NBCE

Part IV Advancement & Development

PROJECT UPDATE

April 2021

PAD Project Overview

PROJECT IMPETUS

In 2019, the NBCE successfully launched Computer-Based Testing (CBT) for the Parts I, II, III, and PHT exams. At that time, we felt it was strategically relevant to turn our focus on the Part IV exam.
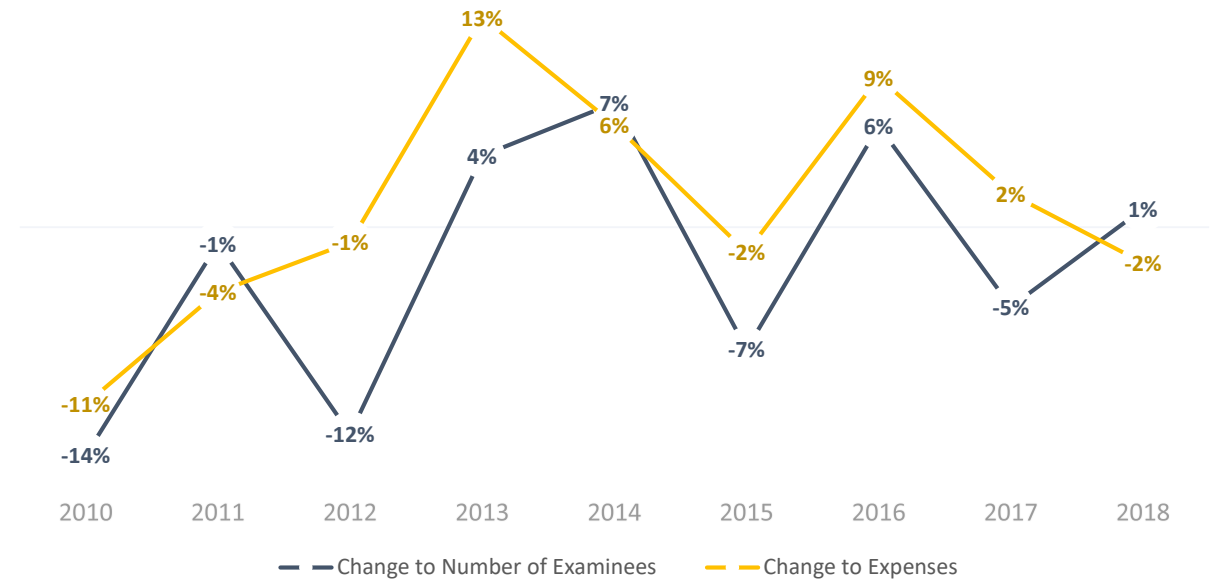
Current State Analysis
Performed in October 2019

Financial Analysis

- At times, a change to the number of examinees and changes to the Part IV expenses are aligned. (e.g. 2015)

- But sometimes number of examinees and changes to expenses were in conflict (e.g. 2017)

- When we performed a correlation analysis on this data, we saw that there was not a statistically significant correlation between testing expenses and number of examinees.

Variable	1	2	3
1. Year	1.00		
2. Number of Examinees	-0.62**	1.00	
3. Part IV Expenses	0.77**	-0.03*	1.00
Note: ** statistically significant correlation, p < .001			
* statistically not significant correlation, p > .05.			

CHANGE TO NUMBER OF EXAMINEES AND CHANGE TO PART IV EXPENSES

- - Change to Number of Examinees   - - Change to Expenses

PAD Project Overview

Current State Analysis
Performed in October 2019

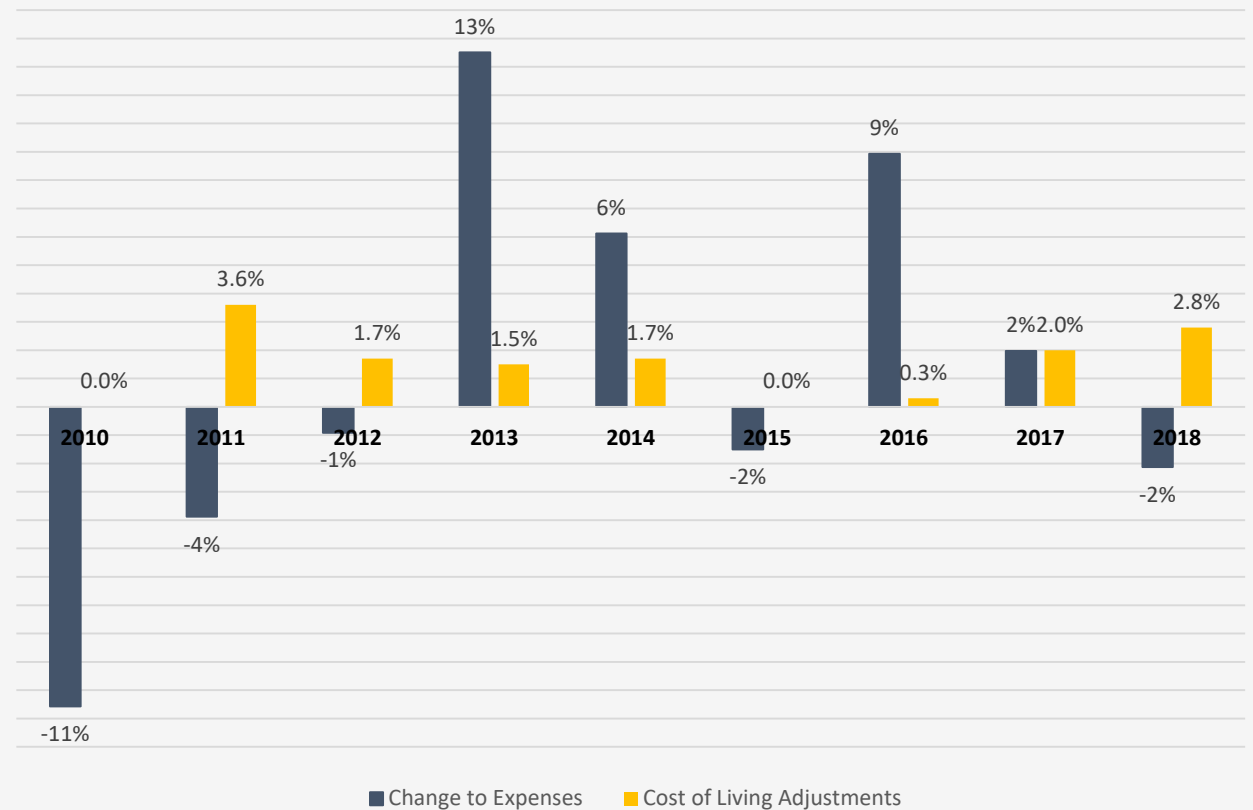### Financial Analysis

- A separate analysis concluded that expenses were negatively correlated to Cost of Living Adjustments (COLA).

- Still, over a 16-year period, the Part IV expenses were10.5% less than the increase to COLA over the same time period.

	Part IV Expenses	Cost of Living Adjustment
Part IV Expenses	1	
Cost of Living Adjustment	-0.11	1

- An in-depth analysis of fixed and variable expenses identified fixed costs as approximately 10 to 14% of the total annual costs for the Part IV.

- The driving factor for variable costs is not one examinee, but rather a group of 25 to 75 examinees.

Change to Part IV Expenses and Cost of Living Adjustments

PAD Project Overview

Current State Analysis
Performed in October 2019

Industry Comparison

- The NBCE is currently the highest priced exam.

- We also provide the most testing sites to reduce examinee travel.

- The NBCE provides the least amount of testing opportunities.

- The NBCE is the only organization testing over two days.

	Chiropractic	Osteopathic	Medical	Podiatry
Number of Examinees (annually)	2,642	7,474	34,868	319 *(first time candidates, last reported in 2007)*
Exam Costs	$1,535	$1,295	$1,290	$1,230
Number of Testing Sites	11-13	2	5	1
Testing Sites	US Chiropractic Colleges	NBOME owned facilities in Philadelphia and Chicago	Clinical Skills Evaluation Collaboration (CSEC) owned facilities in Atlanta, Chicago, Houston, Los Angeles, Philadelphia	Pennsylvania
Testing Opportunities	Bi-Annually	Weekly	Weekly	2 month testing window with retakes testing separately during a 2 week testing window
Exam length (days)	2	1	1	1

PAD Project Overview

Current State Analysis
Performed in October 2019

Industry Comparison

- Other exams have longer testing times, but shorter appointment length.

- The NBCE is the only testing organization that sequesters examinees.

- The NBCE has the shortest amount of time in Patient Encounter stations.

- We are the only organization in the benchmark group that doesn't have a Patient Note.

	Chiropractic	Osteopathic	Medical	Podiatry
Appointment length (minutes) including instructions, orientations, and sequestering (if applicable)	431 - 770	420	480	450
Sequestering	Yes (230 – 569 minutes)	No	No	No
Exam length (minutes) actual testing time	201	276	300	300
Number of Patient Encounter Stations	15	12	12	12
Patient Encounter Station length (minutes)	5	14	15	15
Post Encounter format	Post Encounter Probe (Extended Multiple Choice)	SOAP note	Patient Note	Patient Note
Number of post Encounter stations	10	12	12	12
Post Encounter Station length (minutes)	5	9	10	10

PAD Project Overview

Current State Analysis
Performed in October 2019

Industry Comparison

- The testing organizations in the benchmark group use the Standardized Patients for some scoring.

- Video monitoring is consistently used in the benchmark group.

	Chiropractic	Osteopathic	Medical	Podiatry
Examiner type	Doctors of Chiropractic/in-room examiner	Video review/ standardized patient	Live monitoring through observation window/ standardized patient	Live monitoring through observation window/ standardized patient
Stations have Video Monitoring	No	Yes	Yes	Yes

PAD Project Overview

Summary

Current State Analysis
Performed in October 2019

- Exam expenses continue to increase independent of number of examinees testing, and in contradiction to Cost of Living Adjustments.

- It is difficult to control variable expenses because:

  - The number of examinees required to make an incremental change in variable costs is between 25 to 75 per site.

  - Our desire to minimize examinee travel expenses allows a lot of waste at the test site.

- Through researching the benchmark organizations, we have discovered OSCE trends that could reduce cost while increasing exam reliability and validity.

Purpose of the Part IV Advancement and Development Project

Identify current and future trends in OSCEs and vet potential changes to the Part IV exam based on the following criteria:

- Best Practices in the industry
- Maintaining or increasing the validity of the assessment
- Cost/efficiency

- Impact on standardization
- Impact on external stakeholders
- Feasibility of implementation

Engage stakeholders (state licensing boards, colleges, examinees) to assist in evaluating changes to the Part IV, and evaluating the impact of changes on the stakeholder group.

Implement approved changes to the Part IV exam ensuring that all changes have been:

- Thoroughly tested in realistic scenarios.
- Communicated to affected parties in a timely manner, understanding the training and studying that is required to prepare for the Part IV exam.

PAD Project Overview

In 2020, the NBCE project team investigated trends in OSCE testing. We met with the NBOME, and had discussions with the NBEO and USMLE to learn more about their OSCE formats. We read publications about international OSCEs, and scoured the websites of other testing organizations to learn about the current state of OSCE testing. After collecting the current OSCE trends, we established the criteria below so that we could rate the trends based on their ability to meet our goals.

Trend Criteria

1. How well is the trend represented in the benchmark group?

2. Would the trend impact the validity and reliability of the Part IV exam?

3. Would it be financially feasible to implement the trend?

4. Would the trend impact the standardization of the exam?

5. How would the trend impact stakeholders (state boards, DCPs, and examinees)?

6. How operationally feasible would it be to implement the trend?

PAD Project Overview

Trends to Investigate

1. **Comprehensive Examinee-Guided Station Format:** Combining the single-point stations (Case history, Ortho/Neuro, Physical exam, and Technique) into one comprehensive station that better mimics a real-world patient encounter.

2. **Adding a Documentation Component:** Examinees would be required to create a patient note (after the patient-encounter station) documenting their findings, assessment, and plan for that patient.

3. **More External Contribution to Item Development:** Develop a method for collecting exam content from a wider variety of people within the chiropractic community (academics, practicing DCs, and state board members).

4. **Adding Video Recording to Stations:** Requiring patient-encounter rooms to be set up with video recording equipment that can accurately capture the examinee's performance for remote review.

5. **Moving Diagnostic Imaging (DIM) to Written Exams:** Since DIM is a Computer-Based Test (CBT), we could incorporate the content into the Part III exam, eliminating the Friday testing day.

6. **Eliminating Cross Country Sequestration:** Removing the sequestration requirement, which currently requires us to hold examinees until the exam is completed across the country.

7. **Patient Grading Component:** Standardized patients rate the examinee on the "humanistic" components of the station.

8. **Paperless Exam:** Adding computerized testing equipment for the examinees and evaluators to eliminate scantron answer sheets.
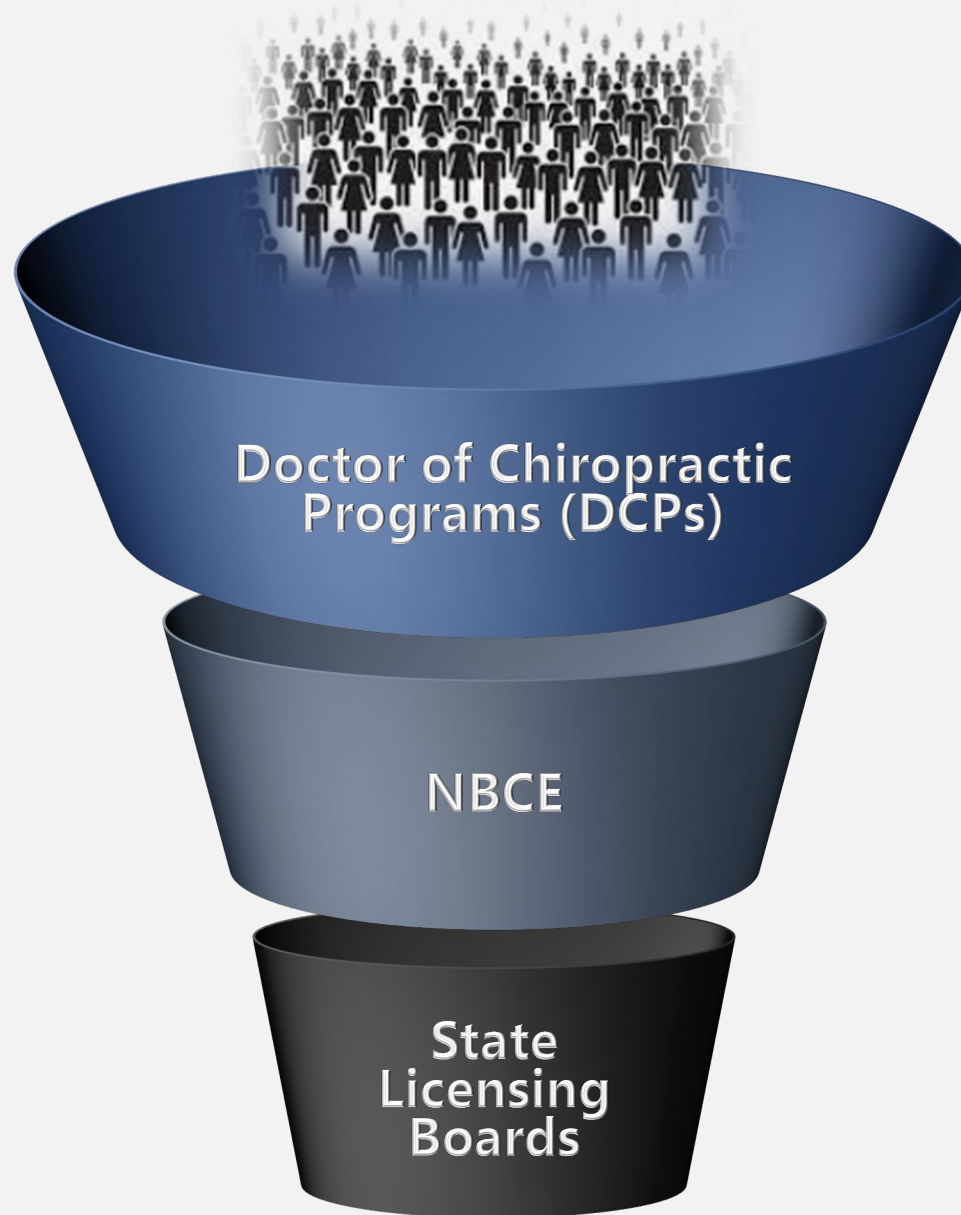
Advisory Board Members

Association of Chiropractic Colleges Nominations

Dr. Kevin Cunningham, *Palmer College of Chiropractic- Main Campus*

Dr. Scott Donaldson, *Life Chiropractic College West*

Dr. Ana Facchinato, *Southern California University of Health Sciences*

Dr. Wendy Maneri, *New York Chiropractic College*

Dr. Kristina Petrocco-Napuli, *Logan College of Chiropractic*

NBCE District Director Nominations

Dr. Jim Buchanan, *Wyoming Board of Chiropractic Examiners*

Dr. Scott Bautch, *Wisconsin Chiropractic Examining Board*

Dr. Nicole Canada-Harmel, *Nevada Board of Chiropractic Physicians*

Dr. Kevin Donovan, *Rhode Island Board of Examiners in Chiropractic Medicine*

Dr. Ned Martello, *Louisiana State Board of Chiropractic Examiners*

Part IV Test Site Staff

Dr. Ron Boesch, Overall-In-Charge, *Palmer Iowa Test Site*

Representatives from the NBCE Board of Directors

Dr. LeRoy Otto, *NBCE Vice President and District II Director*

Dr. Marty Freihaut, *At-Large Director*

NBCE Project Team

Dr. Norman Ouzts, *CEO*

Tamara Sterling, *Director of Program Management and Quality*

Dr. Andy Gow, *Director of Practical Testing*

Michele Fisher, *Manager of Practical Exam Production*

Part IV Advancement and Development Plan / Schedule

Phase 1: Discovery & Design

2021   2022

Now through the end of 2022: Researching best practices, gathering stakeholder feedback, evaluating vendors, and designing a testing plan.

Phase 2: Testing

2023

All of 2023: Testing new Part IV exam format in the field, making adjustments as necessary, communicating changes to stakeholders, and planning rollout.

Phase 3: Implementation

2024

2024: Possible first administration of updated Part IV.

PAD Project Overview

Trends

1. **Comprehensive Examinee-Guided Station Format:** Combining the single-point stations (Case history, Ortho/Neuro, Physical exam, and Technique) into one comprehensive station that better mimics a real-world patient encounter.

2. **Adding a Documentation Component:** Examinees would be required to create a patient note (after the patient-encounter station) documenting their findings, assessment, and plan for that patient.

3. **More External Contribution to Item Development:** Develop a method for collecting exam content from a wider variety of people within the chiropractic community (academics, practicing DCs, and state board members).

4. **Adding Video Recording to Stations: Requiring patient-encounter rooms to be set up with video recording equipment that can accurately capture the examinee's** performance for remote review.

5. **Moving Diagnostic Imaging (DIM) to Written Exams:** Since DIM is a Computer-Based Test (CBT), we could incorporate the content into the Part III exam, eliminating the Friday testing day.

6. **Eliminating Cross Country Sequestration:** Removing the sequestration requirement, which currently requires us to hold examinees until the exam is completed across the country.

7. **Patient Grading Component:** Standardized patients rate the examinee on the "humanistic" components of the station.

8. **Paperless Exam:** Adding computerized testing equipment for the examinees and evaluators to eliminate scantron answer sheets.

PROPOSAL: MOVING THE DIM EXAM TO PART III

PROJECT PROPOSAL

The current content of the DIM exam would be moved to the Part III exam, and the domain name will be changed to Diagnostic Imaging Interpretation (DXI) . The Part III exam will be reduced to accommodate this additional content, without extending the exam session.

Rationale

- The DIM is not associated with an OSCE in terms of content or exam format.

- The DIM exam is now delivered on the computer, so it aligns better the delivery of the Part III.

  - We would no longer have to assemble a computer lab at each site every administration.

- We could eliminate Fridays from our testing schedule.

Summary Comparison of Current Part III to Proposed New Format with DXI

	Current Part III	*Proposed* Part III with DXI
Number of items	• 110 traditional multiple-choice questions. • 10 case vignettes with three extended multiple-choice questions.	• 80 traditional multiple-choice questions. • 20 case vignettes with one extended multiple-choice question. • 20 images with two multiple-choice questions per image. (DXI Exam)
Testing Time (includes instructions and breaks)	4.5 hours	4.5 hours

PROPOSAL: MOVING THE DIM EXAM TO PART III

ANALYSIS

Decision consistency studies were performed on both the standard multiple-choice questions and the case vignettes using two different approaches: classical test theory (CTT) and item response theory (IRT). An approach based on Bayesian methodology was also used to analyze reductions to the standard multiple-choice questions. Data from four Part III administrations was used for the decision consistency studies. All results from the decision consistency studies supported the proposed reduction of the number of items in Part III.

- The accuracy of classification into pass/fail status between the 90 and the 70 operational standard multiple-choice questions was consistently above 90%.

- The accuracy of classification into pass/fail status between 10 case vignettes with three extended multiple-choice questions and 20 case vignettes with one extended multiple-choice question was consistently above 80%, which was expected due to changes in the exam format, and is acceptable classification reliability.

Based on the results of these analyses, and our previous success in reducing the Part I and Part II exam, we are confident that the proposed changes will only add to the exam reliability and integrity.

Questions?

Visit the Part IV Advancement and Development project website here:
www.nbce.org/pad

Submit your feedback about the proposed changes to the Part III and Part IV exam by **May 24th**. *A link to the comment section can be found on the project website.*

Part IV Advancement and Development

For the Part IV Advancement and Development – Updates Page, please visit: https://www.nbce.org/pad-updates/

For the Part IV Advancement and Development – Research Conducted Page, please visit: https://www.nbce.org/pad-research

To provide specific suggestions, questions, comments, concerns, or support regarding proposed changes to the Part III and Part IV Exams, please submit your anonymous feedback here: https://www.nbce.org/part-iv-project-feedback/

Developments in Objective Structured Clinical Examinations (OSCE) have prompted us to evaluate updating the Part IV exam. Through researching other testing organizations we believe we can leverage advancements in OSCEs to produce a more efficient exam, while maintaining exam reliability and validity.

Join Our Mailing List to Stay Up-To-Date on Project Milestones

Thank you for your time!