/news-and-resources
  - https://www.ada.org/en/jcnde/dental-licensure-objective-structured-clinical-examination/test-preparation

The Dental Hygiene Licensure Objective Structured Clinical Examination (DHLOSCE)

The Dental Hygiene Licensure Objective Structured Clinical Examination

- In 2021 the JCNDE approved a business plan to develop a Dental Hygiene Licensure Objective Structured Clinical Examination (DHLOSCE).
- The DHLOSCE will:
  - give boards the ability to identify those who lack the clinical skills necessary for safe Dental Hygiene practice, using a professionally developed examination backed by strong validity evidence.
  - eliminate undesirable situations and complications that can arise from the use of patients in the examination process.
  - allow for more objective, fair, and comprehensive measurement of candidate skills.
  - **help boards in their mission to protect the public.**

DHLOSCE Activities

- DHLOSCE content development is well underway.
- In 2023, the JCNDE will be updating its dental hygiene practice analysis approach, to comprehensively incorporate the DHLOSCE.
- Communities of interest will be asked to provide feedback on dental hygiene task statements in the 3rd quarter of 2023.
- Please provide feedback!
- Updates will be posted on the JCNDE's DHLOSCE website (www.ada.org/dhlosce)

Twelve Steps for Test Development (Downing, 2006)

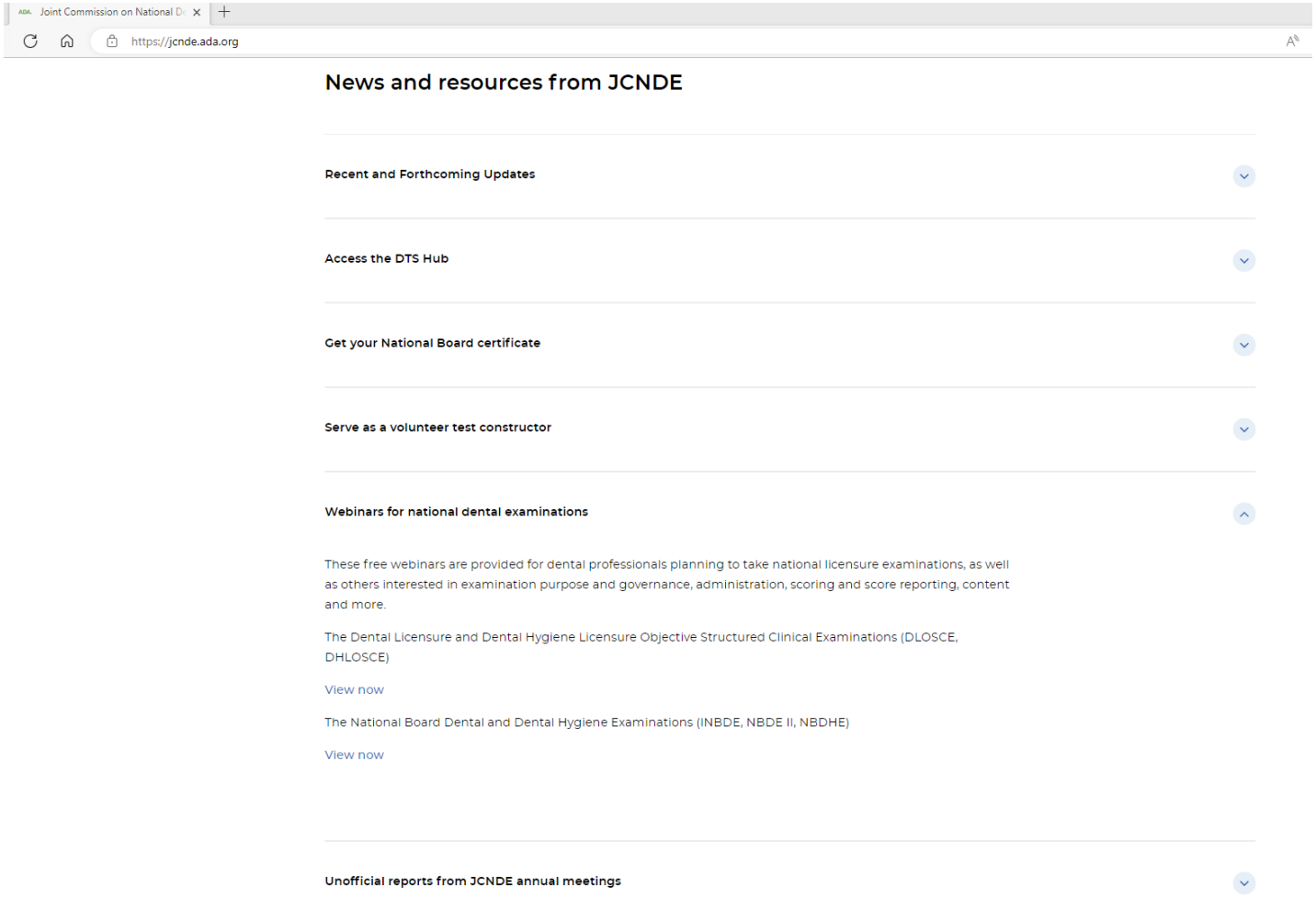
1. Planning	7. Test Administration
2. Content Definition	8. Test Scoring
3. Test Specifications	9. Standard Setting
4. Item Development	10. Reporting Test Results
5. Test Design and Assembly	11. Item Banking
6. Test Production	12. Technical Reports / Validation

DHLOSCE Timeframes

- DHLOSCE development timeframes were anticipated as follows:

Year	Core Task(s)
2021	Establish Steering Committee and working committees
2022	Build core examination content
2023	Develop items and supplemental materials (3D models, stimulus materials, etc.); Conduct focused field testing (e.g., on samples of key examination components)
2024	Launch examination and follow-up

Webinars and Presentations



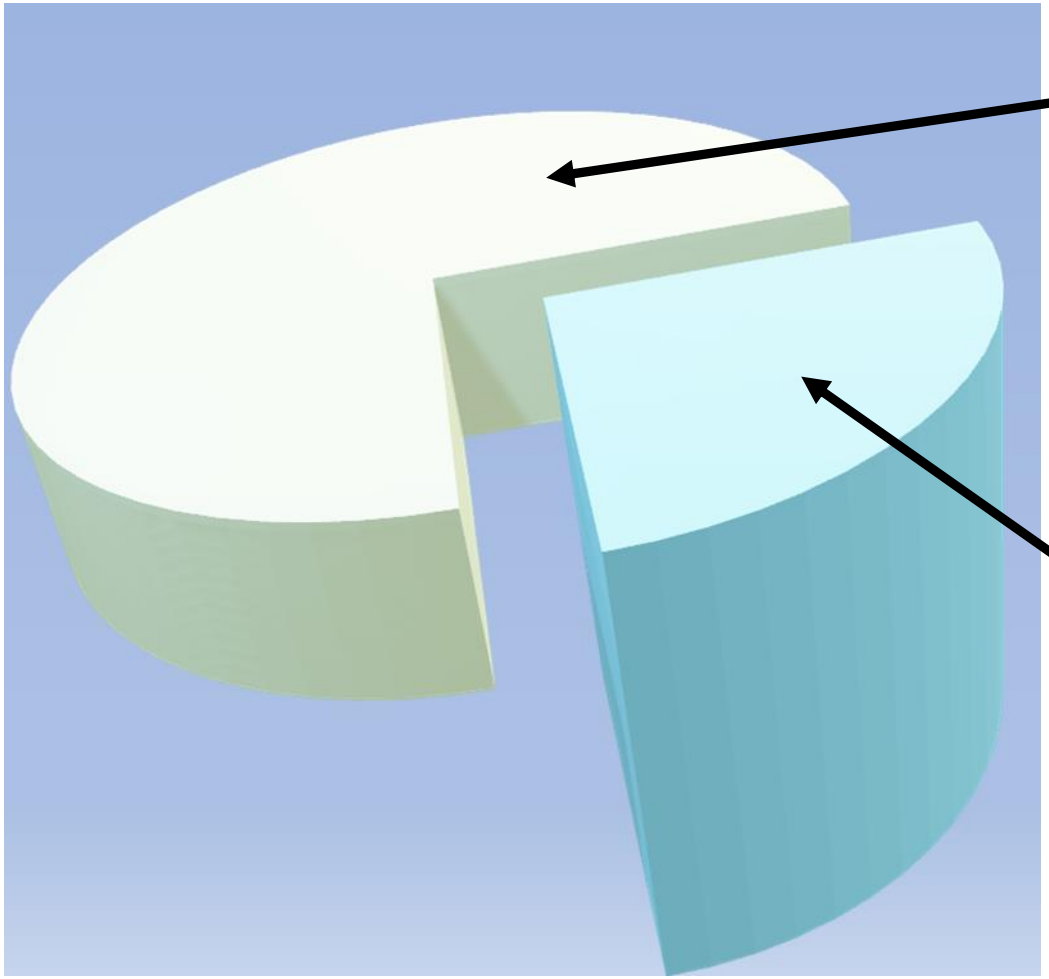
https://jcnde.ada.org/

Questions?

Thank you!

The following slides serve as a reference if relevant questions arise from webinar participants.

How do the DLOSCE and INBDE Differ?



“Domain of Dentistry” (INBDE)

DLOSCE Content Domain. Clinical content directly applicable to chairside treatment. **Also represents overlap between INBDE and DLOSCE.**

How do the DLOSCE and INBDE Differ?

- The INBDE and DLOSCE **both assess clinical competence** *(e.g., diagnosis and treatment planning, oral health management)*. However, key differences exist:
  - The **DLOSCE** is focused exclusively on the **clinical tasks** a dentist performs while providing direct, chair-side treatment to **patients** *(a **narrower** focus)*.
    - Micro-judgments, errors, and knowledge of success criteria
  - The **INBDE** focuses on **cognitive skills** *(a **broader** focus)*.
    - Biomedical and behavioral underpinnings of clinical decisions, knowledge that includes the "why"
    - Practice and profession considerations, evidence-based dentistry, being good consumers of research, patient oral health care education, etc.

How do the DLOSCE and INBDE Differ?

DLOSCE Example	Corresponding INBDE Example
Review patient information and write an appropriate prescription.	Understand basic principles of pharmacokinetics and pharmacodynamics for major classes of drugs and over-the-counter products to guide safe and effective treatment.
Identify the final needle position (point of insertion, angulation, and depth) immediately prior to injection that will best accomplish complete local anesthesia for a given procedure.	Understand local and central mechanisms of pain modulation.
Identify one or more flaws present in a metal-ceramic restoration.	Understand dental material properties, biocompatibility, and performance, and the interaction among these in working with oral structures in health and disease.
Epidemiology and statistics are <u>not</u> covered on the DLOSCE.	Understand the principles and logic of epidemiology and the analysis of statistical data in the evaluation of oral disease risk, etiology, and prognosis.

Can OSCEs currently be found in dental licensure?

- The OSCE developed by the National Dental Examining Board (NDEB) of Canada provides an example of one possible approach.
  - Development is a recurring, critical activity undertaken by experts, with questions selected by general practitioners to ensure clinical relevance.
  - Administered three (3) times per year in fixed testing windows.
  - Administrations include 50 physical stations with two questions each, plus rest stations. Stations are focused and short (5-minutes).
  - NDEB Canada anticipates transitioning to a “Virtual OSCE” in March 2023.
- In a study involving 2,317 students at nine Canadian dental schools, Gerrow et al. (2003) found positive correlations between students’ examination scores and final year results.
  - Written examination and final year results: (r=0.43, p<. 001)
  - OSCE and final year results: (r=0.46, p<. 001)

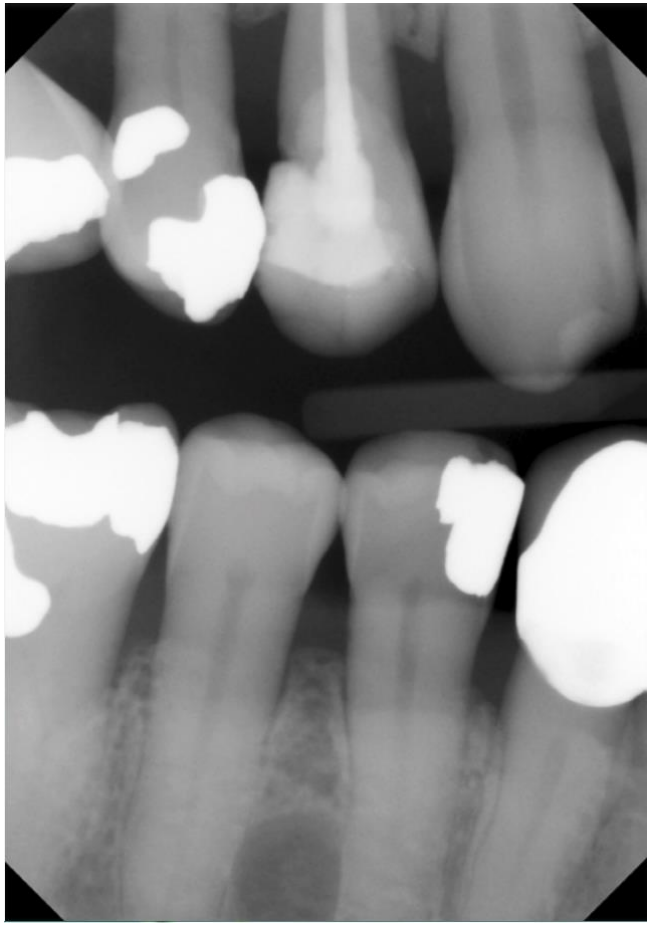
Source: Gerrow, J.D., Murphy, H.J., Boyd, M.A., and Scott, D.A. (2003). Concurrent validity of written and OSCE components of the Canadian Dental Certification Examinations. Journal of Dental Education, 67 (8), 896-901.

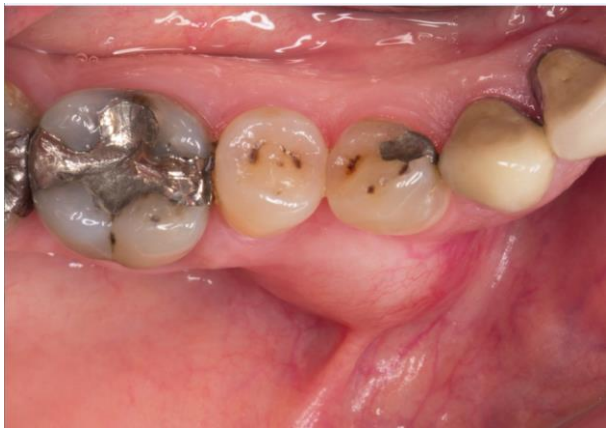
Evaluation of candidate responses

- Depending on the Question Type, each possible candidate response to DLOSCE questions is evaluated as follows:
  - **Correct.** This represents a correct clinical judgment based on the available information. Depending on the question, candidates can receive either full credit (1 point) or partial credit for a given correct response, as long as they avoided choosing any incorrect responses for the question.
  - **Clinical Judgment Error/Incorrect**: This represents a clinical judgment error. Choosing this response causes the candidate to receive no credit (0 points) for this question, even if a correct response was also selected.
  - **Unscored/Neutral:** This represents an indeterminate situation. These are situations—identified by dental subject matter experts—where given the available information a candidate's choice of this response is considered neither correct nor incorrect.

Example of Multiple-Choice, Multiple-Response Question

Patient
Female, 56 years old
Chief Complaint
“I have a bump on my gums”
Background and/or Patient History
Current Findings
Swelling in the lower right premolar area





See next slide.

Example of Multiple-Choice, Multiple-Response Question

Select **ONE OR MORE** correct answers. Any **INCORRECT** selections will result in your earning **NO CREDIT** for this question.

Which should be included in a differential diagnosis?

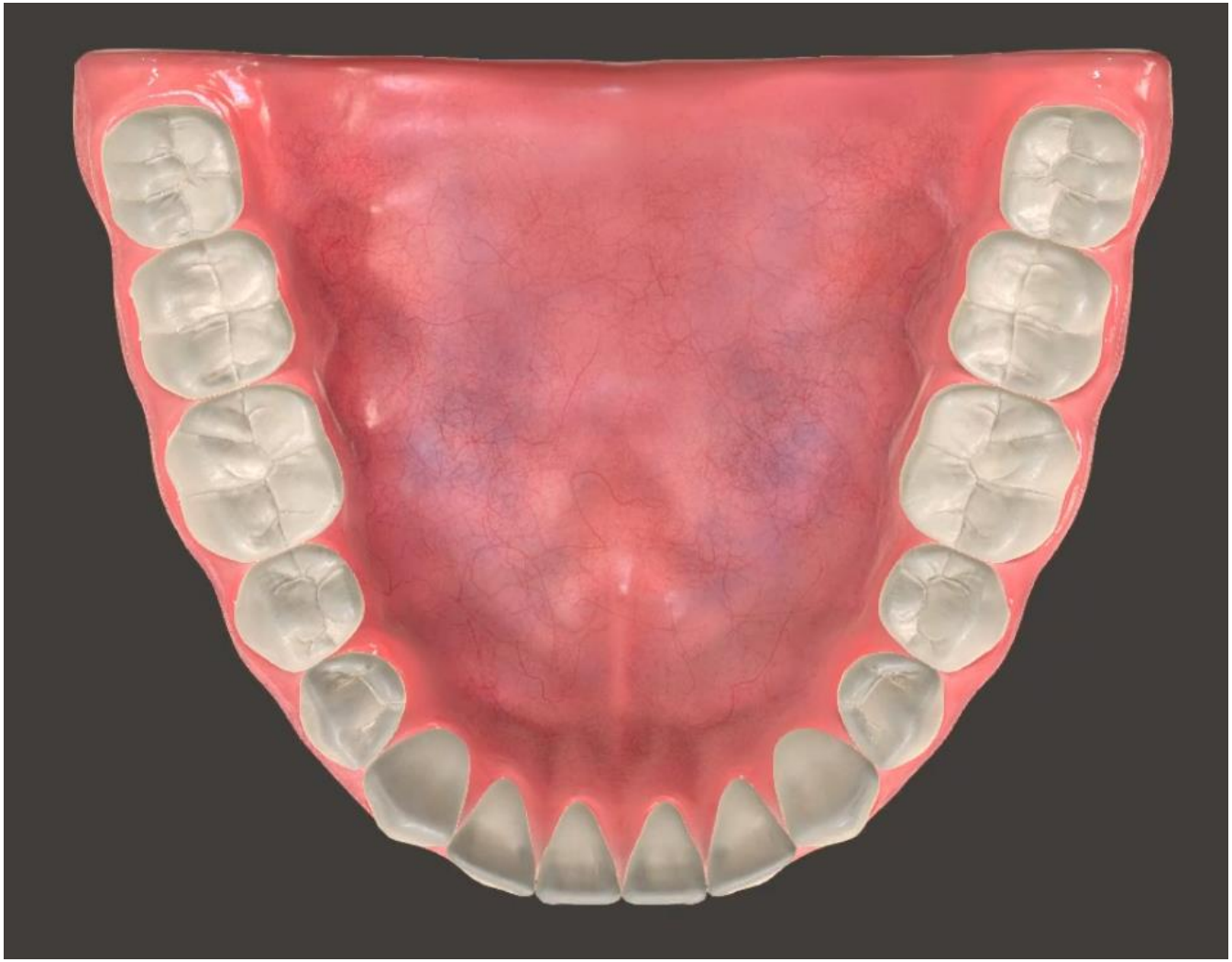
- A. Normal anatomical variant
- B. Radiographic artifact
- C. Cyst or benign tumor
- D. Malignant tumor
- E. Odontogenic inflammatory condition
- F. Non-odontogenic inflammatory condition
- G. Reactive lesion (simple bone cyst, giant cell lesions)
- H. Fibro-osseous lesion
- I. Traumatic lesion/fracture
- J. Developmental condition
- K. Manifestation of systemic disease

Correct: C (partial credit, 0.5 points) and E (partial credit, 0.5 points)
Unscored/Neutral: G, H, and K
Clinical Judgment Error/Incorrect: Selecting any response other than a "Correct" or "Unscored/Neutral" response causes the candidate to receive no credit (0 points) for this question, even if a Correct response was also selected.
Content Classification: Oral Pathology, Pain Management, and Temporomandibular Dysfunction

DLOSCE 3-Dimensional Models

DLOSCE 3-dimensional models

DLOSCE 3-dimensional models



Thank you!