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# **Examination of Cosmetology Licensing Issues**

## **Data Report**

**American Institutes for Research**  
1000 Thomas Jefferson St., NW  
Washington, D.C. 20007

# **Examination of Cosmetology Licensing Issues Data Report**

**Revised August 2016**

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## EXECUTIVE SUMMARY

As a type of occupational regulation, licensure is intended to protect the public by ensuring that practitioners possess the required knowledge and skills to safely perform their craft (Cox & Foster, 1990). Unlike certifications, licensing requirements are set and managed at the state-level, and without a license a professional cannot legally practice. A national post-election study in 2012 showed that 94 percent of the voting public supports licensing in the cosmetology industry, and a vast majority of the voting population believes that if states were to stop license requirements, then safety (82%) and quality (76%) would decline (Professional Beauty Association, 2013). Given the nature of the job activities, tools, and working environment, ensuring that beauty professionals are knowledgeable about techniques such as proper disinfection and handling of chemicals makes for safe practice and consumer protection.

Despite this support for licensing in the cosmetology industry, there is growing opposition to occupational licensing for many jobs, with some opponents questioning whether licensing is structured in a way that best serves the interests of both beauty professionals and consumers. Media reports and claims made by organizations such as the Goldwater Institute (Slivinski, 2015), the Institute for Justice (Carpenter, Knepper, Erickson, & Ross, 2012), and the American Enterprise Institute (Pethokoukis, 2014) suggest that occupational licensing is unnecessary and places an excessive burden on the general public. The Hamilton Project (Kearney, Hershbein, & Boddy, 2015) has specifically questioned the extensiveness of licensing requirements for cosmetologists, barbers, and manicure technicians claiming that they “all face greater average licensing requirements than do EMTs [Emergency Medical Technicians]” (Kearney, Hershbein, & Boddy, 2015). Much of the negativism surrounding licensure, and subsequent calls for deregulation, stems from concerns over disparities across states on licensing requirements such as education hours, scope of practice, license mobility, health and safety, and continuing education (Department of the Treasury Office of Economic Policy, the Council of Economic Advisers, & the Department of Labor, 2015). In his July 10, 2014 open letter, Professional Beauty Association (PBA) Executive Director Steve Sleeper argued that “the vast disparity among state licensing requirements will leave [the beauty] industry vulnerable to legislative attacks and the risk of deregulation” (Sleeper, 2014).

This licensure debate is the backdrop for a growing beauty industry, and the need for licensure is likely to lie somewhere between the extremes of the current status quo and advocacy for industry deregulation. The Bureau of Labor Statistics (BLS; 2015) projects a growth of 13% for the cosmetology industry over the time period of 2012-2022. Crucial to the industry’s growth are common, sensible licensing standards that ensure public safety is protected while minimizing barriers to entry and practice in the industry.

### Summary of Methodology

To begin to address this gap in research, AIR sought to:

- Examine the scope of state-level curricula by comparing a sample of states’ curriculum content to that of the licensing exam, and
- Explore the degree to which state differences in curriculum hours and other licensing requirements relate to industry outcomes.

## Summary of Results

Licensing requirements for cosmetologists differ across states not only in the quantity and content of curriculum hours, but also in other criteria such as minimum age and education, physical health, renewal frequency, and continuing education. However, there do not appear to be documented explanations for how each state determines the requirements for licensing and there is little current evidence to establish a link between licensing requirements and industry outcomes of interest. This research presents the results of a preliminary review of licensing requirements and their impact on industry outcomes, the key findings of which are presented below.

### Licensing Requirements

Licensing requirements for cosmetologists differ across states not only in the quantity and content of curriculum hours, but also in other criteria such as minimum age and education, physical health, renewal frequency, and continuing education.

### Curriculum Hour Requirements

The review of curriculum hour requirements provided insight into the specifics of the observed variability in requirements across states. Below are the key findings.

- Total curriculum hours range from 1,000 to 2,300 ( $M = 1,594.1$ ,  $SD = 259.9$ ).
- Two states require an apprenticeship in addition to curriculum hours, while others allow for the completion of an apprenticeship in place of the requirements of curriculum hours ( $n = 22$ ). Given the option of an apprenticeship substitution in some states, it may not always be the case that licensing examinees within a state have completed the curriculum hours reported for that state, making it more difficult to find a relationship between hours and licensing exam performance.
- There are no publically-available documented explanations of how each state assigns and/or revises the number of curriculum hours required for licensing, perhaps because many of these assignments were made several decades ago and have not changed since initial development. However, evidence suggests that factors such as geographical region and neighboring state requirements may have had an effect on curriculum hour assignments.
- Across the sample of states for which curriculum content was reviewed, there was great variation in the level of specificity at which hours were assigned. For example, in the sample of curricula, the number of topics for which hours were assigned ranged from 3 to 24. It may be inferred that states with less specific content outlines allow more freedom to the schools in assigning hours to specific content topics, however it is unclear whether or not these schools would vary greatly on perceived importance and time spent on various content topics. Regardless, a more specific content outline would ensure greater standardization across schools within a state.
- Across the sample of states for which cosmetology curricula were reviewed, hair care and services, scientific concepts, and safety and sanitation were covered by the most hours. However, this should be considered a preliminary finding due to the large variation in content outline specifications reviewed during this research.
- The largest provider of cosmetology licensing exams (i.e., NIC) seems to align the exam outlines with the stated purpose of licensing, focusing only on content that covers the

knowledge and skills required for safe practice at a minimal standard of service. Within the sample of state exam outlines reviewed, NIC and other test providers specified little to no coverage of business and professionalism topics on the licensing exam.

- Across the samples of states for which cosmetology curricula were reviewed, nearly all spent at least 50% of the required curriculum hours on clinical-based rather than theory-based instruction.

### Other Licensing Requirements

The review of licensing requirements highlights inconsistent licensing standards across states beyond curriculum hour requirements, and there were no apparent patterns in the types or magnitude of licensing requirements within each state. Below are the key findings.

- Most states set a minimum age between 16 and 18 years as a requirement for a cosmetology license. Although three states do not set a requirement, the practical effect of having no minimum age requirement for cosmetology licensure may be limited, as there are federal and often state laws that set a minimum age requirement to work.
- Most states have a minimum educational level requirement for licensing, with the majority of states sampled requiring the completion of 10<sup>th</sup> grade or higher. Similar to the minimum age requirement, the lack of education requirement in some states may have a limited impact because federal or state laws may require residents to attend school until a certain age.
- Although not always communicated clearly, some states require medical criteria such as a physical exam or infectious disease testing for licensing. The requirement was likely created to address the importance of safety and sanitation in licensing for the protection of the consumer, but without clearly stating the reason for the requirement and conditions included it may be misconstrued by opponents of licensing as discrimination.
- All states require licenses to be renewed every one to four years, with the most frequent requirement being every two years. Some states require a minimum number of CE credits for each renewal period, but others do not. Of those states that require CE, some specify the topics to be covered (e.g., safety and sanitation, state law, human trafficking).

### Impact of Curriculum Hours on Education Outcomes

This preliminary review revealed correlational relationships between curriculum hours and education outcomes.<sup>1</sup> Below are the key findings.

#### School Program Length

- The state-level school program lengths range from 9.1 to 15.6 months, with an average of 13.0 ( $SD = 2.3$ ).
  - There is a strong positive and significant relationship between the total number of curriculum hours and the school program length in months, which suggests that students in states with a higher curriculum hour requirements experience a longer timeline from enrollment to completion of hours, and vice versa.

<sup>1</sup> These relationships are correlational in nature, and causation cannot be implied.

## Graduation

- For NACCAS-accredited schools, the state-level graduation rates range from 55% to 86%, with an average of nearly 70%.
  - Although there is variability in graduation rates across states, there is no evidence of a relationship between total curriculum hours and graduation rate for NACCAS-accredited schools.

## Licensing Exam Performance

- In the sample of states that administer the NIC *written* exam, pass rates range from 66% to 100%. In the sample of states that use the NIC *practical* exam, pass rates range from 82% to 100%. For a sample of states that use *both* NIC exam sections, the average pass rates are consistently higher for practical than for written, and the difference is statistically significant. Correlational analyses were not conducted for the NIC data set because of there was a lack of available data for states with curriculum requirements below the median (i.e., 1,500).
- State-level *overall* pass rates for NACCAS-accredited schools (data were not broken down by written and practical exam sections) ranged from 86% to 100%.
  - Correlational analyses revealed that for NACCAS-accredited schools, there is no apparent relationship between the total number of curriculum hours and overall exam pass rates. This finding may be due, in part, to the small range of variability in overall pass rates for this sample.

## Job Placement

- For NACCAS-accredited schools, there is a positive and significant relationship between the total number of curriculum hours and job placement rates.

## Student Financial Stability

- Tuition expenses range from about \$12,250 to \$ 19,250 with an average of \$14,611.2 ( $SD = \$2,300.4$ ). Expenses for books/supplies range from about \$1,100 to \$2,275 with an average of \$1,700.5 ( $SD = \$385.4$ ).
  - There is a positive and significant relationship between total curriculum hours and expenses for tuition as well as books and supplies.
- The state-level cohort default rates range from 8.5% to 28.8%, with an average of 17.1%.
  - Although there is variability in cohort default rates across states, there is no evidence of a relationship between total curriculum hours and cohort default rate for this sample of Title IV cosmetology programs.
- Median Title IV funding ranges from about \$7,000 to \$14,750, with an average of \$9,532.8 ( $SD = \$2,691.4$ ).
  - There is a positive and significant relationship between the total number of curriculum hours and the median federal loan amount.
- Pell Grant award amounts for one year range from about \$4,000 to \$4,750, with an average of \$4,360.8 ( $SD = \$179.7$ ). To extrapolate the Pell Grant amount for the full curriculum hour requirement, a multiplier was applied to the data (e.g., programs with 1,800 hours were given a multiplier of two). For a full program, award amounts range from about \$4,750 to \$10,750, with an average of \$7,316.9 ( $SD = \$2,158.6$ ).
  - Correlational analyses revealed that there is no apparent relationship between the total number of curriculum hours and Pell Grant award amounts for one year.

This finding may be due, in part, to the small range of variability for Pell Grant award amounts for this sample.

- o A correlational analysis was precluded for Pell Grant amounts for a full program because curriculum hours were used to create this variable; however, there is a clear upward trend in this variable such that as total curriculum hours increase, Pell Grant amounts for a full program also increase.

### School Financial Stability

Two metrics of school financial stability were analyzed for this research, both obtained from NACCAS: the percent of compliant schools in a state and the average financial composite score.

- For NACCAS-accredited schools, financial compliance rates range from 88% to 100%, with an average of 95.3%, and average composite scores range from 1.8 (just above the financial compliance cut-off of 1.5) to 2.6, with an average of 2.1.
  - o There is a relatively small amount of variance for both variables in the sample that was analyzed, and there is no evidence of a relationship between curriculum hours and these variables for this sample of NACCAS-accredited schools.

### Impact of Curriculum Hours on Employment Outcomes

This preliminary review revealed potential trends in the relationship between curriculum hours and employment outcomes. However, there are extensive limitations in the available employment data for the cosmetology profession, and it is recommended that this analysis be further examined with more complete and systematically-collected data. Below are the key findings.

#### Employment Rates

- The state-level employment rates range from 1.1 to 4.2 per 1,000 jobs, with an average of 2.4 ( $SD = 0.8$ ).
  - o There is a strong negative and significant relationship between the total number of curriculum hours and employment rates.

#### Wages

- The state-level mean hourly wage amounts range from \$11.3 to \$19.5, with an average of \$13.7.
  - o Although there is variability in mean hourly wage across states, there is no evidence of a relationship between total curriculum hours and wages.

#### Career Tenure

- There are insufficient data on career tenure to explore the impact that curriculum hours may have on this employment outcome. Should the data be collected, they may provide insight into whether students in states with a higher number of curriculum hours have a more realistic preview of the job, and are therefore better prepared to succeed in a career in the field.

### Impact of Other Licensing Requirements on Employment Outcomes

- There are no significant relationships between other licensing requirements (e.g., CE credits, length of renewal period) and the employment outcomes examined in this research.

### **Impact of Curriculum Hours on Safety Outcomes**

This preliminary review of the relationship between licensing requirements and safety outcomes was inconclusive due to the extensive limitations in the available safety data for the cosmetology profession. Given that the primary purpose of licensure for cosmetologists is to ensure the safety of the consumers receiving services, it is recommended that this analysis be further examined with more complete and systematically-collected data.

# CHAPTER 1: LICENSING REQUIREMENTS

Licensing requirements for cosmetologists differ across states not only in the quantity and content of curriculum hours, but also in other criteria such as minimum age and education, physical health, renewal frequency, and continuing education. In this section, a review of licensing requirements and observed trends are presented. A comprehensive list of licensing requirements for each state is included in Appendix A: State-Level Data.

## 1.1 Curriculum Hour Requirements

It is widely known that cosmetology curriculum hours vary greatly by state, but less is known about why this variation exists. For example, do states with a lower total number of hours cover less content, or do they cover the same content but spend less time on certain topics? Through a preliminary review, three predominant variations emerged: (1) the total number of hours of required instruction; (2) the specificity of state curriculum outlines and number of hours assigned to each topic; and (3) the distinction between theory and clinical hours. Additionally, depending on the types of licenses offered in each state, some cosmetology curriculum outlines do not cover services that may be regulated by another license in the state (e.g., nails, esthetics, chemical services). However, the focus of the current study and recommendations was on full-practice cosmetology (including hair, nails, and skin).

To obtain a greater understanding of the differences in curricula across states, AIR first reviewed the total number of curriculum hours required across states, then qualitatively coded and compared a sample of state curricula. A description of the methodology can be found in Appendix B: Additional Methodology. The next sections present the results from a review of total curriculum hour requirements, requirements by topic, and the distinction between theory and clinical hours.

### Total Curriculum Hours

AIR gathered the total number of curriculum hours required in each of the United States and Washington, D.C., and a summary of hours is presented in Exhibit 1.

#### Exhibit 1. Summary of Total Curriculum Hours

	n	Minimum	Maximum	Median	M	SD
Full Sample	51	1,000	2,300	1,500	1,594.1	259.9
Trimmed <sup>*</sup>	48	1,200	2,100	1,500	1,604.2	214.8
Weighted <sup>**</sup>	51	--	--	--	1,449.8	--

**Note:** n = sample size; M = mean; SD = standard deviation.

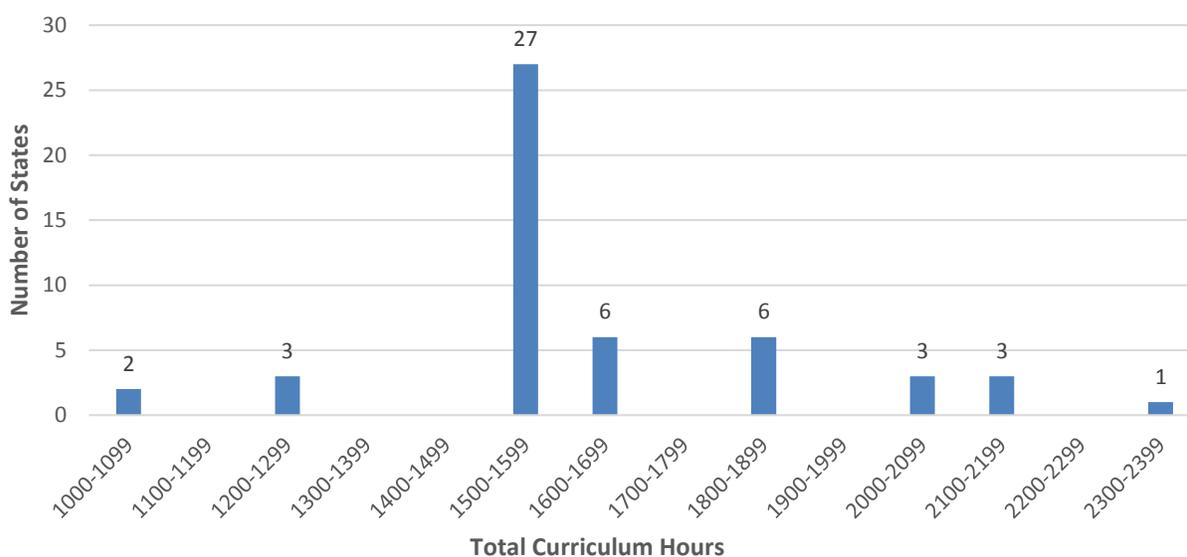
<sup>\*</sup>For the trimmed sample, states were removed that had curriculum hour requirements greater than two standard deviations from the mean ( $1594.1 \pm 259.9 \times 2$ ).

<sup>\*\*</sup>To account for the large variation in the total occupational employment<sup>2</sup> across states, a weighted average was calculated such that states with higher employment carried greater weight in the average. The weighted average was computed as follows:  $[\sum(\# \text{ state hours} \times \text{state cosmetology employment})] / [\sum(\text{state cosmetology employment})]$ .

<sup>2</sup> Data on estimated total occupational employment (not including self-employed) was gathered from the Bureau of Labor Statistics (BLS, 2016). A more in-depth analysis of employment is presented later in this report.

Across states, the total number of curriculum hours required ranged from 1,000 to 2,300<sup>3</sup>, and the average total hours was 1,594.1. The standard deviation indicates a wide dispersion of curriculum hours across the range, rather than only a few outliers at the minimum and maximum. This is further illustrated in Exhibit 2, which displays the frequency distribution for total curriculum hours across the range for cosmetology.

### Exhibit 2. Frequency of Total Curriculum Hours



The majority of states have total curriculum hour requirements in the 1,500-1,599 hour range, with an average of 1,594.1 for all states. When a small number of outliers were removed for the trimmed sample, the average was larger ( $M = 1,604.2$ ,  $n = 48$ ). However, the weighted average ( $M = 1,449.8$ ,  $n = 51$ ) that was calculated to account for variations in total occupational employment across states was slightly lower than both the full and trimmed means.

### Apprenticeship Model

Some states require an apprenticeship in addition to curriculum hours ( $n = 2$ ), while others allow for the completion of an apprenticeship in place of the requirements of curriculum hours ( $n = 22$ ). Given the option of an apprenticeship substitution in some states, it cannot be guaranteed that licensing examinees within a state have obtained the stated curriculum hours for that state, which is a limitation for many analyses in this report. A summary of apprenticeship models is presented in Exhibit 3.

<sup>3</sup> The maximum number of hours required by any state to obtain a cosmetology license may be interpreted by some as 2,100. This is because the state that requires 2,300 hours (i.e., Oregon) does so because it does not have an umbrella cosmetology license, therefore each *cosmetology* candidate must obtain three separate licenses (i.e., esthetics, hair design, and nail technology) to become a full-practice cosmetologist, for a total of 2,300 hours ([http://www.oregon.gov/OHLA/COS/Pages/how\\_to\\_get\\_licensed.aspx#Examinations](http://www.oregon.gov/OHLA/COS/Pages/how_to_get_licensed.aspx#Examinations)).

**Exhibit 3. Summary of Apprenticeship Models**

		n	Minimum	Maximum	Median	M	SD
Apprenticeship in Addition to Curriculum Hours	Required (Months)	2	6	24	15	15.0	12.7
	Not Required	49	--	--	--	--	--
Apprenticeship as a Replacement for Curriculum Hours	Permitted (Hours)	22	1,500*	4,000*	3,000*	2,841.2*	694.7*
	Not Permitted	28	--	--	--	--	--

**Note:** n = sample size; M = mean; SD = standard deviation.

\*Several states that allow apprenticeships as replacements did not state the requirement in hours (n = 5), therefore were excluded from the calculations in this table. Calculations are based on a sample size of 17.

Among the states sampled, the length of required apprenticeships ranged from 6 months to 2 years, and the length of apprenticeship substitutions ranged from 1,500 to 4,000 hours. In states where a substitution was allowed, the exact details of the apprenticeship varied, such as a need for pre-approval by the board or only allowing partial curriculum hour substitutions for the apprenticeship. Given the option of an apprenticeship substitution in some states, it may not always be the case that licensing examinees within a state have completed the curriculum hours reported for that state, making it more difficult to find a relationship between hours and licensing exam performance.

**Evidence for How Hours are Assigned**

There do not appear to be documented explanations for how each state assigns the total number of curriculum hours required (whether through a review of curricula, analysis of training effects on outcomes, or another approach), or whether the number is subject to periodic review and revision. When asked the question via survey (i.e., “How was the number of curriculum hours decided upon for your state?”), the majority of subject matter experts (SMEs) were unable to answer specifically (n = 10) although some were able to provide details. Responses are summarized in Exhibit 4.

**Exhibit 4. Summary of Rationale for Deciding the Total Number of Curriculum Hours<sup>4</sup>**

Response	n
Unable to answer	10
Set by another governing body	2
Set with consideration of the agreed-upon curriculum outline	1
Recently adjusted with consideration of neighboring states' requirements and school opinion	1

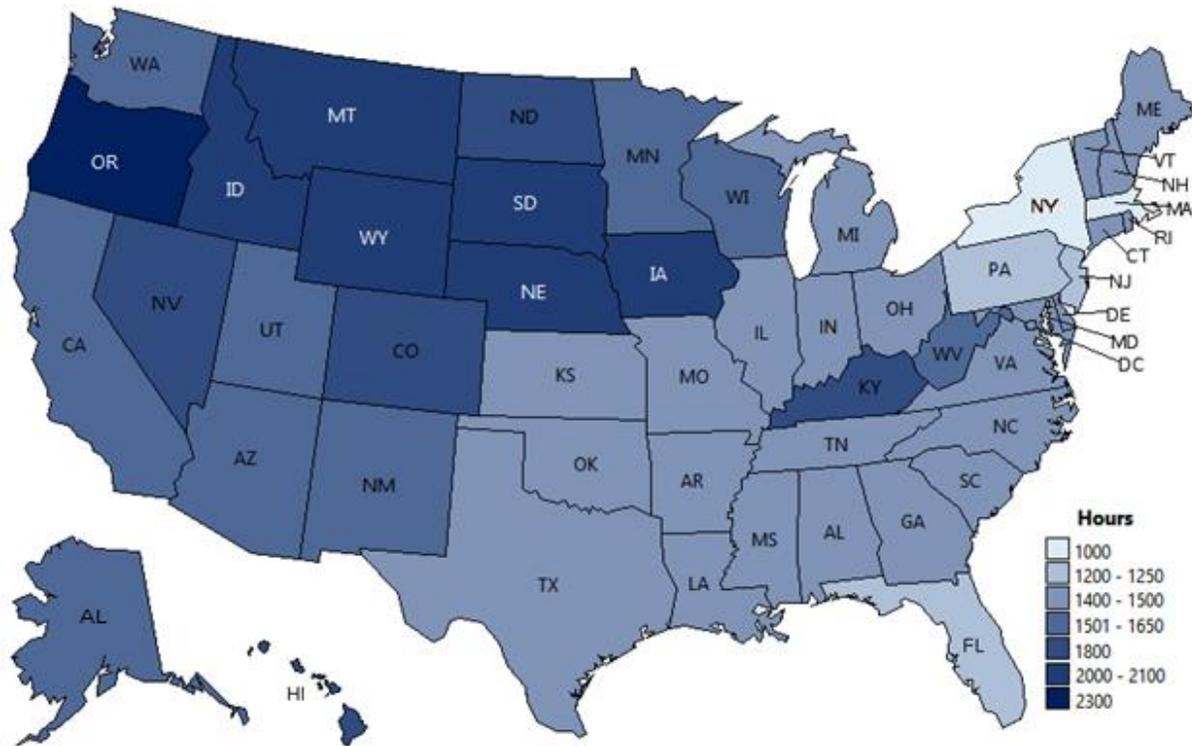
**Note:** n = sample size.

<sup>4</sup> Source: National State Board Administrator Survey administered by AIR.

## Regional Effects

To explore the possibility that there may be a regional effect for curriculum hours, a United States map is presented in Exhibit 5 with a color gradient indicating the total number of hours required for cosmetology licensure.

**Exhibit 5. United States Map of Total Curriculum Hours<sup>5</sup>**



The cosmetology curriculum hour requirements as illustrated in Exhibit 5 reveal a trend of a relatively large number of total curriculum hours required in Oregon and the Midwestern and north central states (e.g., Montana, Idaho, Wyoming, South Dakota, Nebraska, Iowa), and the lowest requirements in the northeast (e.g., New York, Massachusetts, New Jersey, Pennsylvania) and Florida. This provides initial support for the survey response indicating that state requirements may be set in part to align with those of neighboring states. This may be due to an effort to reduce the re-licensing burden on practitioners who choose to relocate to nearby states.

## Curriculum Hours by Topic

AIR reviewed the curriculum outlines for a subset of states to explore how the differences in total curriculum hours manifested in the content breakdowns to determine whether states with lower hour requirements cover less content overall or the same content in less time. The sample

<sup>5</sup> Map created by AIR.

included in this analysis, containing 11 states chosen to be representative of the total curriculum hours for all states and Washington, D.C., is summarized in Exhibit 6.

**Exhibit 6. Summary of State Curriculum Samples**

	n	Minimum	Maximum	Median	M	SD
Total Curriculum Hours	11	1,000	2,100	1,800	1,645.5	388.2
Number of Subjects	11	3	24	8	9.5	6.0

**Note:** n = sample size; M = mean; SD = standard deviation.

Similar to the total number of curriculum hours, there is a wide range of variability at which hour assignments are made to subjects (i.e., number of subjects). The number of subjects ranges from 3 to 24 (M = 9.5, SD = 6.0). It may be inferred that states with less specific content outlines allow more freedom to the schools in assigning hours to specific content topics, however it is unclear whether or not these schools would vary greatly on perceived importance and time spent on various content topics. Regardless, a more specific content outline would ensure greater standardization across schools within a state.

AIR reviewed the curriculum outlines for each of the sample states, and created a standardized content outline that could be used to summarize all states’ curricula and provide a means for comparison across states. The content outline developed and applied for the coding is shown in Exhibit 7, and definitions of each topic and sub-topic are included in Appendix B: Additional Methodology.

**Exhibit 7. Curriculum Outline for Comparison across States**

Safety & Sanitation	Business & Professionalism	Legal Issues	Scientific Concepts
<ul style="list-style-type: none"> <li>• Cleanliness &amp; Sanitation of Tools &amp; Workspaces</li> <li>• Safe Use &amp; Handling of Tools</li> <li>• Safe Use &amp; Handling of Chemicals</li> <li>• Consumer Preparation/Protection</li> <li>• Personal Hygiene</li> </ul>	<ul style="list-style-type: none"> <li>• Communication Skills</li> <li>• Ethics</li> <li>• Professionalism</li> <li>• Reception Desk/Dispensary</li> <li>• Sales</li> <li>• Salon Operation and Management</li> </ul>	<ul style="list-style-type: none"> <li>• State and Federal Law</li> </ul>	<ul style="list-style-type: none"> <li>• Anatomy and Physiology</li> <li>• Biology</li> <li>• Chemistry</li> <li>• Electricity</li> <li>• Trichology</li> </ul>
Hair Care & Services	Nail Care & Services	Skin Care & Services	Other
<ul style="list-style-type: none"> <li>• Consultation</li> <li>• Hair Coloring</li> <li>• Hair Cutting and Shaping</li> <li>• Hair Shampooing, Rinsing, and Treatments</li> <li>• Chemical Hair Styling</li> <li>• Non-Chemical Hair Styling</li> <li>• Electricity and Light Therapy for Scalp</li> </ul>	<ul style="list-style-type: none"> <li>• Consultation</li> <li>• Manicure/ Pedicure</li> </ul>	<ul style="list-style-type: none"> <li>• Consultation</li> <li>• Body Hair Removal</li> <li>• Facial Hair Care</li> <li>• Facials</li> <li>• Makeup Application</li> <li>• Electricity and Light Therapy for Skin</li> </ul>	<ul style="list-style-type: none"> <li>• Unassigned</li> <li>• Other</li> </ul>

To explore the relationship between total curriculum hours and the topics covered, AIR examined the estimated number and percentage of hours spent on each of the topics, and the results are presented below.

Exhibit 8 displays the estimated number of hours spent on each topic, and Exhibit 9 illustrates the relative hours spent on each topic as a percentage of the total number of hours in each state. For this analysis, it should be noted that the specificity of each content outline severely limits the accuracy of these estimates. For example, safety and sanitation may be covered when each procedure is taught and practiced (e.g., under each service category), however, if it was not specifically mentioned in the outline it was not coded. To avoid making assumptions about the exclusion of any of the above topics (which are all likely covered at some point in every state curriculum), topics that were not mentioned were coded as missing data (“--”) rather than 0 hours of coverage.

#### Exhibit 8. Estimated Number of Hours Spent on Curriculum Topics

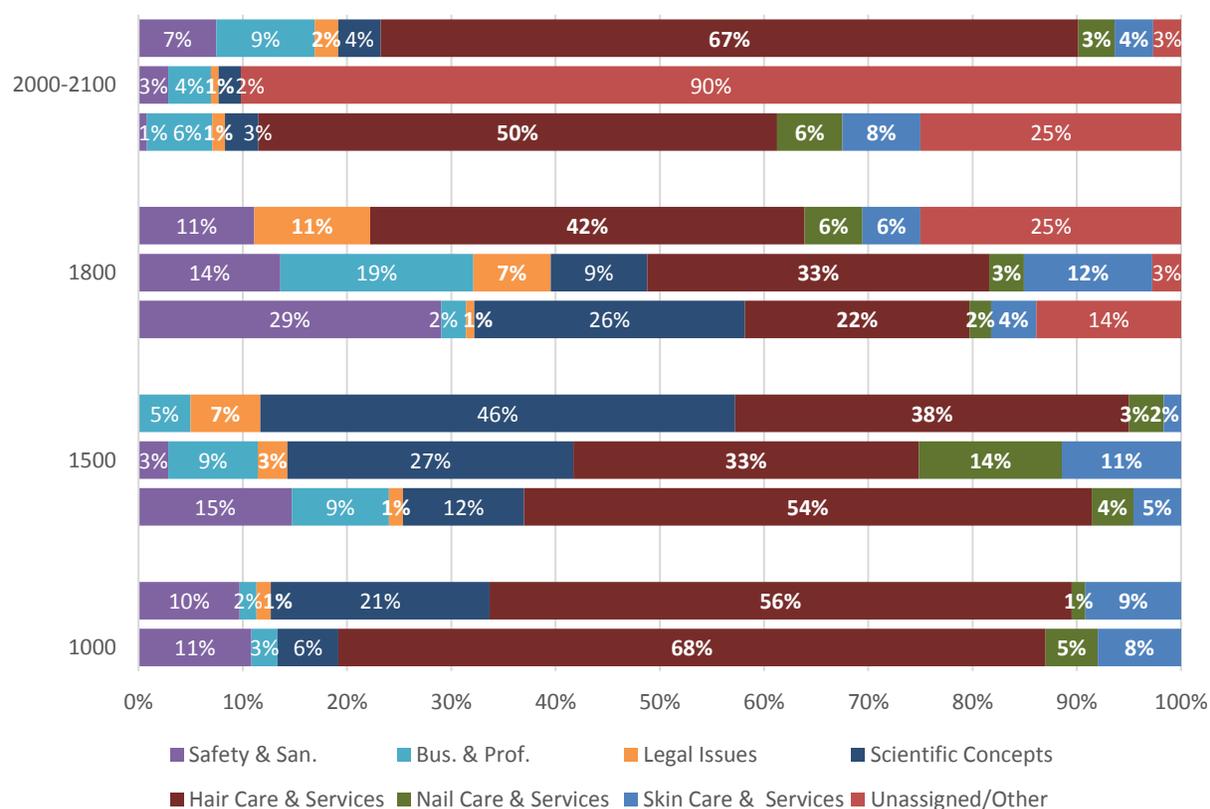
State	Total Curric. Hours	Safety & San.	Bus. & Prof.	Legal Issues	Scientific Concepts	Hair Care & Services	Nail Care & Services	Skin Care & Services	Un-assigned/ Other
Massachusetts	1,000	108	25	--	58	678	50	80	0
New York	1,000	97	16	14	210	558	13	92	0
Ohio	1,500	220	140	20	174	817	60	69	0
Tennessee	1,500	43	129	43	411	497	206	171	0
Texas	1,500	--	75	100	683	567	50	25	0
Hawaii	1,800	522	43	14	468	388	38	78	250
Kentucky	1,800	245	333	133	167	591	60	221	50
North Dakota	1,800	200	--	200	--	750	100	100	450
Montana	2,000	16	125	25	64	995	125	150	500
Iowa	2,100	60	86	15	45	--	--	--	1,894
Nebraska	2,100	157	198	48	86	1,405	73	78	56
Min		16	16	14	45	388	13	25	0
Max		522	333	200	683	1,405	206	221	1,894
Mean		166.9	117.0	61.2	236.6	724.6	77.4	106.4	290.9
SD		147.0	94.8	63.3	214.5	295.0	54.8	57.7	563.7

**Note:** Safety & San. = Safety & Sanitation; Bus. & Prof. = Business & Professionalism. Dashes (--) indicate subject was not covered.

Nearly all states in the sample ( $n = 8$  of 11) spent the most hours on hair care and services ( $M = 724.6$ ), and second most on scientific concepts ( $M = 236.6$ ). The topics with the lowest coverage were legal issues, nail care and services, and skin care and services ( $M = 61.2$ ,  $77.4$ , and  $106.4$ , respectively). A negligible number of hours were assigned as “other,” but included topics such as “oral, written, and practical tests.” In this chart, it is also apparent that states with a higher number of total curriculum hours more often included some number of unassigned hours, however, there is no observed trend for how many unassigned hours are included. Specifically, every state in the sample that requires 1,800 or more total curriculum hours ( $n = 6$ ) included unassigned hours ranging from 50 to 1,894 hours, with an average of 533.3 ( $M = 290.9$  overall). In some cases, unassigned hours are used by states that have a low number of subjects at which

hours are assigned to compensate for the lack of specificity. Other states may use unassigned hours to allow for students to gain additional training as needed. It is difficult to determine what effect unassigned hours would have on learning outcomes, because these hours could cover any or all of the coded topics. This complication further limits the accuracy of these estimates for any of the curriculum topics because it cannot be assumed that the estimates for each curriculum topic reflect the final coverage by schools in the state – they are only estimates of the *required* coverage as mandated by the state. It may be more useful to focus on the relative estimates across curriculum topics, because higher numbers indicate a higher occurrence of key words in the outline, which may be inferred as heightened importance of that topic. To illustrate this relative comparison, estimated percentages of total hours spent on curriculum topics are presented in Exhibit 9.

**Exhibit 9. Estimated Percentage of Total Hours Spent on Curriculum Topics**



**Note:** Safety & San. = Safety & Sanitation; Bus. & Prof. = Business & Professionalism.

As with Exhibit 8, this exhibit illustrates the importance of hair care and services for cosmetology curricula and the use of unassigned hours in states with 1,800 or more hours. Further, a larger percentage of unassigned hours was often paired with a lower number of hours on another topic (e.g., 90% unassigned hours in one state corresponded with 0% hours spent on hair, nail, and skin care and services). This exhibit also shows that states with a higher number of total curriculum hours tended to include a higher percentage of business and professionalism topics. The lower percentage of any topics (e.g., safety and sanitation, legal issues, scientific concepts) should not necessarily be interpreted as a lack of importance, and may be due to lack

of specificity in the outline or a higher percentage of unassigned hours. Although useful, these observations should be considered preliminary because these percentages are very rough estimates, and the sample size was not large enough to determine statistical significance of these differences.

### **Curriculum Hours as Compared with Licensing Exam Content**

The purpose of licensing is to protect the public by ensuring that practitioners possess the required knowledge and skills to safely perform their craft (Cox & Foster, 1990). Given this, the content covered on licensing exams should only assess whether a candidate has the knowledge and skills required for safe practice at a minimal standard of service. Achievement of additional or more advanced knowledge and skills should not be assessed or regulated by licensing bodies, but instead fall under the domain of voluntary certification or credentialing.

There are a number of licensing exam creators and providers within the cosmetology industry, the most prominent of which is The National-Interstate Council of State Boards of Cosmetology (NIC). While most states use a third party test provider (such as NIC), some states elect to create and administer their own tests.

For most exam outlines, there was extremely limited information on the name of the test developer and usually no information on how an outline was conceived. A few outlines mentioned the use of SMEs to develop the outline and relative scoring weight of sections, however detailed methodology was usually not available. One exception was NIC, for which AIR obtained and reviewed a report detailing the development process. The process followed by NIC aligned with the stated purpose of licensing exams, focusing only on content that covers the knowledge and skills required for safe practice at a minimal standard of service. Task importance ratings were used to determine the relative scoring weights for each topic included on the outlines.

To explore how curriculum hour requirements mapped onto exam content, AIR gathered and coded several exam outlines from different test developers (NIC and non-NIC) and the results are presented in Exhibit 10. It was not always possible to identify the test developer when it was not NIC, therefore generic exam provider names are used for non-NIC tests. There was no observed relationship between the number of curriculum hours and the content covered on the licensing exam, therefore no discussion is presented for this exploration.

## Exhibit 10. Summary of Written and Practical Exam Outlines

State	Exam Provider	Total Curric. Hours	Safety & San.	Bus. & Prof.	Legal Issues	Scientific Concepts	Hair Care & Services	Nail Care & Services	Skin Care & Services
<i>Written Exam</i>									
Massachusetts	--	1,000	25%-35%	X	0%	4%-10%	55%-81%	4%-8%	4%-8%
New York	--	1,000	--	--	--	--	--	--	--
Ohio	--	1,500	25%	0%	0%	25%	30%	10%	10%
Tennessee	--	1,500	20%	X	10%	X	56%	7%	7%
Texas	--	1,500	24%	X	8%	X	53%	8%	7%
Hawaii	--	1,800	15%	X	10%	10%-35%	40-65%	1-25%	1-25%
Kentucky	--	1,800	--	--	--	--	--	--	--
North Dakota	--	1,800	--	--	--	--	--	--	--
Montana	NIC	2,000	X	0%	X	30%	40%	15%	15%
Iowa	NIC	2,100	X	0%	X	30%	40%	15%	15%
Nebraska	--	2,100	--	--	--	--	--	--	--
<i>Practical Exam</i>									
Massachusetts		1,000	X	0%	0%	0%	X	X	X
New York		1,000	X	0%	0%	0%	X	X	X
Ohio		1,500	X	0%	0%	0%	X	X	X
Tennessee		1,500	41%	0%	0%	0%	59%	0%	0%
Texas		1,500	X	0%	0%	0%	X	X	X
Hawaii		1,800	--	--	--	--	--	--	--
Kentucky		1,800	X	0%	0%	0%	X	X	X
North Dakota		1,800	X	0%	0%	0%	X	0%	0%
Montana	NIC	2,000	X	0%	0%	0%	X	X	X
Iowa	NIC	2,100	X	0%	0%	0%	X	X	X
Nebraska	N/A	2,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Coverage: Written			7/7	4/7	5/7	7/7	7/7	7/7	7/7
Total Coverage: Practical			9/9	0/9	0/9	0/9	7/9	7/9	7/9

**Note:** Safety & San. = Safety & Sanitation; Bus. & Prof. = Business & Professionalism. N/A indicates no practical exam in that state. X indicates the topic was covered but was not broken out in such a way to determine a percentage of coverage. Dashes (--) indicate missing data.

The most important observation in Exhibit 10 is the lack of coverage of business and professionalism subtopics on cosmetology written or practical exams in any state. When covered, it was usually the subtopics of ethics, communication with consumers, or shop management, and these were always nested within another section and therefore no coverage percentage could be determined. Based on these data, it was expected that the cosmetology curriculum hours as regulated by state licensing boards would have minimal hours devoted to business and professionalism. However, this is not what was observed in this sample of cosmetology curriculum outlines, which required between 16 and 333 estimated hours for business and professionalism topics ( $M = 117.0$ ).

Whereas there was some variability in the topics and services covered and relative importance of each for the written exams, the practical exams for cosmetology appear fairly standardized across states in terms of the topics and services covered. Specifically, nearly all cosmetology practical exams in the sample covered safety and sanitation, hair care and services, nail care and services, and skin care and services, while none in the sample covered business and professionalism, legal issues, or scientific concepts. Relative importance or weighting of each topic was not usually specified for the practical exam.

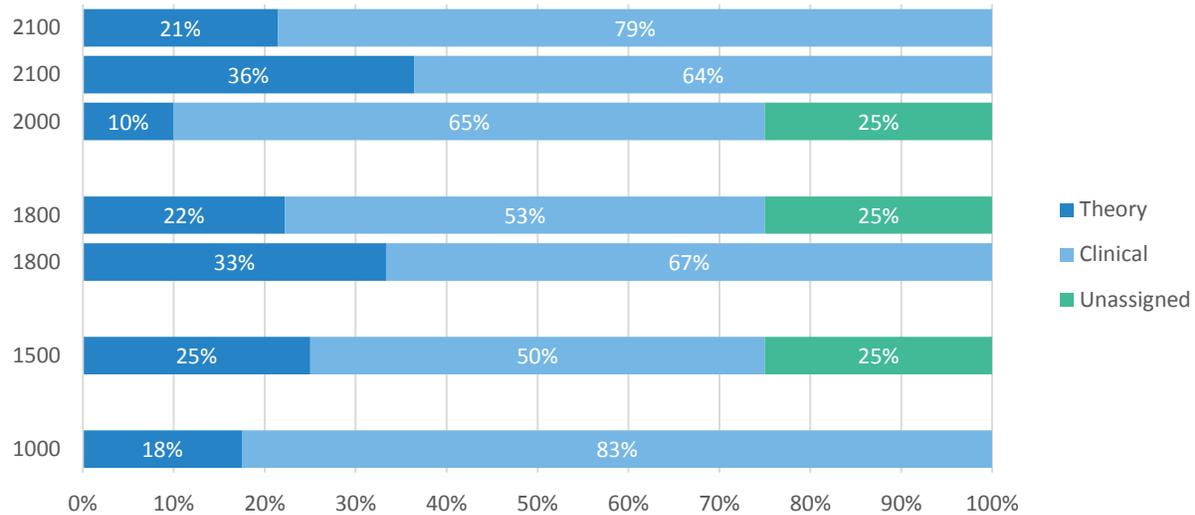
Although the content outlines of exams across states are presented together in this section, there was insufficient evidence to demonstrate equivalence of the exams developed by different test administrators in terms of content weighting or difficulty. Many of the test developers cited the use of SMEs when developing the outline and the relative weighting, however, there is not currently a means by which the content and difficulty of written sections can be compared across the different tests. Furthermore, the practical exam requires the use of expert raters, and cannot be considered equivalent without standardized rater training and widespread implementation of a single objective rating system such as a behaviorally anchored rating scale (BARS).<sup>6</sup> AIR collected anecdotal evidence from cosmetology SMEs that many practical exam raters tend to rate leniently, reluctant to fail examinees due to the face-to-face setting of the practical exam.

### **Theory and Clinical Hours**

Some states specify a certain number of theory-based (i.e., classroom) hours of instruction versus clinical-based hours of instruction, whereas other states do not make this distinction. A sample of states that explicitly stated the number of hours devoted to either theory or practical components were coded (n = 7) and the results are illustrated in Exhibit 11.

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<sup>6</sup> Behaviorally anchored rating scales (BARS) are those that add behavioral scale anchors to a quantified rating scale, and are often used to rate performance. Although ratings using BARS may still contain bias, they are shown to be more reliable than other performance appraisal methods (Schwab, Heneman, & Decotiis, 1975; Kingstrom & Bass, 1981).

**Exhibit 11. Percentage of Total Hours Spent on Theory and Clinical Hours**

All states ( $n = 7$  out of 7) spent at least half of their curriculum hours on clinical rather than theory instruction ( $M = 65.1\%$ ).

**Conclusions**

The review of curriculum hour requirements presented in this section provided insight into the specifics of the observed variability in requirements across states. The key findings of this research are as follows:

**Total Curriculum Hours**

- Total curriculum hours range from 1,000 to 2,300 ( $M = 1,594.1$ ,  $SD = 259.9$ ).
- Two states require an apprenticeship in addition to curriculum hours, while others allow for the completion of an apprenticeship in place of the requirements of curriculum hours ( $n = 22$ ). Given the option of an apprenticeship substitution in some states, it may not always be the case that licensing examinees within a state have completed the curriculum hours reported for that state, making it more difficult to find a relationship between hours and licensing exam performance.
- There are no publically-available documented explanations of how each state assigns and/or revises the number of curriculum hours required for licensing, perhaps because many of these assignments were made several decades ago and have not changed since initial development. However, evidence suggests that factors such as geographical region and neighboring state requirements may have had an effect on curriculum hour assignments.

**Curriculum Hours by Topic**

- Across the sample of states for which curriculum content was reviewed, there was great variation in the level of specificity at which hours were assigned. For example, in the sample of curricula, the number of topics for which hours were assigned ranged from 3 to 24. It may be inferred that states with less specific content outlines allow more freedom to the schools in assigning hours to specific content topics, however it is unclear whether or not these schools would vary greatly on perceived importance and time spent on

various content topics. Regardless, a more specific content outline would ensure greater standardization across schools within a state.

- Across the sample of states for which cosmetology curricula were reviewed, hair care and services, scientific concepts, and safety and sanitation were covered by the most hours. However, this should be considered a preliminary finding due to the large variation in content outline specifications reviewed during this research.
- The largest provider of cosmetology licensing exams (i.e., NIC) seems to align the exam outlines with the stated purpose of licensing, focusing only on content that covers the knowledge and skills required for safe practice at a minimal standard of service. Within the sample of state exam outlines reviewed, NIC and other test providers specified little to no coverage of business and professionalism topics on the licensing exam.

### Theory and Clinical Hours

- Across the samples of states for which cosmetology curricula were reviewed, nearly all spent at least 50% of the required curriculum hours on clinical-based rather than theory-based instruction.

## 1.2 Other Licensing Requirements

Just as it is important to evaluate the required coursework for licensing, it is also crucial to examine other licensing requirements to verify that they are adequate, but not excessive or irrelevant, for ensuring the qualifications of the licensed population. Along with the curriculum hour and exam requirements to become a licensed cosmetologist, most states have additional requirements to be eligible for licensure, such as a minimum age or education level prior to cosmetology school. A summary of these other requirements is provided below.

### Minimum Age and Educational Level

A summary of requirements for minimum age and educational level are presented in Exhibit 12.

#### Exhibit 12. Summary of Minimum Age and Educational Level Requirements

	n	%
<b>Minimum Age</b>	<b>40</b>	
None Specified	3	7.5
16 Years Old	10	25.0
16.5 Years Old	1	2.5
17 Years Old	18	42.5
18 Years Old	9	22.5
<b>Minimum Educational Level</b>	<b>42</b>	
None Specified	3	7.1
8th Grade	2	4.8
9th Grade	2	4.8
10th Grade	16	38.1
12th Grade or GED	19	45.2

**Note:** n = sample size.

Most states set a minimum age between 16 and 18 years as a requirement for a cosmetology license (n = 37). Although three states do not set a requirement, the practical effect of having no minimum age requirement for cosmetology licensure may be limited, as there are federal and often state laws that set a minimum age requirement to work.

Most states have a minimum educational level requirement for licensing ( $n = 39$ ), with the majority of states sampled requiring the completion of 10<sup>th</sup> grade or higher. Similar to the minimum age requirement, the lack of education requirement in some states may have a limited impact because federal or state laws may require residents to attend school until a certain age. These results do not present an immediate concern in terms of inconsistent requirements being a barrier to entry into the field of cosmetology.

## Medical Exams

Although not always communicated clearly, one state requires medical criteria such as a physical exam or infectious disease testing for licensing. However, AIR collected anecdotal evidence from cosmetology SMEs that this requirement may not be enforced in this state. The requirement was likely created to address the importance of safety and sanitation in licensing for the protection of the consumer, but without clearly stating the reason for the requirement and conditions included it may be misconstrued by opponents of licensing as discrimination. If this type of requirement is to be retained in state licensing regulations, AIR recommends that it be standardized across states and documented as job-related so that it is legally defensible.

## License Renewal and Continuing Education

All states require licenses to be renewed every one to four years, with the most frequent requirement being every two years ( $n = 37$ ). For each renewal period, some states require a minimum number of completed hours of continuing education (CE), but others do not. States that have a CE requirement typically require license renewal every one to three years, and require between one and 15 hours of CE per year of the renewal period. Some states require a portion of this continuing education to be completed in specific topics, whereas others do not specify. Some topics listed across a number of continuing education outlines included safety and sanitation, state law, and human trafficking. A summary of continuing education requirements is presented in Exhibit 13, excluding states that had unclear requirements.

### Exhibit 13. Summary of Continuing Education (CE) Requirements

	n	Minimum	Maximum	Median	M	SD
Required (CE Hours Per Year*)	17	1.3	15.0	4.0	5.0	3.3
Not Required	33	--	--	--	--	--

**Note:**  $n$  = sample size;  $M$  = mean;  $SD$  = standard deviation.

\*CE hours *per year* is reported in this table, rather than *per renewal period*, to control for the length of the renewal period and provide a more meaningful description of the sample.

## Conclusions

The review of licensing requirements presented in this section highlights inconsistent licensing standards across states beyond curriculum hour requirements, and there were no apparent patterns in the types or magnitude of licensing requirements within each state. For example, among states with a high minimum age, there were both high and low minimum education requirements in those states. The key findings of this research are as follows:

### Minimum Age and Educational Level

- Most states set a minimum age between 16 and 18 years as a requirement for a cosmetology license.

- Most states have a minimum educational level requirement for licensing, with the majority of states sampled requiring the completion of 10<sup>th</sup> grade or higher.
- The practical effect of these requirements may be limited because federal or state laws may require residents to attend school until a certain age and/or reach a certain age before working.

### Medical Exams

- Although not always communicated clearly, some states require medical criteria such as a physical exam or infectious disease testing for licensing. The requirement was likely created to address the importance of safety and sanitation in licensing for the protection of the consumer, but without clearly stating the reason for the requirement and conditions included it may be misconstrued by opponents of licensing as discrimination.

### License Renewal and Continuing Education

- All states require licenses to be renewed every one to four years, with the most frequent requirement being every two years. Some states require a minimum number of CE credits for each renewal period, but others do not. Of those states that require CE, some specify the topics to be covered (e.g., safety and sanitation, state law, human trafficking).

## CHAPTER 2: IMPACT OF CURRICULUM HOURS ON INDUSTRY OUTCOMES

Given the wide range of total curriculum hours required for cosmetology licensure (i.e., 1,000 to 2,300 hours), there is debate surrounding the appropriate number of curriculum hours to achieve desired outcomes. However, there do not appear to be documented explanations for how each state determines the required curriculum hours (whether through a review of curricula, analysis of training effects on outcomes, or another approach), and there is little current evidence to support the notion that higher curriculum hour requirements lead to more positive industry outcomes.

In exploring the relationship between curriculum hours and industry outcomes, there were three categories of outcomes that were of primary interest, as depicted in Exhibit 14.

### Exhibit 14. Industry Outcomes of Interest

Education Outcomes	Employment Outcomes	Safety Outcomes
<ul style="list-style-type: none"> <li>• School Program Length</li> <li>• Graduation</li> <li>• Licensing Exam Performance</li> <li>• Job Placement</li> <li>• Student Financial Stability</li> <li>• School Financial Stability</li> </ul>	<ul style="list-style-type: none"> <li>• Employment Rates</li> <li>• Wages</li> <li>• Career Tenure</li> </ul>	<ul style="list-style-type: none"> <li>• Safety Incidents</li> <li>• Safety Complaints</li> <li>• Inspections</li> </ul>

Data regarding these outcomes were obtained from cosmetology industry stakeholders. Preliminary results are presented below along with some specific recommendations for the future research.

### 2.1 Education Outcomes

Education outcomes of interest included school program length, graduation, licensing exam performance, job placement for graduates, student financial stability, and school financial stability. Exploring the relationship between curriculum hour requirements and these education outcomes is important for determining whether and how the number of curriculum hours may affect graduates' success and school financial stability. Although establishing a direct causal link between curriculum hours and any education variable is not possible without a controlled experimental research design to rule out alternative explanations, correlational analysis can provide preliminary evidence of an observed relationship between curriculum hours and other variables of interest.

It should also be noted that the correlations were examined at the state level rather than school level (i.e., data obtained from schools were aggregated to the state level before performing the analysis) given that the interest is in the implications of state-level educational variables such as curriculum hours and various educational outcomes in a given state. Therefore, observed relationships are based on relatively small sample sizes and the findings must be interpreted with caution.

In 2010, the U.S. Department of Education (DOE) issued a set of regulations in an effort to improve the accountability and success of postsecondary programs in preparing students for gainful employment. These regulations require qualifying institutions to disclose certain information, including graduation rates, job placement rates, cohort default rates, and student loan debt. Furthermore, schools are often required to disclose exam pass rates and financial metrics to maintain accreditation status. It is important to note that although institutions are required to provide this information, the method through which some of this information is collected and reported varies across schools and may not allow for direct comparisons.

## School Program Length

School program length indicates the estimated number of months a cosmetology student takes to complete a school program. This outcome and its relationship with curriculum hours is important to explore because opponents of licensing may view a longer timeline from enrollment to completion as a barrier to graduation and, therefore, entry into the profession. School-level data for this variable were obtained from the National Center for Education Statistics (NCES)<sup>7</sup> for the 2015-2016 school year. Exhibit 15 provides a summary of school program length; for the data by state, refer to Appendix A: State-Level Data.

### Exhibit 15. Summary of School Program Length

	n*	Minimum	Maximum	Median	M**	SD**
Estimated Time to Completion (Months)	11	9.1	15.6	14.7	13.0	2.3

**Note:** n = sample size; M = mean; SD = standard deviation.

\*This sample size (n) indicates the number of states that were included in the data, and does not indicate the number of schools represented overall. Data were only obtained for schools within 11 states that were of particular interest during this research. Data were not obtained for Washington, D.C.

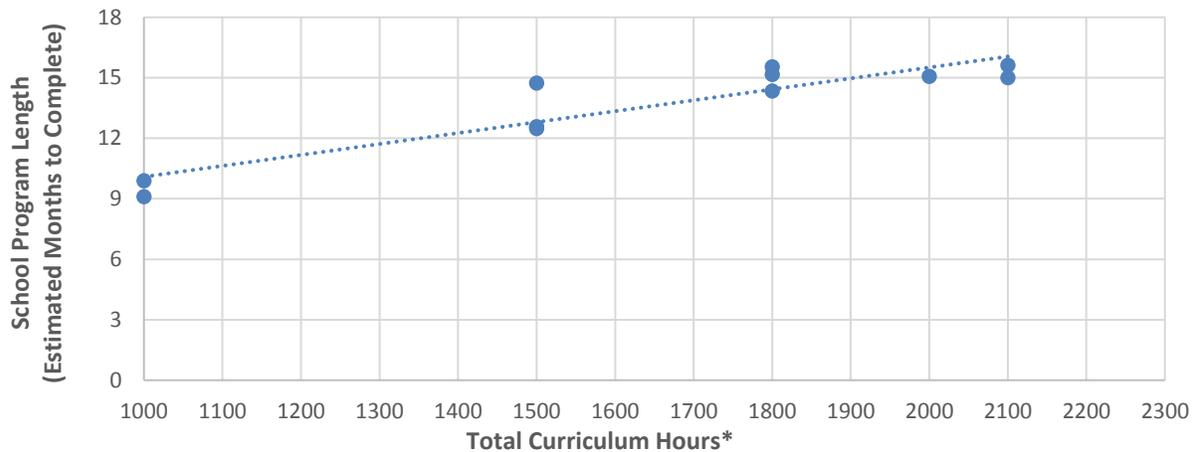
\*\*This mean was calculated by averaging the data across all schools in the sample (n = 243), and the standard deviation was based on this mean.

**Information regarding these data:**

- Excluded from this data set are large institutions with campuses in multiple states.

The state-level estimated time to completion ranges from 9.1 to 15.6 months, with an average of 13.0 ( $SD = 2.3$ ). To determine whether the total number of curriculum hours across states may be associated with the program length, a correlational analysis at the state level was conducted. Results of this analysis are presented in Exhibit 16.

<sup>7</sup> <http://nces.ed.gov/collegenavigator/>

**Exhibit 16. Curriculum Hours and School Program Length**

\*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and program lengths are from the 2015-16 school year.

..... Trendline (Significant)

The graph in Exhibit 16 illustrates a strong positive and significant relationship between the total number of curriculum hours and the school program length in months ( $r = .92, p < .01$ ), which suggests that students in states with higher curriculum hour requirements experience a longer timeline from enrollment to completion of hours, and vice versa. The strong relationship between these variables is logical, and in many cases the length of a program may be a nearly interchangeable proxy to a state's curriculum hour requirement. However, these analyses are correlational in nature and there may be other variables that impact school program length.

**Graduation**

Graduation rates represent the percentage of students that successfully completed all requirements for graduation, which—in addition to completing the required curriculum hours—may also include non-academic requirements such as paying all tuition and fees.<sup>8</sup> This outcome and its relationship with curriculum hours is important to explore because opponents of licensing may view higher requirements for curriculum hours as a barrier to graduation and, therefore, entry into the profession. State-level data for graduation were available from the National Accrediting Commission of Career Arts and Sciences (NACCAS) for NACCAS-accredited schools. Specifically, this data set includes graduation rates that were calculated by taking the *number of students who were scheduled to graduate in 2013 (as reported by the school), and determining the percentage of these students who actually graduated prior to November 30, 2014 (as reported by the school)*, aggregated by state (NACCAS, 2014). Exhibit 17 provides a summary of graduation rates; for the data by state, refer to Appendix A: State-Level Data.

<sup>8</sup> Although school program completion (i.e., completing one's hours) may be a preferred variable for the analysis of licensing requirements' impact on entry into the field because it is not as clearly impacted by financial requirements, data on this variable were not available at the time of this research.

**Exhibit 17. Summary of Graduation (NACCAS-Accredited Schools Only)**

	n*	Minimum	Maximum	Median	M**	SD**
Graduation Rate (%)	50	55.1	86.1	68.9	69.6	5.1

**Note:** n = sample size; M = mean; SD = standard deviation.

\*This sample size (n) indicates the number of states (including Washington, D.C.) that were included in the data, and does not indicate the number of schools represented overall.

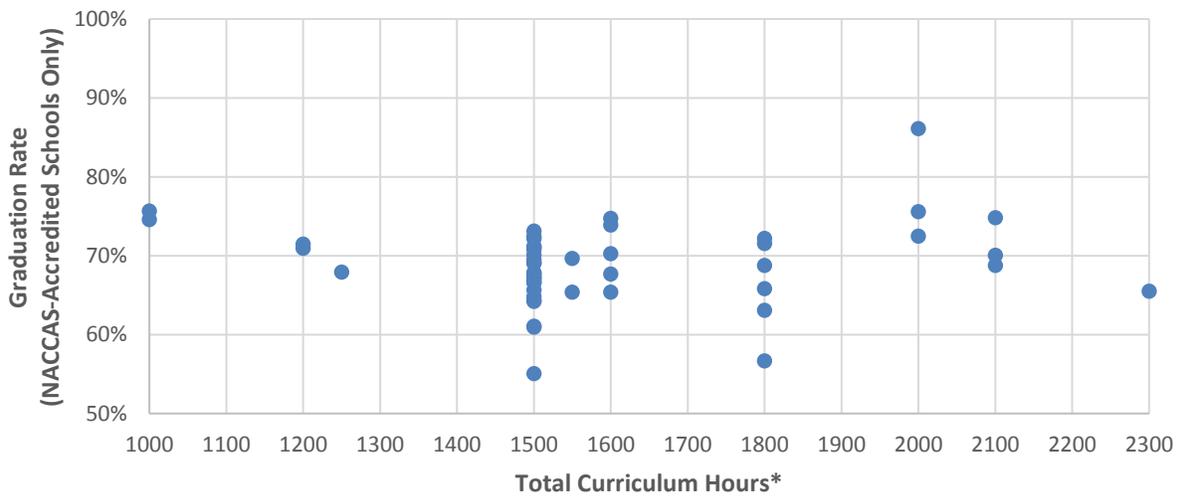
\*\*Mean was calculated by dividing the *total number of students who graduated* in the sample by the *total number of students scheduled to graduate* in the sample, and the standard deviation was based on this mean.

**NACCAS provided the following information regarding these data:**

- The data are not specific to cosmetology programs and include other programs within the beauty and wellness industry such as barbering, esthetics, manicuring, massage therapy, and instructors. There are also some schools included that have more general *wellness* programs (e.g., medical assistant, patient care assistant) but these wellness programs likely account for less than a tenth of a percent of the data.

The state-level graduation rates range from 55% to 86%, with an average of nearly 70% (M = 69.6%, SD = 5.1%). To determine whether the total number of curriculum hours across states is related to graduation rates, a correlational analysis was conducted. Results of this analysis are presented in Exhibit 18.

**Exhibit 18. Curriculum Hours and Graduation Rates**



\*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and graduation rates are from 2013-2014.

The graph in Exhibit 18 shows the variability in graduation rates across the range of total curriculum hours. Statistically, there is no evidence of a relationship<sup>9</sup> between total curriculum hours and graduation rates in this sample of NACCAS-accredited schools. This analysis is interesting to consider in combination with the previous analysis for school program length; although higher hours may be related to longer time to complete the program, these students are not necessarily lagging in terms of graduation.

**Licensing Exam Performance**

Licensing exam pass rates represent the proportion of licensing candidates that score above the threshold (typically 70-75% of questions answered correctly) that is thought to represent the

<sup>9</sup> The correlation was not significant relative to the standard alpha level (p) of .05.

minimum entry-level requirements for being a practitioner. The majority of states administer both written and practical licensing exams, and pass rates are calculated separately for each section. Exam pass rates and their relationship with curriculum hours is important to explore to determine whether states with a higher requirements for curriculum hours may be associated with more safe and competent licensing candidates. The usefulness of this variable is limited by several factors, including the fact that there are a number of exam providers across states, there is often little variability in observed state-level pass rates, the data usually include repeat test takers (who have had the advantage of taking the test before), and not all examinees may have obtained the stated curriculum hours for that state (instead choosing an apprenticeship substitution).

State-level data on exam pass rates were obtained from two sources, and these data are described below and summarized in Exhibit 19.

The first sample included overall pass rate data from NACCAS for NACCAS-accredited schools. Specifically, these data included licensure rates that were calculated by taking the *number of graduates (from the 2013 graduation rate) who sat for all sections of their required licensure exam prior to November 30, 2014 (as reported by the school) and determining the percentage that passed<sup>10</sup> all sections of the exam prior to November 30, 2014 (as reported by the school); NACCAS, 2014*). These data were not broken down by written and practical exam sections. NACCAS data exist for 49 states (excluding Alaska) and Washington, D.C. For the data by state, refer to Appendix A: State-Level Data.

The second sample included written and practical exam section pass rate data from NIC. Specifically, these data include exam pass rates that were calculated by dividing the *number of examinees who passed each section between February 1 and August 24, 2015* by the *number of examinees who sat for each section between February 1 and August 24, 2015*. Because these data only include the states that administer the NIC exam sections, written exam pass rates are available for 28 states and Washington, D.C., and practical exam pass rates are available for 21 states. For the data by state, refer to Appendix A: State-Level Data.

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<sup>10</sup> This includes not only those that passed on their first attempt, but also those that failed on their first attempt and re-took and passed all sections of the exam prior to November 30, 2014.

**Exhibit 19. Summary of Exam Pass Rates**

	n*	Minimum	Maximum	Median	M**	SD**
Overall Pass Rate (%) (NACCAS-Accredited Schools Only)	50	85.7	100.0	97.2	93.6	4.2
NIC Written Exam Pass Rate (%)	29	66.4	100.0	90.4	85.0	7.7
NIC Practical Exam Pass Rate (%)	21	81.8	100.0	97.4	93.7	5.2

**Note:** n = sample size; M = mean; SD = standard deviation.

\*This sample size (n) indicates the number of states (including Washington, D.C.) that were included in the data, and does not indicate the number of schools represented overall.

\*\*The mean for overall pass rate was calculated by dividing the *total number of examinees who passed all sections of the exam* in the sample by the *total number of examinees who sat for all sections of the exam* in the sample.

The means for written and practical exam pass rates were calculated by dividing the *total number of examinees who passed each section* in the sample by the *total number of examinees who sat for each section* in the sample. The standard deviations were based on these means.

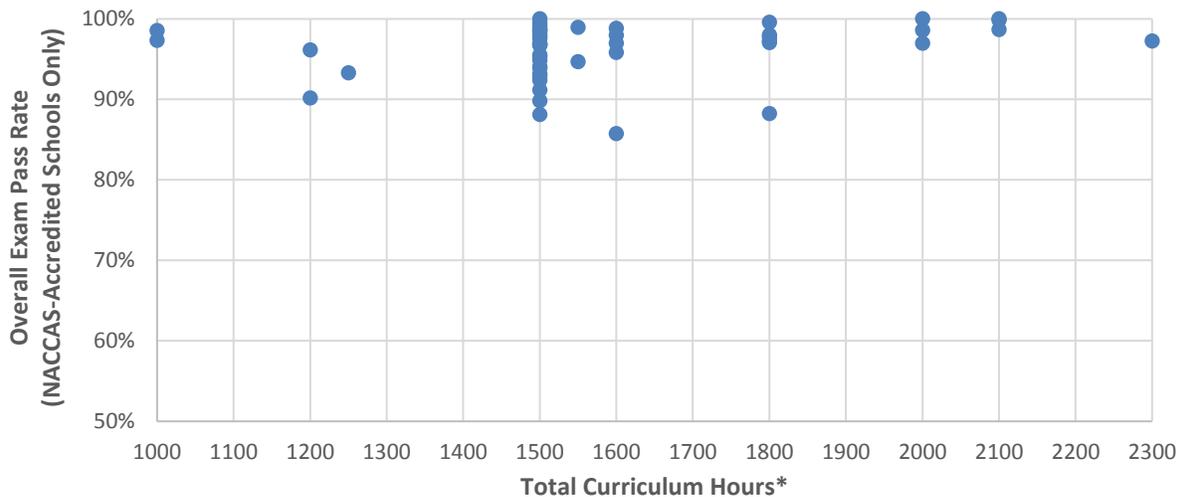
**NACCAS provided the following information regarding the overall pass rate data:**

- The data are not specific to cosmetology programs and include other programs within the beauty and wellness industry such as barbering, esthetics, manicuring, massage therapy, and instructors. There are also some schools included that have more general *wellness* programs (e.g., medical assistant, patient care assistant) but these wellness programs likely account for less than a tenth of a percent of the data.
- Not all states issue exam reports to the schools. In states where no exam report is issued, it can be close to impossible for a school to determine its pass rate, because the information is not available. In these cases, schools must try to obtain the results by using an online license verification (which confirms licensed students, but does not show exam results) and by contacting students directly. It is possible that pass rates may be inflated for states where no exam report is issued because failing scores may be underreported.

Within the NACCAS data set, the state-level overall exam pass rates range from 86% to 100% ( $M = 93.6\%$ ,  $SD = 4.2\%$ ). Within the NIC exam data set, the written and practical exam pass rates range from 66% to 100% and 82% to 100% respectively. Across states, the average NIC pass rates are consistently higher for the practical section ( $M = 93.7\%$ ,  $SD = 5.2\%$ ) than for written ( $M = 85.0\%$ ,  $SD = 7.7\%$ ), and the difference is statistically significant.<sup>11</sup> Because the practical exam requires the use of expert raters, a comparison of scores may not be appropriate without standardized rater training (Feldman, Lazzara, Vanderbilt, & DiazGranados, 2012) and implementation of more objective rating systems such as behaviorally anchored rating scales (BARS; Debnath, Lee, & Tandon, 2015). AIR collected anecdotal evidence from SMEs that many practical exam raters tend to rate leniently, and are reluctant to fail examinees due to the face-to-face context of the practical exam. This may be one of many contributing factors to the observed difference in pass rates for written and practical sections of the exam. It should be noted that, within the NIC data set, all states had a curriculum hour requirement above the overall U.S. median (i.e., 1,500), therefore restricting the range of curriculum hours represented in this data set.

To determine whether the total number of curriculum hours across states may be related to exam pass rates, correlational analyses were conducted within the NACCAS data set. Results of this analysis are presented in Exhibit 20. However, correlational analyses were not conducted for the NIC data set because of there was a lack of available data for states with curriculum requirements below the median.

<sup>11</sup> A paired-samples t-test was conducted in the states where both written and practical pass rates were available (n = 20), and there was a significant difference in the pass rates for the theory ( $M = 90.1\%$ ,  $SD = 5.2\%$ ) and practical ( $M = 95.2\%$ ,  $SD = 5.0\%$ ) exam sections;  $t(19) = -3.38$ ,  $p = 0.003$ .

**Exhibit 20. Curriculum Hours and Overall Exam Pass Rates (NACCAS-Accredited Schools Only)**

\*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and overall exam pass rates are from 2014.

The graph in Exhibit 20 illustrates the lack of apparent relationship between the total number of curriculum hours and overall exam pass rates for NACCAS-accredited schools, and the correlational analysis resulted in a non-significant finding.<sup>12</sup> This finding may be due, in part, to the small range of variability in overall pass rates for this sample. Specifically, when a sample has a restricted range of scores, the correlation will be reduced.

## Job Placement

Job placement rates represent the proportion of graduating students that find employment in jobs directly related to the field of study within some period of time. Job placement rates and their relationship with curriculum hours is important to explore to determine whether higher requirements for curriculum hours may be associated with more qualified and marketable candidates. However, the usefulness of this variable is limited by several factors. For example, it could be confounded in many ways, such as by a geographical area's economic status or a student's resources or motivation to applying for employment.

State-level data for this variable were available from NACCAS for NACCAS-accredited schools. Specifically, this data set included job placement rates that were calculated by dividing the *number of eligible graduates who were employed at any point prior to November 30, 2014 in a field for which their training prepared them (as reported by the school)* by the *number of graduates (from the 2013 graduation rate) who were eligible for placement*<sup>13</sup> (as reported by the school; NACCAS, 2014). Exhibit 21 provides a summary of job placement rates; for the data by state, refer to Appendix A: State-Level Data.

<sup>12</sup> The correlation was not significant relative to the standard alpha level ( $p$ ) of .05.

<sup>13</sup> All graduates must be declared eligible for placement unless they meet one of the following five conditions for ineligibility: (1) The graduate is deceased; (2) The graduate is permanently disabled; (3) The graduate is deployed for military service/duty; (4) The graduate studied under a student visa and is ineligible for employment in the U.S.; or (5) The graduate continued his/her education at an institution under the same ownership (e.g., a graduate of your cosmetology program subsequently enrolled in the instructor program of an institution under the same ownership). Note that being unlicensed is **not** a valid exclusion/exemption for employment.

**Exhibit 21. Summary of Job Placement (NACCAS-Accredited Schools Only)**

	n*	Minimum	Maximum	Median	M**	SD**
Job Placement Rate (%)	50	66.3	90.6	74.6	73.6	5.7

**Note:** n = sample size; M = mean; SD = standard deviation.

\*This sample size (n) indicates the number of states (including Washington, D.C.) that were included in the data, and does not indicate the number of schools represented overall.

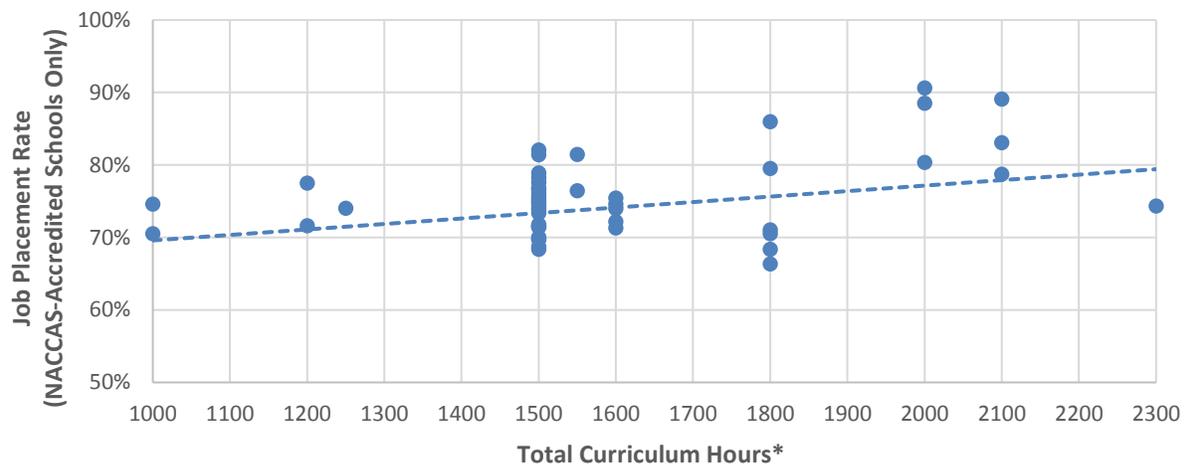
\*\*Mean was calculated by dividing the *total number of graduates who were employed* in the sample by the *total number of students eligible for placement* in the sample, and the standard deviation was based on this mean.

**NACCAS provided the following information regarding these data:**

- The data are not specific to cosmetology programs and include other programs within the beauty and wellness industry such as barbering, esthetics, manicuring, massage therapy, and instructors. There are also some schools included that have more general *wellness* programs (e.g., medical assistant, patient care assistant) but these wellness programs likely account for less than a tenth of a percent of the data.

The state-level job placement rates range from 66% to 91%, with an average of 73.6% (SD = 5.7%). To determine whether the total number of curriculum hours across states may be related to job placement rates, a correlational analysis was conducted. Results of this analysis are presented in Exhibit 22.

**Exhibit 22. Curriculum Hours and Job Placement Rates (NACCAS-Accredited Schools Only)**



\*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and job placement rates are from 2014.

----- Trendline (Significant)

The graph in Exhibit 22 illustrates a positive and significant relationship between the total number of curriculum hours and job placement rates ( $r = .42, p < .01$ ). In other words, states with higher curriculum hours tend to also have higher placement rates. Although this is a significant finding and the relationship is fairly strong, it is important to note that this relationship is correlational and it cannot be determined whether a higher number of curriculum hours *causes* higher job placement rates.

**Student Financial Stability**

An important outcome to examine in relation to curriculum hours is student financial stability, because opponents of licensing may view negative financial consequences (e.g., higher program expenses, higher debt) in states with higher requirements for curriculum hours as evidence of higher curriculum hours causing a financial burden for students that may, in turn, cause a barrier to entry into the profession. We examined several variables that serve as proxies for student

financial stability: (1) school program expenses, (2) Pell Grants, (3) student loan debt, and (4) cohort default. Each analysis is discussed below.

### School Program Expenses

In addition to standard living expenses (e.g., rent, food), students incur direct educational expenses to attend cosmetology school programs, such as tuition, books, and other supplies. School-level data for tuition and books/supplies were obtained from the National Center for Education Statistics (NCES)<sup>14</sup> for the 2015-2016 school year. Exhibit 23 provides a summary of school program expenses; for the data by state, refer to Appendix A: State-Level Data.

#### Exhibit 23. Summary of School Program Expenses

	n*	Minimum	Maximum	Median	M**	SD**
Tuition for Full Program (\$)	11	12,263.1	19,235.2	14,511.9	14,611.2	2,300.4
Books/Supplies for Full Program (\$)	11	1,111.6	2,269.3	1,673.8	1,700.5	385.4

**Note:** n = sample size; M = mean; SD = standard deviation.

\*This sample size (n) indicates the number of states that were included in the data, and does not indicate the number of schools represented overall. Data were only obtained for schools within 11 states that were of particular interest during this research. Data were not obtained for Washington, D.C.

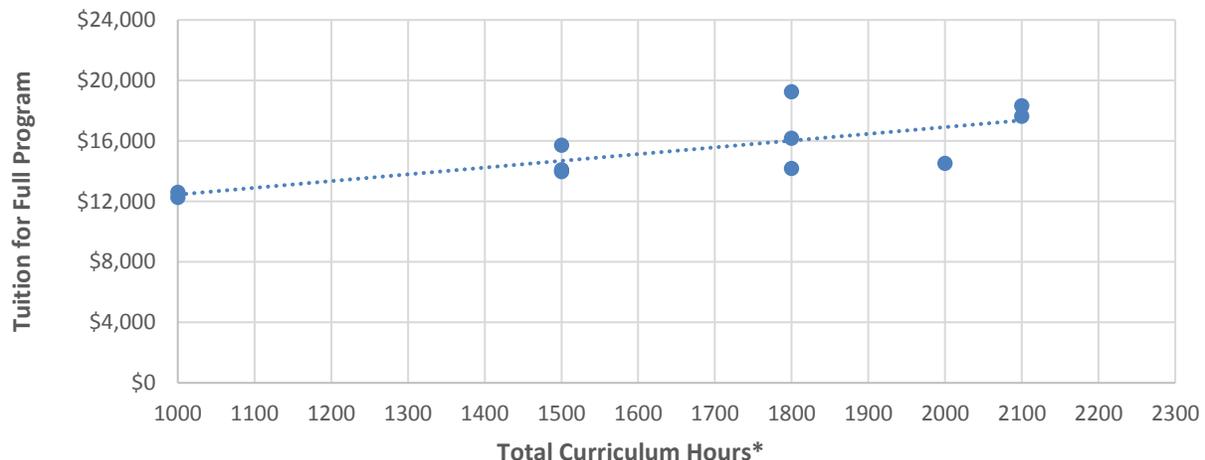
\*\*Means were calculated by averaging the data across all schools in the sample (n = 244 for tuition and n = 231 for books/supplies), and the standard deviations were based on these means.

**Information regarding these data:**

- Excluded from this data set are large institutions with campuses in multiple states.

Tuition expenses range from about \$12,250 to \$19,250 with an average of \$14,611.2 (SD = \$2,300.4). Expenses for books/supplies range from about \$1,100 to \$2,275 with an average of \$1,700.5 (SD = \$385.4). To determine whether the total tuition costs and total costs for books and supplies are related to the number of curriculum hours across states, two separate correlational analyses were conducted at the state level and are presented in Exhibit 24 (tuition) and Exhibit 25 (books/supplies).

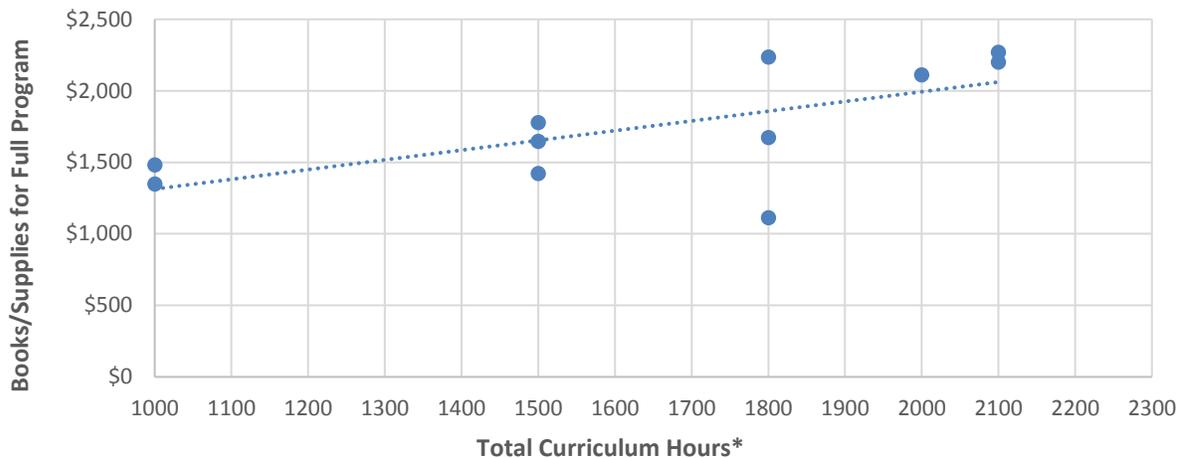
#### Exhibit 24. Curriculum Hours and Tuition



\*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and tuition expenses are from the 2015-16 school year.

..... Trendline (Significant)

<sup>14</sup> <http://nces.ed.gov/collegenavigator/>

**Exhibit 25. Curriculum Hours and Books/Supplies**

\*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and books/supplies expenses are from the 2015-16 school year.

..... Trendline (Significant)

The graph in Exhibit 24 shows a positive and significant relationship between the total number of curriculum hours and tuition expenses ( $r = .76, p < .01$ ), and the graph in Exhibit 25 shows a positive and significant relationship between the total number of curriculum hours and expenses for books and supplies ( $r = .66, p < .05$ ). These results suggest that students in states with a higher number of total curriculum hours incur higher expenses to attend cosmetology school for both tuition and books and supplies.

**Student Loan Debt**

Many students obtain loans for their education with the expectation that they will be able to pay off the loan once they obtain employment after graduation. However, in cosmetology, as in other industries, graduates are often not able to make the required payments with an entry-level salary. It is important to examine the relationship between curriculum hours and student loan debt because opponents of cosmetology licensing may view higher debt in states with higher requirements for curriculum hours as evidence of higher curriculum hours causing a financial burden for students that may, in turn, cause a barrier to entry into the profession. However, the usefulness of this variable is limited by several factors. For example, it could be confounded in many ways, such as by a geographical area's economic status or students' individual differences (e.g., resources or motivation with regard to applying for jobs or repaying a loan).

State-level data on median Title IV funding were obtained from individual school websites, which are assumed to be reasonably up-to-date. It should be noted that the data from this source only represent a limited sample of schools and may not include all debt incurred by students when attending cosmetology programs.

**Exhibit 26. Summary of Title IV Funding**

	n*	Minimum	Maximum	Median	M**	SD**
Median Title IV Funding	11	6,984.4	14,666.7	11,685.4	9,532.8	2,691.4

**Note:** n = sample size; M = mean; SD = standard deviation.

\*This sample size (n) indicates the number of states that were included in the data, and does not indicate the number of schools represented overall. Data were only obtained for schools within 11 states that were of particular interest during this research. Data were not obtained for Washington, D.C.

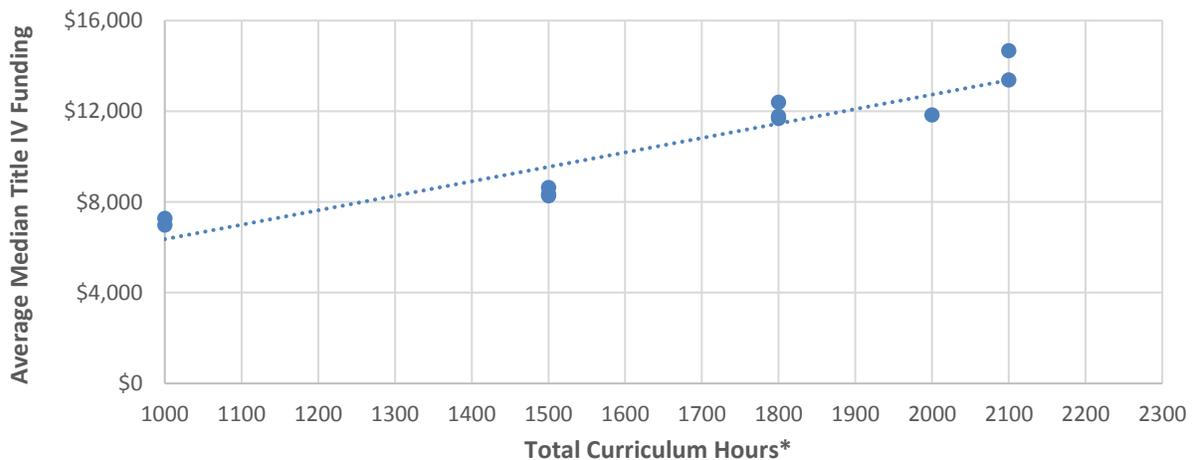
\*\*Mean was calculated by averaging the data across all schools in the sample (n = 154), and the standard deviation was based on this mean.

**Information regarding these data:**

- Excluded from this data set are large institutions with campuses in multiple states.

Median Title IV funding ranges from about \$7,000 to \$14,750, with an average of \$9,532.8 (SD = \$2,691.4). To determine whether the total number of curriculum hours across states may be associated with Title IV funding, a correlational analysis at the state level was conducted. These results are presented in Exhibit 27.

**Exhibit 27. Curriculum Hours and Median Title IV Funding**



\*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and Title IV funding is from individual school websites (year unknown).

..... Trendline (Significant)

The graph in Exhibit 27 illustrates a positive and significant relationship between the total number of curriculum hours and the median Title IV funding amount ( $r = .94, p < .01$ ). In other words, students that attend programs in states with higher curriculum hours tend to incur higher median funding, on average. Although significant, these analyses are correlational in nature and it should be noted that there are likely additional variables that impact loan amounts.

**Cohort Default**

The cohort default rate (CDR) is a measure of federal loan borrowers that enter repayment in a given fiscal year (FY; October 1 to September 30) and default before the end of the next one to two fiscal years. This outcome and its relationship with curriculum hours is important to explore because opponents of licensing may view higher cohort default rates in states with higher requirements for curriculum hours as evidence of higher curriculum hours causing a financial burden for students that may, in turn, cause a barrier to entry into the profession. However, the usefulness of this variable is limited by several factors. For example, it could be confounded in

many ways, such as by a geographical area’s economic status or students’ individual differences (e.g., resources or motivation with regard to applying for jobs).

School-level data for this variable were obtained from DOE. Specifically, this data set included the FY 2012 official 3-year cohort default rates for cosmetology programs at schools participating in the Title IV student financial assistance programs, calculated as the *percentage of a school's borrowers who enter repayment on certain Federal Family Education Loan (FFEL) Program or William D. Ford Federal Direct Loan (Direct Loan) Program loans during a particular federal FY, and default or meet other specified conditions prior to the end of the second following FY.*<sup>15</sup> Exhibit 28 provides a summary of cohort default rates; for the data by state, refer to Appendix A: State-Level Data.

**Exhibit 28. Summary of Cohort Default Rates (Title IV Cosmetology Programs Only)**

	n*	Minimum	Maximum	Median	M**	SD**
Cohort Default Rate (%)	48	8.5	28.8	14.4	17.1	4.7

**Note:** n = sample size; M = mean; SD = standard deviation.

\*This sample size (n) indicates the number of states (including Washington, D.C.) that were included in the data, and does not indicate the number of schools represented overall.

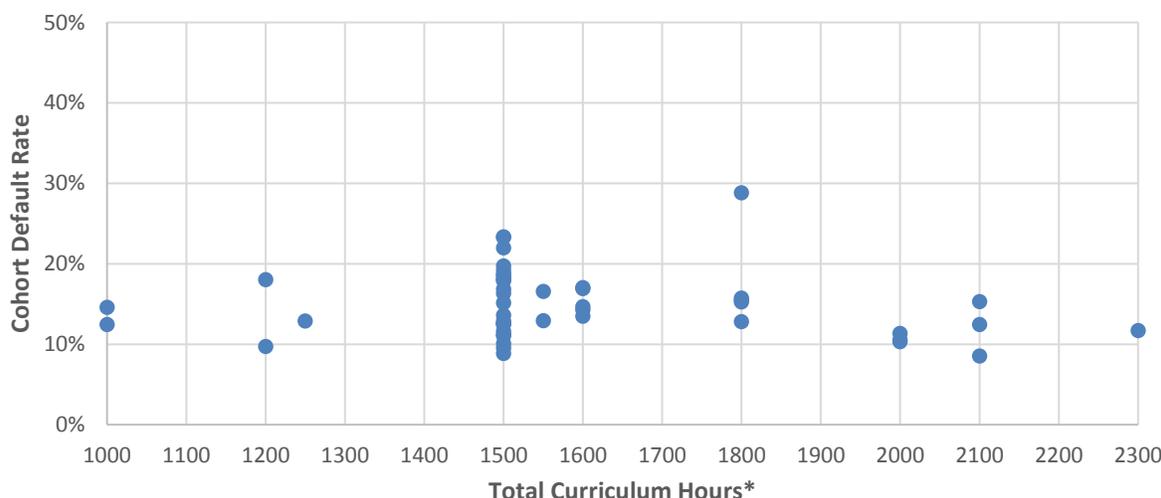
\*\*This mean for this analysis was calculated by dividing *total number of borrowers who enter repayment and default* in the sample by the *total number of borrowers who enter repayment* in the sample, and the standard deviation was based on this mean.

**Information regarding these data:**

- Excluded from this data set are large institutions with campuses in multiple states.

The state-level cohort default rates range from 8.5% to 28.8%, with an average of 17.1% (SD = 4.7). To determine whether the total number of curriculum hours across states may be associated with cohort default rate, a correlational analysis at the state level was conducted. These results are presented in Exhibit 29.

**Exhibit 29. Curriculum Hours and Cohort Default Rate (Title IV Schools Only)**



\*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and cohort default rates are from 2012.

<sup>15</sup> Refer to the Cohort Default Rate Guide (<http://ifap.ed.gov/DefaultManagement/finalcdrg.html>) for a more in-depth description of cohort default rates and how the rates are calculated.

The graph in Exhibit 29 shows the variability in cohort default rate across the range of total curriculum hours. Statistically, there is no evidence of a relationship<sup>16</sup> between these variables for this sample of Title IV cosmetology programs.

### Pell Grants

In addition to loans, students may receive grants to pay for schooling. The most popular federal grant is called a Pell Grant, which is limited to students with financial need, who have not earned their first bachelor's degree, or who are enrolled in certain post-baccalaureate programs through participating institutions. A Pell Grant, unlike a loan, does not have to be repaid; as such, the impact of this cost is incurred by taxpayers. In the 2010-2011 academic year, Pell Grants cost taxpayers \$35.6 billion (Robinson & Cheston, 2012). Therefore, it is important to explore the relationship between curriculum hours and the amount of Pell Grants to help determine the return on investment for higher total curriculum hours. In other words, if states with higher curriculum hour requirements are not found to relate more strongly to positive outcomes than do states with lower requirements, it may indicate that grant dollars could be allocated elsewhere to be more effective (assuming grant amounts are correlated with the total number of curriculum hours per state).

The maximum amount for a Pell Grant award changes yearly, and the amount awarded of this maximum to any one student depends on the student's financial need, cost of attendance, status as a full-time or part-time student, and plans to attend school for a full academic year or less (Federal Student Aid, 2016).<sup>17</sup> School-level data for this variable were obtained from the NCES<sup>18</sup> for the 2015-2016 school year. Specifically, this data set included the average Pell Grant for cosmetology programs in a single year (operationalized as 900 hours) for full-time beginning undergraduate students (i.e., those who are entering postsecondary education for the first time). To extrapolate the Pell Grant amount for the full curriculum hour requirement, a multiplier was applied to the data (e.g., programs with 1,800 hours were given a multiplier of two). Exhibit 30 provides a summary of Pell Grants for one year and full program; for the data by state, refer to Appendix A: State-Level Data.

### Exhibit 30. Summary of Pell Grants

	n*	Minimum	Maximum	Median	M**	SD**
Pell Grant for One Year (\$)	11	4,112.4	4,674.9	4,473.4	4,360.8	179.7
Pell Grant for Full Program (\$)	11	4,712.8	10,658.0	8,736.7	7,316.9	2,158.6

**Note:** n = sample size; M = mean; SD = standard deviation.

\*This sample size (n) indicates the number of states that were included in the data, and does not indicate the number of schools represented overall. Data were only obtained for schools within 11 states that were of particular interest during this research. Data were not obtained for Washington, D.C.

\*\*The means for this analysis were calculated by averaging the data across all schools in the sample (n = 231), and the standard deviations were based on these means.

**Information regarding these data:**

- Excluded from this data set are large institutions with campuses in multiple states.

Pell Grant award amounts for one year range from about \$4,000 to \$4,750, with an average of \$4,360.8 (SD = \$179.7). For a full program, award amounts range from about \$4,750 to

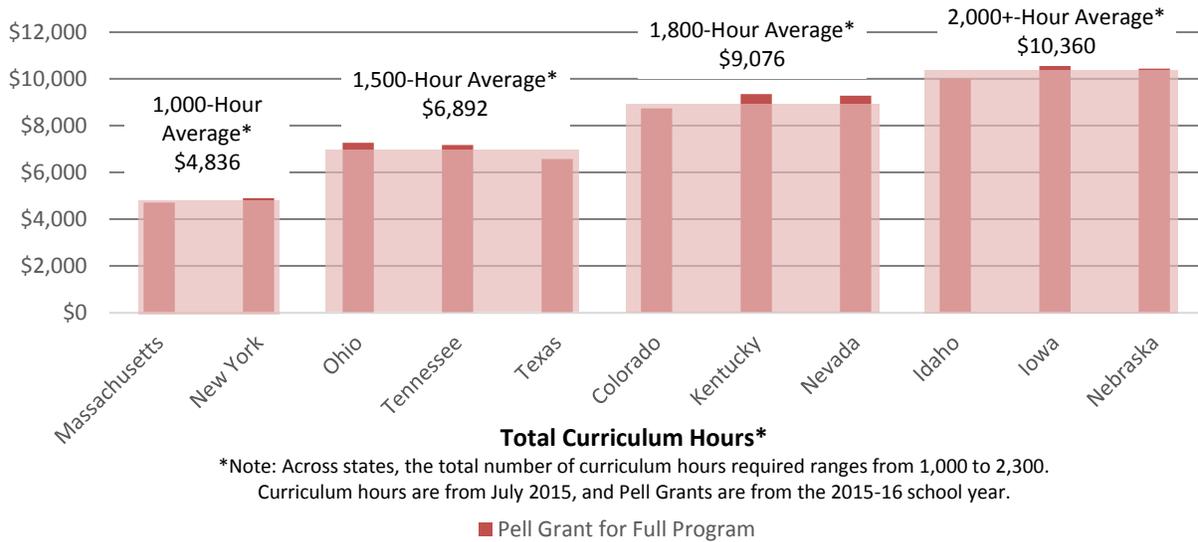
<sup>16</sup> The correlation was not significant relative to the standard alpha level ( $p$ ) of .05.

<sup>17</sup> For more information, visit <https://studentaid.ed.gov/sa/types/grants-scholarships/pell>.

<sup>18</sup> <http://nces.ed.gov/collegenavigator/>

\$10,750, with an average of \$7,316.9 ( $SD = \$2,158.6$ ). A correlational analysis was precluded for Pell Grant amounts for a full program because curriculum hours were used to create this variable, as discussed previously; however, Exhibit 31 illustrates the clear upward trend in this variable such that as total curriculum hours increase, Pell Grant amounts for a full program also increase.

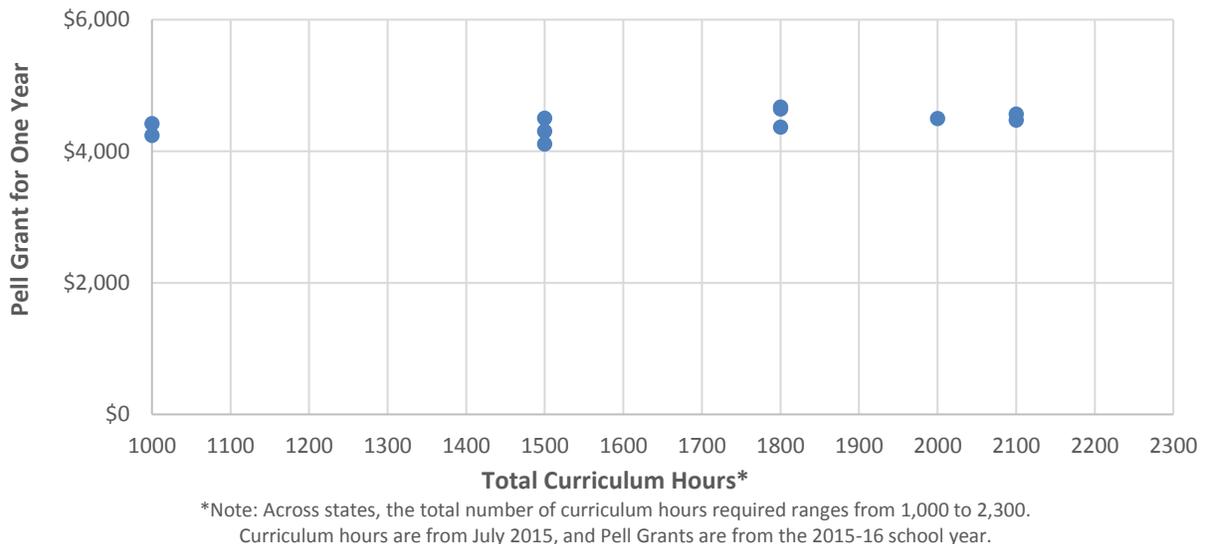
**Exhibit 31. Curriculum Hours and Pell Grants for Full Program**



\*The group-level means were calculated by grouping schools by their total curriculum hour requirements, and averaging the Pell Grant amounts for each group. The sample size for each group is as follows: 1,000-hour  $n = 48$ ; 1,500-hour  $n = 115$ ; 1,800-hour  $n = 28$ ; 2,000+-hour  $n = 39$ .

To determine whether the total number of curriculum hours across states may be related to the Pell Grant award amounts for one year, a correlational analysis was conducted and results are presented in Exhibit 32.

**Exhibit 32. Curriculum Hours and Pell Grants for One Year**



The graph in Exhibit 32 illustrates the lack of apparent relationship between the total number of curriculum hours and the Pell Grant amount for one year, and the correlational analysis resulted in a non-significant finding.<sup>19</sup> This finding may be due, in part, to the small range of variability in Pell Grant award amounts for this sample. Specifically, when a sample has a restricted range of scores, the correlation will be reduced. Furthermore, recall that Pell Grant award amounts are determined by several factors that do not include the number of curriculum hours (i.e., the student's financial need, cost of attendance, status as a full-time or part-time student, and plans to attend school for a full academic year or less).

## School Financial Stability

School financial stability is an index of the financial health of a school, and may be defined and measured in many ways. For this particular research, a comparison of relative financial stability of schools across states was of interest to explore whether higher curriculum hours may have an impact on schools' financial stability.

State-level data for this variable were available from NACCAS for NACCAS-accredited schools. Specifically, this data set includes information on each state's 2013-2014 financial compliance rate (i.e., the *number of compliant school owners*<sup>20</sup> divided by the *number of school owners* in each state), and average composite score (ranging from -1 to +3, with a higher score indicating greater stability), which is a calculation involving a school's primary reserve ratio, equity ratio, and net income ratio.<sup>21</sup> Exhibit 33 provides a summary of school financial stability metrics in a sample of 11 states; for the data by state, refer to Appendix A: State-Level Data.

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<sup>19</sup> The correlation was not significant relative to the standard alpha level ( $p$ ) of .05.

<sup>20</sup> A school must meet a minimum composite score of 1.5 (or one of NACCAS' alternate criteria) to be compliant. The specific criteria for compliance with NACCAS financial requirements can be found in Standard VII, Criterion 1 of the NACCAS handbook:

<http://elibrary.naccas.org/InfoRouter/docs/Public/NACCAS%20Handbook/Standards%20and%20Criteria/Standard%20VII%20Financial%20Practices%20and%20Management.pdf>.

<sup>21</sup> A detailed breakdown of the calculation for the NACCAS composite score can be found at the bottom of the NACCAS Applications and Forms website (<http://naccas.org/naccas/all-applications-forms>), in a Microsoft Excel file titled "Composite Score Formula."

**Exhibit 33. Summary of School Financial Stability Metrics (NACCAS-Accredited Schools Only)**

	n*	Minimum	Maximum	Median	M**	SD**
NACCAS Financial Compliance Rate (%)	11	87.5	100.0	96.0	95.3	3.9
Mean NACCAS Composite Score	11	1.8	2.6	2.1	2.1	0.2

**Note:** n = sample size; M = mean; SD = standard deviation.

\*This sample size (n) indicates the number of states that were included in the data, and does not indicate the number of schools represented overall. Due to the confidential nature of these data, data were only obtained for schools within 11 states that were of particular interest during this research. Data were not obtained for Washington, D.C.

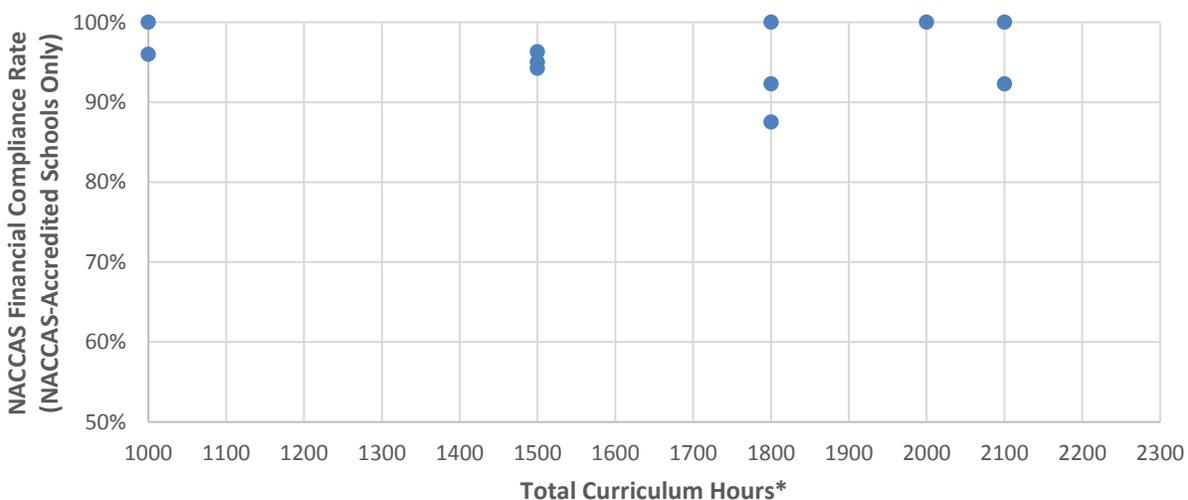
\*\*The mean for NACCAS financial compliance rate is calculated by dividing the *total number of compliant school owners* by the *total number of school owners* in the 11-state sample. However, due to the confidentiality of school-level data, NACCAS composite scores were obtained only at the state level (i.e., the average composite score for each state), and the mean for this variable is calculated by averaging the state-level data (n = 11). The standard deviation for composite score is based on this mean.

**NACCAS provided the following information regarding these data:**

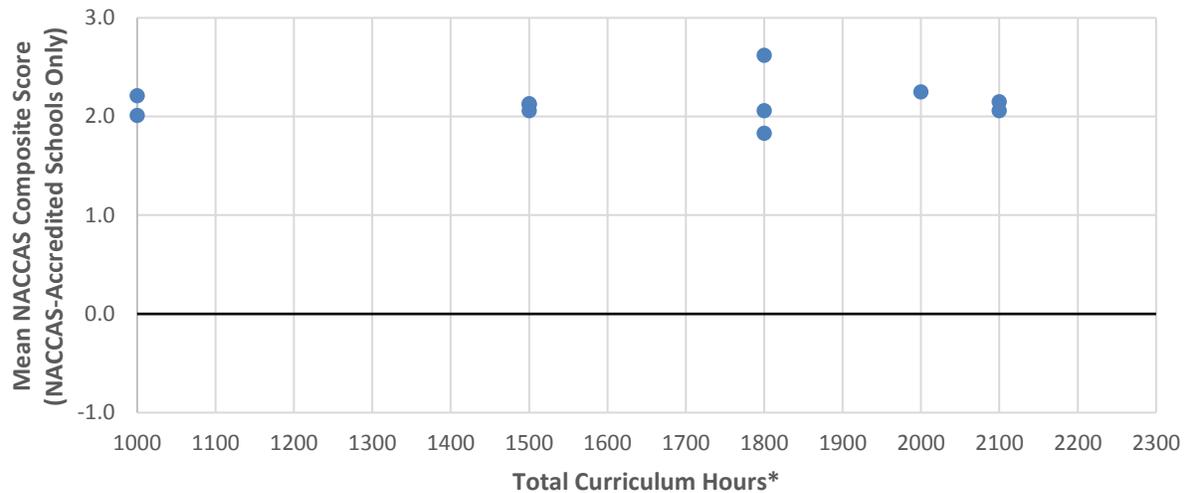
- The data are not specific to cosmetology programs and include other programs within the beauty and wellness industry such as barbering, esthetics, manicuring, massage therapy, and instructors. There are also some schools included that have more general wellness programs (e.g., medical assistant, patient care assistant) but these wellness programs likely account for less than a tenth of a percent of the data.
- Excluded from this data set are large institutions with campuses in multiple states.
- Because financial statements are submitted by company, not individual campus, each company’s financial statements are only counted once.

The state-level compliance rates range from 88% to 100% ( $M = 95.3$ ,  $SD = 3.9$ ). The state-level average composite scores range from 1.8 (just above the compliance cut-off of 1.5) to 2.6 ( $M = 2.1$ ,  $SD = 0.2$ ). To determine whether the total number of curriculum hours across states may be related to these school financial stability metrics, a correlational analysis at the state level was conducted. These results are presented in Exhibit 34 (compliance rate) and Exhibit 35 (composite score).

**Exhibit 34. Curriculum Hours and NACCAS Financial Compliance Rates (NACCAS-Accredited Schools Only)**



\*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and NACCAS financial compliance rates are from 2011.

**Exhibit 35. Curriculum Hours and NACCAS Composite Score (NACCAS-Accredited Schools Only)**

\*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and mean NACCAS composite scores are from 2011.

There is a relatively small amount of variance for both school financial stability variables in this sample of 11 states. Statistically, there is no evidence of a relationship<sup>22</sup> between total curriculum hours and these variables for this sample of NACCAS-accredited schools.

## Conclusions

This preliminary review revealed correlational relationships between curriculum hours and education outcomes.<sup>23</sup> The key findings of this research are as follows:

### School Program Length

- The state-level school program lengths range from 9.1 to 15.6 months, with an average of 13.0 ( $SD = 2.3$ ).
  - There is a strong positive and significant relationship between the total number of curriculum hours and the school program length in months, which suggests that students in states with a higher curriculum hour requirements experience a longer timeline from enrollment to completion of hours, and vice versa.

### Graduation

- For NACCAS-accredited schools, the state-level graduation rates range from 55% to 86%, with an average of nearly 70%.
  - Although there is variability in graduation rates across states, there is no evidence of a relationship between total curriculum hours and graduation rate for NACCAS-accredited schools.

### Licensing Exam Performance

- In the sample of states that administer the NIC *written* exam, pass rates range from 66% to 100%. In the sample of states that use the NIC *practical* exam, pass rates range from

<sup>22</sup> The correlation was not significant relative to the standard alpha level ( $p$ ) of .05.

<sup>23</sup> These relationships are correlational in nature, and causation cannot be implied.

82% to 100%. For a sample of states that use *both* NIC exam sections, the average pass rates are consistently higher for practical than for written, and the difference is statistically significant. Correlational analyses were not conducted for the NIC data set because of there was a lack of available data for states with curriculum requirements below the median (i.e., 1,500).

- o The practical exam requires the use of expert raters, and cannot be considered equivalent without standardized rater training and implementation of more objective rating systems such as behaviorally anchored rating scales. AIR collected anecdotal evidence from cosmetology SMEs that many practical exam raters tend to rate leniently, reluctant to fail examinees due to the face-to-face setting of the practical exam.
- State-level *overall* pass rates for NACCAS-accredited schools (data were not broken down by written and practical exam sections) ranged from 86% to 100%.
  - o Correlational analyses revealed that for NACCAS-accredited schools, there is no apparent relationship between the total number of curriculum hours and overall exam pass rates. This finding may be due, in part, to the small range of variability in overall pass rates for this sample.
- The usefulness of assessing licensing exam performance is limited by several factors, including the fact that there are a number of exam providers across states, there is often little variability in observed state-level pass rates, the data usually include repeat test takers (who have had the advantage of taking the test before), and not all examinees may have obtained the stated curriculum hours for that state (instead choosing an apprenticeship substitution).

### Job Placement

- The state-level job placement rates range from 66% to 91%, with an average of 73.6% ( $SD = 5.7\%$ ).
  - o For NACCAS-accredited schools, there is a positive and significant relationship between the total number of curriculum hours and job placement rates.

### Student Financial Stability

- Tuition expenses range from about \$12,250 to \$19,250 with an average of \$14,611.2 ( $SD = \$2,300.4$ ). Expenses for books/supplies range from about \$1,100 to \$2,275 with an average of \$1,700.5 ( $SD = \$385.4$ ).
  - o There is a positive and significant relationship between total curriculum hours and expenses for tuition as well as books and supplies.
- The state-level cohort default rates range from 8.5% to 28.8%, with an average of 17.1%.
  - o Although there is variability in cohort default rates across states, there is no evidence of a relationship between total curriculum hours and cohort default rate for this sample of Title IV cosmetology programs.
- Median Title IV funding ranges from about \$7,000 to \$14,750, with an average of \$9,532.8 ( $SD = \$2,691.4$ ).
  - o There is a positive and significant relationship between the total number of curriculum hours and the median federal loan amount.
- Pell Grant award amounts for one year range from about \$4,000 to \$4,750, with an average of \$4,360.8 ( $SD = \$179.7$ ). To extrapolate the Pell Grant amount for the full curriculum hour requirement, a multiplier was applied to the data (e.g., programs with

1,800 hours were given a multiplier of two). For a full program, award amounts range from about \$4,750 to \$10,750, with an average of \$7,316.9 ( $SD = \$2,158.6$ ).

- o Correlational analyses revealed that there is no apparent relationship between the total number of curriculum hours and Pell Grant award amounts for one year. This finding may be due, in part, to the small range of variability for Pell Grant award amounts for this sample.
- o A correlational analysis was precluded for Pell Grant amounts for a full program because curriculum hours were used to create this variable; however, there is a clear upward trend in this variable such that as total curriculum hours increase, Pell Grant amounts for a full program also increase.

### School Financial Stability

Two metrics of school financial stability were analyzed for this research, both obtained from NACCAS: the percent of compliant schools in a state and the average financial composite score.

- For NACCAS-accredited schools, financial compliance rates range from 88% to 100%, with an average of 95.3%, and average composite scores range from 1.8 (just above the financial compliance cut-off of 1.5) to 2.6, with an average of 2.1.
  - o There is a relatively small amount of variance for both variables in the sample that was analyzed, and there is no evidence of a relationship between curriculum hours and these variables for this sample of NACCAS-accredited schools.

## 2.2 Employment Outcomes

Employment outcomes of interest included employment rates, wages, and career tenure. It is important to explore the relationship between curriculum hour requirements and these employment outcomes to determine whether and how curriculum hours be related to the number of cosmetology students that enter into these fields, the economic success of practitioners once on the job, and the length of time that practitioners work in the industry. Although establishing a direct causal link between curriculum hours and any employment variable is not possible without a controlled experimental research design to rule out alternative explanations, correlational analysis can provide preliminary evidence of an observed relationship between curriculum hours and other variables of interest.

To explore the impact that the total number of curriculum hours may have on these employment outcomes, state-level outcome data were compiled. AIR used the Bureau of Labor Statistics (BLS)<sup>24</sup> as the source for all employment data presented in this section of the report. Each analysis is described below, followed by results. In the case of career tenure, no data were available. Therefore, only a discussion of future analysis follows.

### Employment Rates

BLS (2015) projects a growth of 13% for cosmetology over the time period of 2012-2022. However, policy makers in the cosmetology industry are concerned that a high number of curriculum hours may be perceived by aspiring practitioners as a barrier to entry into the field

<sup>24</sup> BLS is a federal agency that collects, compiles, analyzes, and disseminates economic data to the public.

and may discourage would-be practitioners from pursuing these occupations. Given this, employment rate is an important variable for analysis.

The BLS (2016) data for “employment per 1,000 jobs” were used as the employment rate for this analysis, and indicates the number of cosmetology jobs per 1,000 jobs in a given area.<sup>25</sup> Exhibit 36 provides a summary of employment rates; for the data by state, refer to Appendix A: State-Level Data.

**Exhibit 36. Summary of Employment Rates**

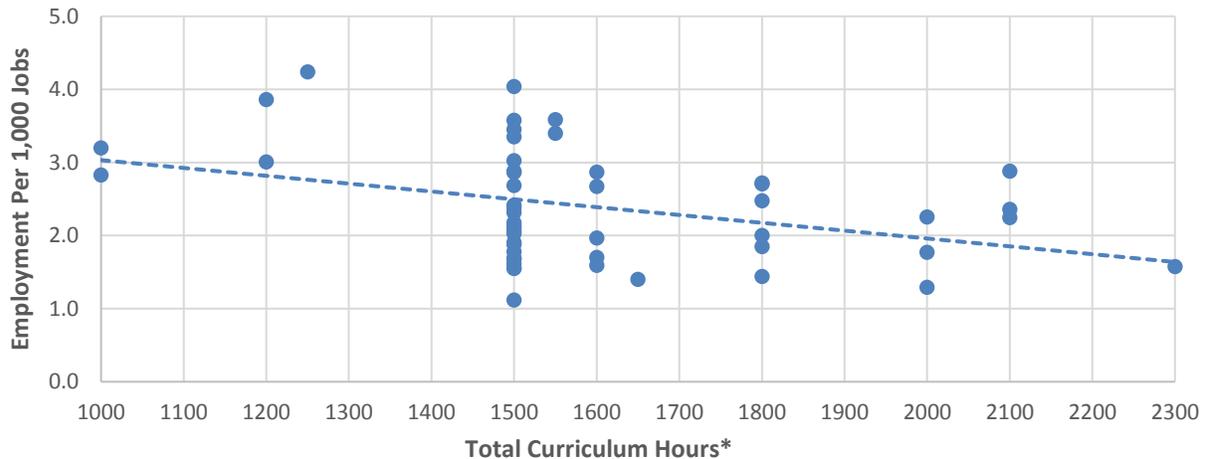
	n*	Minimum	Maximum	Median	M**	SD**
Employment in Cosmetology per 1,000 Jobs	51	1.1	4.2	2.3	2.4	0.8

Note: n = sample size; M = mean; SD = standard deviation.

\*\*Mean was calculated by averaging state-level data, and standard deviation was based on this mean.

The state-level employment rates range from 1.1 to 4.2 per 1,000 jobs, with an average of 2.4 (SD = 0.8). To determine whether the total number of curriculum hours across states may be related to employment rates, a correlational analysis was conducted. These results are presented in Exhibit 37.

**Exhibit 37. Curriculum Hours and Employment Rates**



\*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and employment rates are from May 2015.

----- Trendline (Significant)

The graph in Exhibit 37 illustrates a strong negative and significant relationship between the total number of curriculum hours and employment rates ( $r = -.37, p < .01$ ), which provides evidence that states with a higher number of total curriculum hours tend to have lower employment rates. However, these analyses are correlational in nature and there may be other variables that impact employment rates.

<sup>25</sup> Learn more at [http://www.bls.gov/oes/current/oes\\_abo.htm](http://www.bls.gov/oes/current/oes_abo.htm).

## Wages

The analysis of the relationship between curriculum hours and wages could help determine whether increased wages are a benefit of extended education. The BLS (2016) data for “average hourly wage” were used as the wage variable for this analysis, and is calculated using the estimated total hourly wages of an occupation divided by its estimated employment (i.e., the estimated total occupational employment not including self-employment). However, there are two primary limitations to these data: (1) the data reported incorporate reported hourly wage information, which excludes data on tips—a significant source of income for those in the service industry; and (2) wage estimates are for wage and salary workers only, which excludes self-employed persons. Exhibit 38 provides a summary of wages; for the data by state, refer to Appendix A: State-Level Data.

### Exhibit 38. Summary of Wages

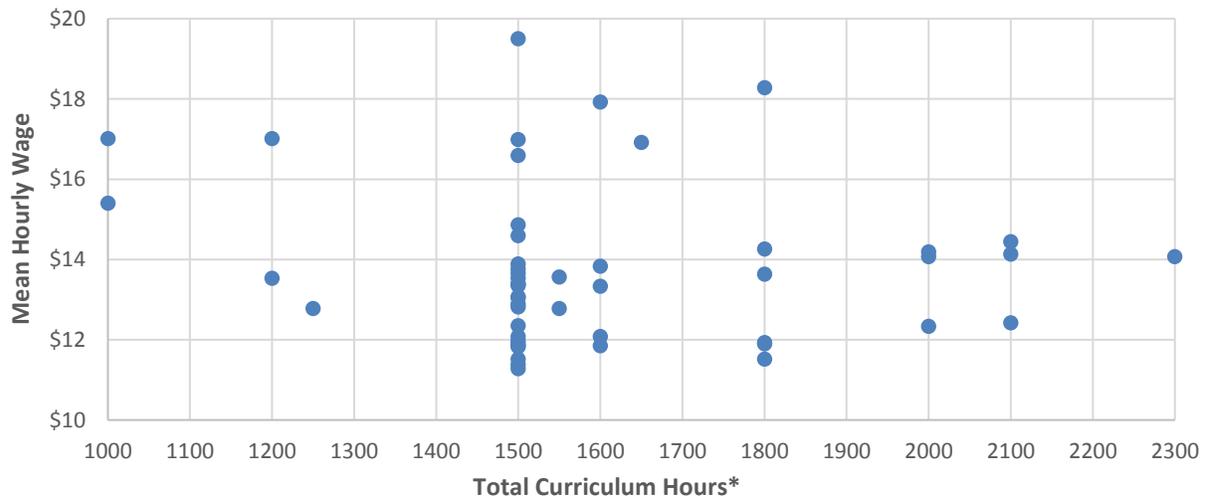
	n*	Minimum	Maximum	Median	M**	SD**
Mean Hourly Wage (\$)	51	11.3	19.5	13.4	13.7	2.0

**Note:** n = sample size; M = mean; SD = standard deviation.

\*\*Mean was calculated by averaging state-level data, and the standard deviation was based on this mean.

The state-level mean hourly wage amounts range from \$11.3 to \$19.5, with an average of \$13.7 ( $SD = \$2.0$ ). To determine whether the total number of curriculum hours across states may be associated with mean hourly wage, a correlational analysis was conducted. These results are presented in Exhibit 39.

### Exhibit 39. Curriculum Hours and Wages



\*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and wages are from May 2015.

The graph in Exhibit 39 shows the variability in mean hourly wage across the range of total curriculum hours. Statistically, there is no evidence of a relationship<sup>26</sup> between total curriculum hours and wages.

<sup>26</sup> The correlation was not significant relative to the standard alpha level ( $\rho$ ) of .05.

## Career Tenure

An analysis of the relationship between career tenure and curriculum hours—especially those spent on practical work—may provide insight into whether students in states with a higher number of curriculum hours have a more realistic preview of the job, and are, therefore, better prepared to succeed in and stick to a career in the field. Data on this outcome variable were not available via BLS or other data sources during this research, and this analysis is recommended as a future direction for research.

## Impact of Other Licensing Requirements on Employment Outcomes

The relationships between other licensing requirements (e.g., CE credits, length of renewal period) and employment outcomes were tested, and there were no significant relationships found.

## Conclusions

This preliminary review revealed correlational relationships between curriculum hours and employment outcomes.<sup>27</sup> However, there are extensive limitations in the available employment data for the cosmetology profession, and it is recommended that this analysis be further examined with more complete and systematically-collected data. The key findings of the current research are as follows:

### Employment Rates

- The state-level employment rates range from 1.1 to 4.2 per 1,000 jobs, with an average of 2.4 ( $SD = 0.8$ ).
  - There is a strong negative and significant relationship between the total number of curriculum hours and employment rates.

### Wages

- The state-level mean hourly wage amounts range from \$11.3 to \$19.5, with an average of \$13.7.
  - Although there is variability in mean hourly wage across states, there is no evidence of a relationship between total curriculum hours and wages.

### Career Tenure

- There are insufficient data on career tenure to explore the impact that curriculum hours may have on this employment outcome. Should the data be collected, they may provide insight into whether students in states with a higher number of curriculum hours have a more realistic preview of the job, and are therefore better prepared to succeed in a career in the field.

### Impact of Other Licensing Requirements on Employment Outcomes

- There are no significant relationships between other licensing requirements (e.g., CE credits, length of renewal period) and the employment outcomes examined in this research.

<sup>27</sup> These relationships are correlational in nature, and causation cannot be implied.

## 2.3 Safety Outcomes

The primary purpose of licensure for cosmetologists is to ensure the safety of the consumers receiving services, and the requirements for licensing should ensure that practitioners have the knowledge and skills required to perform the job safely. A 2012 national post-election study showed that 94 percent of the voting public supports licensing in the beauty industry, and a vast majority of the voting population believes that if states were to stop license requirements, then safety (82%) and quality (76%) would decline (PBA, 2013). With the goal of standardizing licensing requirements in mind, safety outcomes could, therefore, be the primary criteria by which the success of various requirements is measured.

To provide a system of accountability for standards of safety and health, state board officials or third parties may inspect beauty establishments on a scheduled or random basis, and may investigate practitioners and beauty establishments as a result of complaints filed with the state board. State boards typically track the number of complaints filed, safety incidents reported, inspections conducted, and violations resulting from inspections.

Although state boards receive and track information on complaints and safety incidents, standardized state-level information on the quantity or type of complaints and safety incidents was not readily available. To collect data for these analyses, AIR administered a survey to cosmetology state board administrators, and a summary of the results is presented below.

### Safety Incidents and Complaints

The number of safety incidents and complaints reported by the state board administrators widely varied, as shown in Exhibit 40. Due to the small sample sizes for each variable, these data are presented in summary only to describe the overall range of occurrence, and no inferences are appropriate at this time. It should be noted that AIR collected anecdotal evidence from cosmetology SMEs that complaints are sometimes a result of personal disputes between practitioners or competing establishments rather than a threat to consumer safety, further limiting its usefulness.

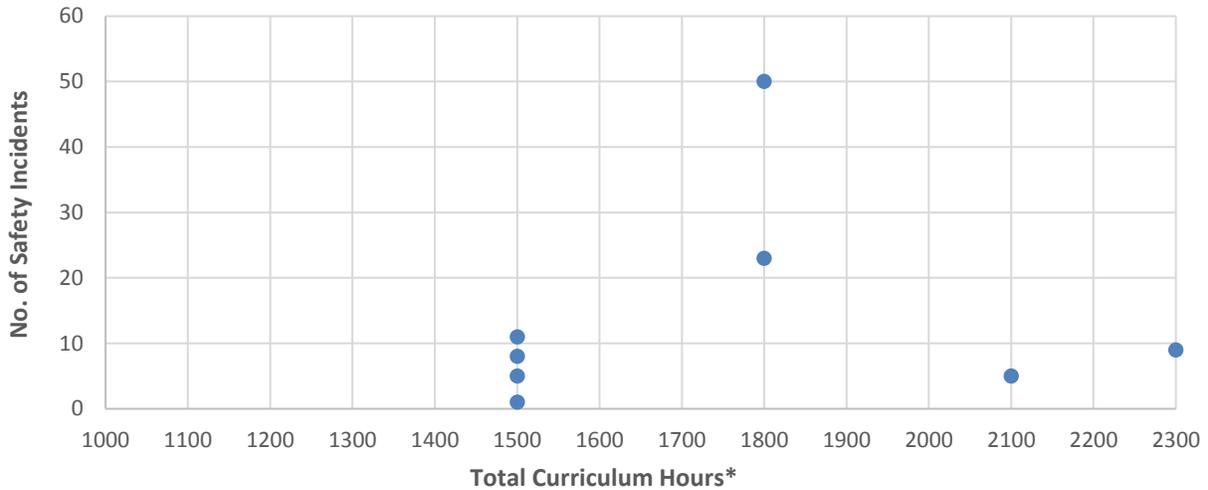
#### Exhibit 40. Summary of Safety Incidents and Complaints

	n	Minimum	Maximum	Median	M	SD
No. of Safety Incidents	8	1	50	8.5	14.0	15.9
No. of Complaints	16	5	2,708	84	408.6	762.5

**Note:** n = sample size; M = mean; SD = standard deviation.

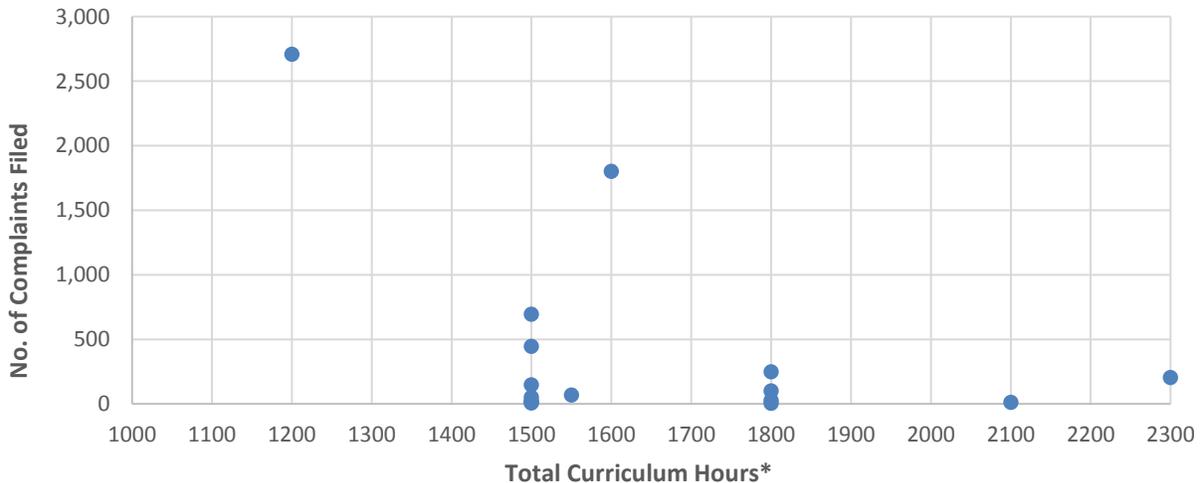
To illustrate the absence of any relationship between curriculum hours and each of these variables for this small sample of states, each survey response is plotted against the total number of curriculum hours for that state in Exhibit 41 (safety incidents) and Exhibit 42 (complaints filed). The small sample sizes precluded a correlational analysis for these variables.

**Exhibit 41. Curriculum Hours and Safety Incidents**



\*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and number of safety incidents are from 2014-2015.

**Exhibit 42. Curriculum Hours and Complaints Filed**



\*Note: Across states, the total number of curriculum hours required ranged from 1,000 to 2,300. Data on curriculum hours are from July 2015, and data on the outcome variable are from 2014-2015.

**Inspections**

In most states, inspections of beauty establishments are performed in two ways. Most commonly, inspections are conducted on a randomized schedule, and in some cases establishments are visited multiple times throughout the year. State boards may also perform inspections in response to consumer complaints, but this occurs less often than random inspections. Although it is interesting to examine the variability in inspections across states, a causal relationship between curriculum hours and number of inspections is not expected because inspections are more often conducted proactively rather than in response to a safety incident or complaint. Instead, the number of inspections is more likely to be affected by the vastly different structure, size, and resources of state boards. Additionally, the number of beauty establishments varies across states and larger and more populated states would likely have more inspections

compared to smaller and less populated states. For all of these reasons, comparing the relative number of inspections across states would be inappropriate.

A summary of the number of inspections conducted in a single year as reported by the sample of survey respondents is presented in Exhibit 43. However, for the reasons cited above, this is included only to describe the range and variability of data across states and no inferences or conclusions about these data are made.

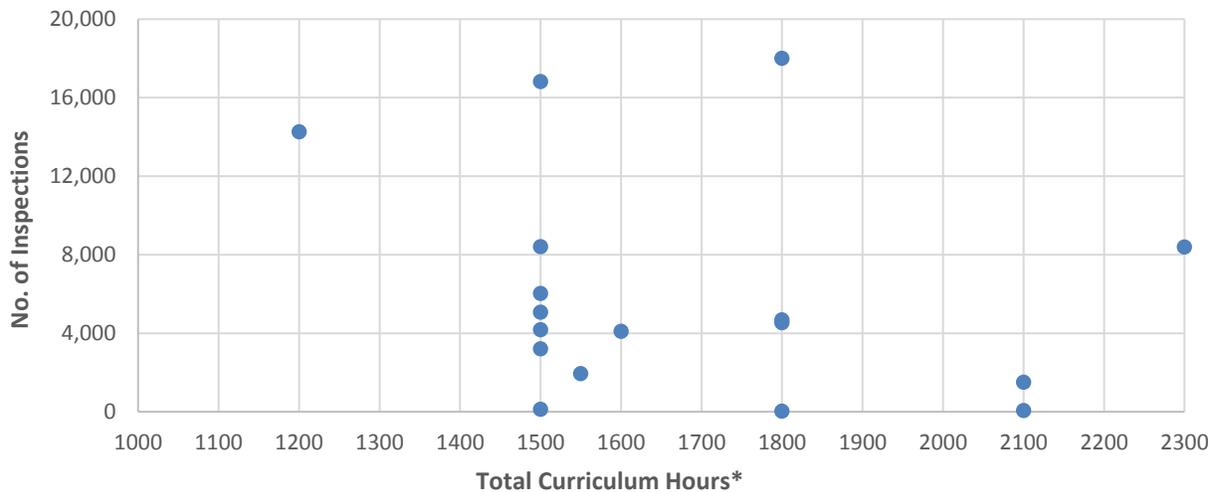
**Exhibit 43. Summary of Inspections**

	n	Minimum	Maximum	Median	M	SD
No. of Inspections	17	25	18,000	4,527	5,954.3	5,604.9

**Note:** n = sample size; M = mean; SD = standard deviation.

To illustrate the absence of any relationship between curriculum hours and inspections for this small sample of states, each survey response is plotted against the total number of curriculum hours for that state in Exhibit 44.

**Exhibit 44. Curriculum Hours and Inspections**



\*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and number of inspections are from 2014-2015.

**Types of Violations**

When asked about the most common violations witnessed during inspections, respondents indicated two primary types of violations: safety and sanitation, and inadequate licensing (i.e., no license, expired license, or license not displayed). Other responses included practicing outside scope of services, having pets in the shop, falsifying an application, and unprofessional conduct. A full list of survey responses is presented in Appendix A: State-Level Data.

## Impact of Other Licensing Requirements on Safety Outcomes

The relationships between other licensing requirements (e.g., CE credits, length of renewal period) and safety outcomes were tested, and there were no significant relationships found. However, with a more complete and standardized sample of safety outcomes, it could be useful to analyze and track potential trends and effects of other requirements in the future, especially as the cosmetology industry landscape changes with the likely implementation of new, standardized licensing requirements.

## Conclusions

This preliminary review of the relationship between licensing requirements and safety outcomes was inconclusive due to the extensive limitations in the available safety data for the cosmetology profession. Given that the primary purpose of licensure for cosmetologists is to ensure the safety of the consumers receiving services, it is recommended that this analysis be further examined with more complete and systematically-collected data. The key findings of this research are as follows:

- To provide a system of accountability for standards of safety and health, state board officials or third parties may inspect beauty establishments on a scheduled or random basis, and may investigate practitioners and beauty establishments as a result of complaints filed with the state board.
- State boards typically track the number of complaints filed, safety incidents reported, inspections conducted, and violations resulting from inspections. However, standardized, state-level information on the quantity or qualities of these outcomes was not readily available.
- Anecdotal evidence from cosmetology SMEs indicates complaints are often a result of personal disputes between practitioners or competing establishments rather than threats to consumer safety.
- Given the available data, there is no evidence of a relationship between curriculum hours and the number of safety incidents or complaints.
- While important to consider, the number of inspections for each state is not expected to relate to the total number of curriculum hours required for licensing, as inspections are more often conducted proactively rather than in response to a safety incident or complaint. Furthermore, state boards are vastly different in structure, size, and resources, therefore comparing the relative number of inspections across states would be inappropriate. Finally, the number of facilities varies greatly across states. This suggests that larger and more populated states would likely have more inspections compared to smaller and less populated states, and this should therefore not be interpreted as lower safety of consumers.

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## APPENDIX A: STATE-LEVEL DATA

This appendix provides state-level data that were analyzed and reported on throughout this report.

### Licensing Requirements

A full list of licensing requirements for each state was compiled to produce the summaries in the section of this report entitled Licensing Requirements. The full lists of requirements are provided in Exhibit 45, sorted in ascending order by hours.

**Exhibit 45. State-Level Data: Licensing Requirements**

State	Total Curric. Hours	Apprenticeship Model		Age	Secondary Education	Physical Exam	Licensing Renewal	
		In Addition to	As a Replacement				Frequency	CE Credits
Massachusetts	1,000	None	No Option	17	10th Grade	--	2 years <sup>28</sup>	None
New York	1,000	None	No Option	--	--	--	4 years	None
Florida	1,200	None	No Option	16	--	--	2 years	16
New Jersey	1,200	None	No Option	17	10th Grade	--	2 years	None
Pennsylvania	1,250	None	2000	16	10th Grade	--	2 years	None
Alabama	1,500	None	3000	18	--	--	2 years	None
Arkansas	1,500	None	No Option	16	10th Grade	--	2 years	None
Connecticut	1,500	None	No Option	--	8th Grade	--	2 years	10
Delaware	1,500	None	3000	--	10th Grade	--	2 years	None
District of Columbia	1,500	None	1500	--	--	--	2 years	6
Georgia	1,500	None	3000	17	High School Diploma/GED	--	2 years	5
Illinois	1,500	None	Partial <sup>29</sup>	16	--	--	2 years	14
Indiana	1,500	None	No Option	18	10th Grade	--	4 years	None
Kansas	1,500	None	No Option	17	High School Diploma/GED	--	2 years	None
Louisiana	1,500	None	No Option	16	10th Grade	--	1 year	None
Maine	1,500	2 years	2500	17	10th Grade	--	1 year	None
Maryland	1,500	None	24 Months	17	9th Grade	--	2 years	16
Michigan	1,500	None	2 years	17	9th Grade	--	2 years <sup>28</sup>	None
Mississippi	1,500	None	No Option	17	High School Diploma/GED	--	2 years	8
Missouri	1,500	None	3000	17	High School Diploma/GED	--	2 years	None
New Hampshire	1,500	None	3000	18	High School Diploma/GED	--	2 years	None
North Carolina	1,500	None	No Option	--	--	--	3 years	24
Ohio	1,500	None	--	18	--	--	2 years	8
Oklahoma	1,500	None	3000	16	8th Grade	--	1 year	None

**Note:** Dashes (--) indicate missing data. GED = General Educational Development

*(continued on next page)*

<sup>28</sup> Except new licensees must renew 1 year after licensing, then every 2 years.

<sup>29</sup> An apprenticeship may be substituted for 150 hours of the 1500 curriculum hours if under the direct supervision of a licensed cosmetologist in a registered salon. Candidates may participate in this apprenticeship program only after completing 750 hours of school training with a minimum average grade of 80.

**Exhibit 45. State-Level Data: Licensing Requirements (Continued)**

State	Total Curric. Hours	Apprenticeship Model		Age	Secondary Education	Physical Exam	Licensing Renewal	
		In Addition to	As a Replacement				Frequency	CE Credits
Rhode Island	1,500	None	No Option <sup>30</sup>	17	High School Diploma/GED	--	2 years	None
South Carolina	1,500	None	No Option	16	10th Grade	--	2 years	12
Tennessee	1,500	None	No Option	17	10th Grade	--	2 years	None
Texas	1,500	None	No Option	17	High School Diploma/GED	--	2 years	4
Vermont	1,500	None	No Option	18	High School Diploma/GED	--	2 years	None
Virginia	1,500	None	3000	None	High School Diploma/GED	--	2 years	None
Minnesota	1,550	None	No Option	16	High School Diploma/GED	--	3 years	4
Wisconsin	1,550	None	4000	18	High School Diploma/GED	--	2 years	4
Arizona	1,600	None	No Option	--	--	--	2 years	None
California	1,600	None	3200	17	10th Grade	--	2 years	None
New Mexico	1,600	None	No Option	17	10th Grade	--	1 year	None
Utah	1,600	None	2500	None	--	--	2 years	None
Washington	1,600	None	2000	17	High School Diploma/GED	--	2 years	None
Alaska	1,650	None	2000	--	--	--	2 years	None
Colorado	1,800	None	No Option	--	--	--	1 year	None
Hawaii	1,800	None	3600	16	High School Diploma/GED	--	2 years	None
Kentucky	1,800	480 hours (6 months)	No Option	16	10th Grade	--	1 year	None
Nevada	1,800	None	No Option <sup>31</sup>	18	10th Grade	--	2 years	4
North Dakota	1,800	None	No Option	--	High School Diploma/GED	--	1 year	None
West Virginia	1,800	None	No Option	18	High School Diploma/GED	TB test	1 year	4
Idaho	2,000	None	4000	16.5	10th Grade	--	1 year	None
Montana	2,000	None	Only with pre-approval	18	High School Diploma/GED	--	2 years <sup>32</sup>	30
Wyoming	2,000	None	Only with pre-approval	16	10th Grade	--	2 years	None
Iowa	2,100	None	No Option	--	High School Diploma/GED	--	2 years	8
Nebraska	2,100	None	No Option	17	High School Diploma/GED	--	2 years	8
South Dakota	2,100	None	No Option <sup>33</sup>	17	High School Diploma/GED	--	1 year	None
Oregon	2,300	None	No Option	None	--	--	2 years	None

**Note:** Dashes (--) indicate missing data. GED = General Educational Development

<sup>30</sup> Revoked option in 2015.

<sup>31</sup> Exceptions can be made for those who live more than 60 miles from closest school.

<sup>32</sup> 15 CE each 1 year.

<sup>33</sup> Few exceptions are made.

## Impact of Curriculum Hours on Education Outcomes

To conduct the analyses in the section of this report entitled Education Outcomes, data were collected from accrediting agencies, state boards, or test providers upon request. State-level data for these variables are presented in Exhibit 46 through Exhibit 54, and details regarding what is included in these data are presented throughout the report.

### Exhibit 46. State-Level Data: School Program Length

State	Total Curriculum Hours	School Program Length (2015-16)	
		n*	Estimated No. of Months to Complete
Massachusetts	1,000	18	9.9
New York	1,000	31	9.1
Ohio	1,500	37	14.7
Tennessee	1,500	21	12.5
Texas	1,500	68	12.6
Colorado	1,800	12	15.2
Kentucky	1,800	11	15.5
Nevada	1,800	6	14.3
Idaho	2,000	15	15.1
Iowa	2,100	18	15.6
Nebraska	2,100	5	15.0

**Note:** Data were only obtained for schools within 11 states that were of particular interest during this research. Data are sorted in ascending order by hours.

\*This sample size (n) indicates the number of schools represented in the data for each state.

## Exhibit 47. State-Level Data: Graduation Rates (NACCAS-Accredited Schools Only)

State	Total Curriculum Hours	Graduation Rates (2013-2014)		
		No. of Actual Graduates	No. of Scheduled Graduates	Rate (%)
Wyoming	2,000	62	72	86.1
New York	1,000	5,158	6,815	75.7
Montana	2,000	310	410	75.6
Nebraska	2,100	440	588	74.8
Washington	1,600	1,857	2,484	74.8
Massachusetts	1,000	1,845	2,474	74.6
California	1,600	15,142	20,494	73.9
Alabama	1,500	403	551	73.1
Idaho	2,000	940	1,297	72.5
Georgia	1,500	1,325	1,829	72.4
Hawaii	1,800	78	108	72.2
Rhode Island	1,500	430	596	72.1
Colorado	1,800	1,670	2,334	71.6
Florida	1,200	5,933	8,300	71.5
Arkansas	1,500	901	1,266	71.2
Kansas	1,500	913	1,283	71.2
New Jersey	1,200	2,533	3,570	71.0
Louisiana	1,500	1,299	1,835	70.8
Utah	1,600	1,769	2,518	70.3
Illinois	1,500	4,150	5,920	70.1
South Dakota	2,100	110	157	70.1
Minnesota	1,550	1,348	1,935	69.7
Michigan	1,500	2,808	4,041	69.5
Missouri	1,500	1,848	2,675	69.1
New Hampshire	1,500	435	630	69.0
Iowa	2,100	840	1,221	68.8
North Dakota	1,800	284	413	68.8
Oklahoma	1,500	781	1,151	67.9
Pennsylvania	1,250	3,257	4,796	67.9
Maine	1,500	527	777	67.8
New Mexico	1,600	455	672	67.7
District of Columbia	1,500	237	351	67.5
Ohio	1,500	3,210	4,772	67.3
Tennessee	1,500	1,944	2,894	67.2
Vermont	1,500	79	118	66.9
Connecticut	1,500	972	1,459	66.6
Virginia	1,500	1,318	1,979	66.6
Nevada	1,800	1,146	1,741	65.8
Texas	1,500	5,990	9,120	65.7
Oregon	2,300	1,141	1,742	65.5
Arizona	1,600	1,676	2,563	65.4
Wisconsin	1,550	1,295	1,981	65.4
Mississippi	1,500	529	816	64.8
Indiana	1,500	1,721	2,673	64.4
South Carolina	1,500	955	1,487	64.2
West Virginia	1,800	207	328	63.1
North Carolina	1,500	1,711	2,801	61.1
Maryland	1,500	1,276	2,093	61.0
Kentucky	1,800	926	1,634	56.7
Delaware	1,500	240	436	55.0
Alaska	1,650	--	--	--

**Note:** Dashes (--) indicate missing data. NACCAS = National Accrediting Commission of Career Arts and Sciences. Data are sorted in descending order by graduation rate.

**Exhibit 48. State-Level Data: Licensing Exam Performance**

State	Total Curric. Hours	Overall Exam Pass Rate (NACCAS-Accredited Schools Only; 2014)			NIC Written and Practical Exam Pass Rate (NIC Exam Only; 2015)					
		No. of Passing Examinees for All Sections	No. of Examinees for All Sections	Rate (%)	NIC Written Exam			NIC Practical Exam		
					No. of Passing Examinees	No. of Examinees	Rate (%)	No. of Passing Examinees	No. of Examinees	Rate (%)
South Dakota	2,100	106	106	100.0	71	77	92.2	76	79	96.2
Vermont	1,500	68	68	100.0	29	32	90.6	36	41	87.8
Wyoming	2,000	58	58	100.0	50	50	100.0	56	56	100.0
Iowa	2,100	747	748	99.9	348	382	91.1	--	--	--
Alabama	1,500	224	225	99.6	612	699	87.6	629	646	97.4
North Dakota	1,800	242	243	99.6	95	105	90.5	--	--	--
Maine	1,500	369	372	99.2	130	136	95.6	132	132	100.0
Minnesota	1,550	1,138	1,150	99.0	--	--	--	--	--	--
District of Columbia	1,500	88	89	98.9	79	119	66.4	--	--	--
New Mexico	1,600	257	260	98.8	220	242	90.9	235	240	97.9
Nebraska	2,100	368	373	98.7	209	235	88.9	--	--	--
Idaho	2,000	851	863	98.6	336	364	92.3	365	371	98.4
New Hampshire	1,500	361	366	98.6	169	187	90.4	170	171	99.4
Rhode Island	1,500	348	353	98.6	180	247	72.9	--	--	--
Delaware	1,500	133	135	98.5	151	187	80.8	178	181	98.3
Massachusetts	1,000	1,414	1,435	98.5	--	--	--	--	--	--
South Carolina	1,500	769	784	98.1	1199	1382	86.8	1201	1209	99.3
Nevada	1,800	784	800	98.0	371	461	80.5	414	417	99.3
Utah	1,600	1,481	1,512	97.9	686	734	93.5	774	838	92.4
Arkansas	1,500	673	688	97.8	451	487	92.6	501	558	89.8
West Virginia	1,800	174	178	97.8	151	167	90.4	198	202	98.0
Texas	1,500	4,063	4,163	97.6	--	--	--	--	--	--
Colorado	1,800	1,219	1,253	97.3	--	--	--	--	--	--
New York	1,000	2,427	2,494	97.3	--	--	--	--	--	--
Oregon	2,300	955	982	97.3	--	--	--	--	--	--
Hawaii	1,800	33	34	97.1	--	--	--	--	--	--
Montana	2,000	287	296	97.0	128	131	97.7	121	122	99.2
Washington	1,600	1,540	1,588	97.0	--	--	--	837	953	87.8
Indiana	1,500	1,461	1,508	96.9	--	--	--	--	--	--
Georgia	1,500	672	694	96.8	1195	1472	81.2	1274	1395	91.3
Missouri	1,500	1,396	1,442	96.8	768	838	91.7	801	839	95.5
Virginia	1,500	831	859	96.7	--	--	--	--	--	--
New Jersey	1,200	1,118	1,163	96.1	--	--	--	--	--	--
Arizona	1,600	1,195	1,247	95.8	786	907	86.7	795	851	93.4
Tennessee	1,500	1,167	1,222	95.5	--	--	--	--	--	--
North Carolina	1,500	1,127	1,182	95.3	1189	1301	91.4	1188	1328	89.5
Oklahoma	1,500	628	662	94.9	736	894	82.3	--	--	--
Wisconsin	1,550	855	903	94.7	--	--	--	--	--	--
Michigan	1,500	2,091	2,223	94.1	--	--	--	--	--	--
Ohio	1,500	2,582	2,749	93.9	--	--	--	--	--	--
Pennsylvania	1,250	1,957	2,098	93.3	--	--	--	--	--	--
Kansas	1,500	615	660	93.2	--	--	--	--	--	--
Louisiana	1,500	877	944	92.9	750	994	75.5	--	--	--
Illinois	1,500	3,016	3,265	92.4	--	--	--	--	--	--
Mississippi	1,500	330	362	91.2	194	218	89.0	166	203	81.8
Florida	1,200	3,653	4,051	90.2	--	--	--	--	--	--
Connecticut	1,500	653	727	89.8	--	--	--	--	--	--
Kentucky	1,800	660	748	88.2	--	--	--	--	--	--
Maryland	1,500	750	851	88.1	--	--	--	--	--	--
California	1,600	9,964	11,620	85.7	5426	6601	82.2	--	--	--
Alaska	1,650	--	--	--	40	50	80.0	--	--	--

**Note:** Dashes (--) indicate missing data. NACCAS = National Accrediting Commission of Career Arts and Sciences; NIC = National-Interstate Council of State Boards of Cosmetology. Data are sorted in descending order by overall exam pass rate.

**Exhibit 49. State-Level Data: Job Placement (NACCAS-Accredited Schools Only)**

State	Total Curriculum Hours	Job Placement (2014)		
		No. of Graduates Employed in Cosmetology	No. of Graduates Eligible for Employment	Rate (%)
Montana	2,000	280	309	90.6
South Dakota	2,100	98	110	89.1
Wyoming	2,000	54	61	88.5
West Virginia	1,800	178	207	86.0
Iowa	2,100	693	834	83.1
Oklahoma	1,500	622	758	82.1
Minnesota	1,550	1,086	1,333	81.5
Rhode Island	1,500	350	430	81.4
Idaho	2,000	724	901	80.4
North Dakota	1,800	225	283	79.5
Alabama	1,500	318	403	78.9
Nebraska	2,100	344	437	78.7
Indiana	1,500	1,340	1,712	78.3
Maine	1,500	405	522	77.6
New Jersey	1,200	1,959	2,527	77.5
District of Columbia	1,500	182	237	76.8
Connecticut	1,500	741	966	76.7
Wisconsin	1,550	984	1,287	76.5
South Carolina	1,500	707	928	76.2
Maryland	1,500	959	1,267	75.7
Utah	1,600	1,316	1,744	75.5
Ohio	1,500	2,376	3,153	75.4
Illinois	1,500	3,095	4,122	75.1
Missouri	1,500	1,363	1,822	74.8
Delaware	1,500	179	240	74.6
New Mexico	1,600	326	437	74.6
New York	1,000	3,828	5,130	74.6
Oregon	2,300	837	1,126	74.3
Arkansas	1,500	627	846	74.1
Pennsylvania	1,250	2,392	3,230	74.1
Washington	1,600	1,345	1,818	74.0
North Carolina	1,500	1,258	1,704	73.8
Georgia	1,500	972	1,325	73.4
California	1,600	10,745	14,884	72.2
Michigan	1,500	2,004	2,791	71.8
Florida	1,200	4,123	5,757	71.6
Kansas	1,500	653	912	71.6
Louisiana	1,500	926	1,296	71.5
Virginia	1,500	936	1,309	71.5
Arizona	1,600	1,182	1,657	71.3
Kentucky	1,800	653	919	71.1
Hawaii	1,800	55	78	70.5
Massachusetts	1,000	1,295	1,836	70.5
New Hampshire	1,500	299	427	70.0
Tennessee	1,500	1,329	1,905	69.8
Texas	1,500	4,064	5,823	69.8
Mississippi	1,500	358	521	68.7
Colorado	1,800	1,133	1,657	68.4
Vermont	1,500	54	79	68.4
Nevada	1,800	755	1,138	66.3
Alaska	1,650	--	--	--

**Note:** Dashes (--) indicate missing data. NACCAS = National Accrediting Commission of Career Arts and Sciences. Data are sorted in descending order by job placement rate.

**Exhibit 50. State-Level Data: School Program Expenses (for Full Program)**

State	Total Curriculum Hours	School Program Expenses (2015-16)			
		n*	Tuition (\$)	n*	Books/Supplies (\$)
Massachusetts	1,000	18	12,263.1	18	1,347.7
New York	1,000	31	12,603.5	30	1,481.2
Ohio	1,500	37	15,705.8	33	1,778.2
Tennessee	1,500	21	13,969.0	21	1,421.9
Texas	1,500	68	14,093.8	65	1,646.3
Colorado	1,800	12	16,168.8	11	2,235.3
Kentucky	1,800	11	14,164.5	8	1,111.6
Nevada	1,800	6	19,235.2	6	1,673.8
Idaho	2,000	16	14,511.9	16	2,110.8
Iowa	2,100	18	17,624.9	17	2,269.3
Nebraska	2,100	5	18,311.0	5	2,200.0

**Note:** Data were only obtained for schools within 11 states that were of particular interest during this research. Data are sorted in ascending order by hours.

\*This sample size (n) indicates the number of schools represented in the data for each state.

**Exhibit 51. State-Level Data: Student Loan Debt**

State	Total Curriculum Hours	Student Loan Debt (Unknown Year)	
		n*	Median Title IV Funding (\$)
Massachusetts	1,000	15	6,984.4
New York	1,000	26	7,268.8
Ohio	1,500	14	8,342.4
Tennessee	1,500	14	8,269.0
Texas	1,500	30	8,633.4
Colorado	1,800	9	11,685.4
Kentucky	1,800	7	11,774.0
Nevada	1,800	5	12,392.8
Idaho	2,000	14	11,837.1
Iowa	2,100	16	13,370.9
Nebraska	2,100	3	14,666.7

**Note:** Data were only obtained for schools within 11 states that were of particular interest during this research. Data are sorted in ascending order by hours.

\*This sample size (n) indicates the number of schools represented in the data for each state.

**Exhibit 52. State-Level Data: Pell Grants**

State	Total Curriculum Hours	Pell Grants (2015-16)			
		n*	Pell Grant for One Year (\$)	State Multiplier**	Pell Grant for Full Program (\$)
Massachusetts	1,000	18	4,241.6	1.1	4,712.8
New York	1,000	30	4,419.4	1.1	4,910.5
Ohio	1,500	36	4,501.6	1.7	7,274.7
Tennessee	1,500	18	4,305.3	1.7	7,175.5
Texas	1,500	61	4,112.4	1.7	6,582.9
Colorado	1,800	12	4,368.3	2.0	8,736.7
Kentucky	1,800	11	4,674.9	2.0	9,349.8
Nevada	1,800	5	4,642.6	2.0	9,285.2
Idaho	2,000	16	4,499.9	2.2	9,999.7
Iowa	2,100	18	4,567.7	2.3	10,658.0
Nebraska	2,100	5	4,473.4	2.3	10,437.9

**Note:** Data were only obtained for schools within 11 states that were of particular interest during this research. Data are sorted in ascending order by hours.

\*This sample size (n) indicates the number of schools represented in the data for each state.

\*\*This data set included the average Pell Grant for cosmetology programs in a single year (operationalized as 900 hours). To extrapolate the Pell Grant amount for the full curriculum hour requirement, a multiplier was applied to the school-level data (e.g., programs with 1,800 hours were given a multiplier of two).

**Exhibit 53. State-Level Data: Cohort Default (Title IV Cosmetology Programs Only)**

State	Total Curriculum Hours	Cohort Default (2012)			
		n*	No. of Borrowers in Default	No. of Borrowers in Repayment	Rate (%)
Massachusetts	1,000	16	287	1971	14.6
New York	1,000	20	653	5256	12.4
Florida	1,200	49	4993	27715	18.0
New Jersey	1,200	10	111	1143	9.7
Pennsylvania	1,250	23	621	4824	12.9
Alabama	1,500	7	3159	19376	16.3
Arkansas	1,500	14	907	5058	17.9
Connecticut	1,500	7	87	914	9.5
Delaware	1,500	2	17	152	11.2
District of Columbia	1,500	1	24	103	23.3
Georgia	1,500	17	708	3589	19.7
Illinois	1,500	33	881	6835	12.9
Indiana	1,500	15	115	1142	10.1
Kansas	1,500	10	799	5884	13.6
Louisiana	1,500	16	297	2376	12.5
Maine	1,500	2	50	452	11.1
Maryland	1,500	16	883	4837	18.3
Michigan	1,500	18	1489	8839	16.8
Mississippi	1,500	14	2825	12857	22.0
Missouri	1,500	23	1183	6598	17.9
New Hampshire	1,500	2	21	139	15.1
North Carolina	1,500	24	1798	7709	23.3
Ohio	1,500	27	305	2629	11.6
Oklahoma	1,500	17	309	2471	12.5
Rhode Island	1,500	2	16	181	8.8
South Carolina	1,500	12	2553	13329	19.2
Tennessee	1,500	20	1062	5717	18.6
Texas	1,500	53	5891	31552	18.7
Vermont	1,500	0	--	--	--
Virginia	1,500	9	97	773	12.5
Minnesota	1,550	14	2397	14469	16.6
Wisconsin	1,550	8	123	952	12.9
Arizona	1,600	8	443	2605	17.0
California	1,600	60	2106	12444	16.9
New Mexico	1,600	6	824	6127	13.4
Utah	1,600	7	71	498	14.3
Washington	1,600	16	448	3056	14.7
Alaska	1,650	0	--	--	--
Colorado	1,800	11	388	2470	15.7
Hawaii	1,800	0	--	--	--
Kentucky	1,800	7	882	3063	28.8
Nevada	1,800	4	69	447	15.4
North Dakota	1,800	5	54	422	12.8
West Virginia	1,800	5	52	341	15.2
Idaho	2,000	11	518	4571	11.3
Montana	2,000	3	24	228	10.5
Wyoming	2,000	1	13	126	10.3
Iowa	2,100	16	425	2781	15.3
Nebraska	2,100	6	153	1229	12.4
South Dakota	2,100	2	65	764	8.5
Oregon	2,300	16	172	1472	11.7

**Note:** Dashes (--) indicate missing data. Data are sorted in ascending order by hours.

\*This sample size (n) indicates the number of schools represented in the data for each state.

**Exhibit 54. State-Level Data: School Financial Stability (NACCAS-Accredited Schools Only)**

State	Total Curric. Hours	School Financial Stability (2013-2014)			
		No. of Compliant School Owners	No. of School Owners	Compliance Rate (%)	Mean Composite Score
Massachusetts	1,000	8	8	100.0	2.0
New York	1,000	24	25	96.0	2.2
Ohio	1,500	26	27	96.3	2.1
Tennessee	1,500	19	20	95.0	2.1
Texas	1,500	49	52	94.2	2.1
Colorado	1,800	12	13	92.3	2.1
Kentucky	1,800	7	8	87.5	1.8
Nevada	1,800	5	5	100.0	2.6
Idaho	2,000	15	15	100.0	2.3
Iowa	2,100	12	13	92.3	2.1
Nebraska	2,100	4	4	100.0	2.2

**Note:** Due to the confidential nature of these data, data were only obtained for these 11 states, which were of particular interest during this research. Data are sorted in ascending order by hours.

## Impact of Curriculum Hours on Employment Outcomes

To conduct the analyses in the section of this report entitled Employment Outcomes, data were collected from the Bureau of Labor Statistics (BLS; 2016). State-level data for these variables are presented in Exhibit 55, sorted in ascending order by hours.

**Exhibit 55. State-Level Data: Employment Rates and Wages**

State	Total Curriculum Hours	Employment in Cosmetology Per 1,000 Jobs (May 2015)	Mean Hourly Wage (\$; May 2015)
Massachusetts	1,000	3.2	17.0
New York	1,000	2.8	15.4
Florida	1,200	3.0	13.5
New Jersey	1,200	3.9	17.0
Pennsylvania	1,250	4.2	12.8
Alabama	1,500	1.8	12.0
Arkansas	1,500	1.6	11.9
Connecticut	1,500	3.6	14.6
Delaware	1,500	4.0	16.6
District of Columbia	1,500	1.6	19.5
Georgia	1,500	2.1	13.1
Illinois	1,500	2.9	13.4
Indiana	1,500	2.2	11.9
Kansas	1,500	2.4	12.4
Louisiana	1,500	1.5	11.5
Maine	1,500	2.1	12.8
Maryland	1,500	3.5	14.9
Michigan	1,500	2.7	13.4
Mississippi	1,500	1.1	11.4
Missouri	1,500	2.4	13.1
New Hampshire	1,500	3.0	13.8
North Carolina	1,500	1.7	13.5
Ohio	1,500	3.4	12.1
Oklahoma	1,500	1.7	11.3
Rhode Island	1,500	2.3	13.4
South Carolina	1,500	1.9	11.8
Tennessee	1,500	2.0	13.7
Texas	1,500	1.9	12.9
Vermont	1,500	2.1	13.9
Virginia	1,500	2.9	17.0
Minnesota	1,550	3.4	13.6
Wisconsin	1,550	3.6	12.8
Arizona	1,600	2.9	12.1
California	1,600	1.7	13.8
New Mexico	1,600	1.6	13.3
Utah	1,600	2.0	11.9
Washington	1,600	2.7	17.9
Alaska	1,650	1.4	16.9
Colorado	1,800	2.7	13.6
Hawaii	1,800	1.4	18.3
Kentucky	1,800	1.9	11.9
Nevada	1,800	2.5	11.5
North Dakota	1,800	2.7	14.3
West Virginia	1,800	2.0	11.9
Idaho	2,000	2.3	12.3
Montana	2,000	1.3	14.1
Wyoming	2,000	1.8	14.2
Iowa	2,100	2.4	12.4
Nebraska	2,100	2.9	14.4
South Dakota	2,100	2.2	14.1
Oregon	2,300	1.6	14.1

**Note:** Dashes (--) indicate missing data. Data are sorted in ascending order by hours.

## Impact of Curriculum Hours on Safety Outcomes

To gather information on safety outcomes for which public information was not readily available, AIR administered a brief survey to cosmetology state board administrators throughout the United States. AIR received responses from representatives from 19 cosmetology state boards, and the data were used to produce the summaries in the section of this report entitled Safety Outcomes. The full set of safety data obtained from the survey is provided in Exhibit 56 and Exhibit 57, sorted in ascending order by hours.

### Exhibit 56. State-Level Data: Safety Incidents, Complaints, and Inspections

State	Total Curriculum Hours	Safety Incidents	Complaints	Inspections
Florida	1,200	--	2,708	14,248
Arkansas	1,500	5	20	8,400
District of Columbia	1,500	8	10	122
Georgia	1,500	--	444	6,016
Kansas	1,500	11	51	5,057
Mississippi	1,500	1	6	3,200
North Carolina	1,500	--	693	16,823
South Carolina	1,500	--	146	4,167
Minnesota	1,550	--	68	1,938
Arizona	1,600	--	1,800	4,088
Colorado	1,800	--	247	25
Kentucky	1,800	--	5	18,000
Nevada	1,800	50	100	4,527
West Virginia	1,800	23	26	4,678
Iowa	2,100	--	--	50
South Dakota	2,100	5	10	1,500
Oregon	2,300	9	204	8,384

Note: Dashes (--) indicate missing data. Data are sorted in ascending order by hours.

### Exhibit 57. State-Level Data: Common Violations Documented during Inspections

State	Total Curriculum Hours	Most Common Violations
Florida	1,200	Unlicensed activity, safety & sanitation violations, document violations
Arkansas	1,500	Dirty implements and expired license
District of Columbia	1,500	Lack of cleaning/sanitizing between customers; dirty equipment, dirty shop/salon
Georgia	1,500	Sanitation; unlicensed practice
Mississippi	1,500	Expired license, work station not sanitary, practicing without a license
North Carolina	1,500	Storage and disinfection
California	1,600	Sanitation and licensing violations
Alaska	1,650	Info not available to board staff members
Colorado	1,800	Beauty salons are combined in the total number of inspections; most common: unlicensed practice & re-use of a single use item
Kentucky	1,800	Unlicensed practice within the nail tech environment
Nevada	1,800	Unlicensed activity, sanitation, outside scope of services
North Dakota	1,800	Disinfecting, shop conditions
West Virginia	1,800	Operating a shop with an expired license
Oregon	2,300	Licenses expired

Note: Dashes (--) indicate missing data. Data are sorted in ascending order by hours.

## Relationships between Education and Employment Outcome Variables

The relationship between total curriculum hours and education and employment outcomes were of primary interest for this research, and these are discussed throughout the full and abridged report. Although we focused the report on how curriculum hours relate to each outcome, it is also important to explore how all variables relate to one another.

Exhibit 58 provides the correlation coefficients between the education and employment variables that were included in this research and only the highlighted correlations are statistically significant<sup>34</sup> and meaningful to consider; non-significant correlations are likely to be due to chance (e.g., random sampling error), and should not be interpreted for the purposes of this research. Important to note, however, is that a *correlation is only an indication of the strength and direction of the relationship between two variables, and does not infer that one variable causes another.*

**Exhibit 58. Correlation Table for Education and Employment Outcomes**

	Total Curric. Hours	Prog. Length	Grad. Rates	Exam Perf.	Job Placement	Student Financial Stability					School Fin'l Stability		Employment
						Tuition	Books/Supplies	Med. Title IV Funding	Pell Grants (One Year)	Cohort Default	Compli. Rate	Composite Score	
Program Length	.92**												
Graduation Rates	.06	-.45											
Exam Performance	.25	-.20	.25										
Job Placement	.42**	.28	.29*	.33*									
Student Financial Stability	Tuition	.76**	.69*	-.09	.26	.15							
	Books/Supplies	.66*	.53	.45	.63*	.55	.62*						
	Median Title IV Funding	.94**	.81**	-.12	.13	.38	.81**	.63*					
	Pell Grants (One Year)	.53	.58	-.35	-.34	.28	.53	.10	.60*				
	Cohort Default	-.14	.19	-.38**	-.32*	-.46**	-.18	-.58	.05	.15			
School Financial Stability	Compliance Rate	-.12	-.29	.66*	.64*	.10	.15	.22	-.05	-.16	-.76**		
	Mean Composite Score	.10	-.06	.23	.51	-.17	.48	.21	.16	.16	-.46	.64*	
Employment	-.37**	-.26	-.14	-.12	-.09	.04	.20	-.22	-.04	-.32*	.49	.04	
Wages	-.12	-.77**	.17	.15	-.04	-.53	-.19	-.47	-.56	-.10	.33	-.22	.18

**Note:** This table is symmetrical along the diagonal, such that the correlations presented would be repeated for the remaining cells of the table. For simplicity, we present each correlation only once.

<sup>34</sup> The correlation was significant if the alpha (p) was less than the standard of .05. Significance level is indicated by one (p<.05) or two (p<.01) asterisks.

## APPENDIX B: ADDITIONAL METHODOLOGY

This appendix provides an overview of methodology used throughout the data analysis phase of research.

### Research Questions from Environmental Scan

The research questions developed during the previous environmental scan guided the data analysis presented in this report. The research questions were as follows:

1. How are differences in cosmetology school hours manifested in the content breakdowns for each state?
2. How do state-level curricula differ in theory-based versus clinical-based instruction, and are these differences related to industry outcomes?
3. What impact do the differences in state Exam have on cosmetology program curricula, exam pass rates, and industry outcomes?
4. What impact does the number of cosmetology school hours have on industry outcomes?
5. How do license renewal and continuing education requirements impact industry outcomes?

### Interviews with Subject Matter Experts (SMEs)

During the environmental scan and data analysis phase, AIR relied on telephone interviews with subject matter experts (SMEs) to provide input concerning the above research questions and the sources of data available to address each.

AIR was in contact with a total of 14 SMEs throughout this research. All SMEs had substantial experience in the beauty industry and were currently involved as administrators, consultants, and/or practitioners within the field. AIR initially sent information requests via email, which described some project background and a summary of the information requested of each SME. AIR asked candidates if they would be able to provide assistance in gathering general information, specific outcome data, and additional contacts that might provide further assistance in data collection. Once candidate SMEs agreed to an interview, appointments were scheduled and AIR conducted phone-based interviews.

AIR strategically selected SMEs from a wide range of positions within the cosmetology industry and from various geographical regions. These individuals were uniquely positioned to be informed on the topics of interest for this research, which included licensing requirements and education, employment, and safety outcomes. A list of SMEs' roles within the beauty industry includes:

- cosmetology state board representatives;
- state licensing exam provider representatives;
- educational institution representatives;
- chain salon representatives;
- accrediting agency representatives;
- professional association representatives;

- beauty industry products manufacturer representatives; and
- research and safety consultants for the beauty industry.

Because of the wide range of SMEs' roles in the industry, AIR used a semi-structured interviewing methodology that allowed for flexibility in the questions asked. Each interview lasted approximately one hour, and two AIR staff members participated in each. To begin, the interviewers expanded upon the project information provided in the initial contact email. SMEs were then asked to provide background about themselves to guide the line of questioning during the interview. The results of these interviews are referenced throughout the report.

## **Analysis of Curriculum Hour Requirements**

Additional methods and results for the analysis of curriculum hour requirements are included in this section.

### **Curriculum Hours by Topic**

AIR reviewed the curriculum outlines for a subset of states to examine how the differences in cosmetology school hours manifested in the content breakdowns for each state. The topics and sub-topics used for coding are detailed in Exhibit 59, and results are presented in the main body of this report.

**Exhibit 59. Topics and Sub-Topics for Coding**

Topic	Sub-Topic	Definition for Coding	Examples
Safety & Sanitation	Cleanliness & Sanitation of Tools & Workspaces	Preparing and maintaining the cleanliness of tools and workspaces used by cosmetologists.	<ul style="list-style-type: none"> <li>• Wiping down a chair</li> <li>• Sweeping the floor following a haircut</li> <li>• Cleaning implements and tools with disinfectant</li> </ul>
	Safe Use & Handling of Tools, Products, & Materials	Safe use and handling of tools, products, and/or materials.	<ul style="list-style-type: none"> <li>• Handling shears or razors safely throughout a procedure</li> <li>• Protecting the scalp during thermal hair styling</li> </ul>
	Safe Use & Handling of Chemicals	Safe use and handling of chemicals that could be classified as toxic, such as hair dyes, perm and relaxer products, and cleaning products.	<ul style="list-style-type: none"> <li>• Ensuring a chemical solution does not remain on skin during a procedure</li> </ul>
	Consumer Preparation/Protection	Setting up the workspace and consumer for safe performance of procedures.	<ul style="list-style-type: none"> <li>• Draping consumer</li> </ul>
	Personal Hygiene	Maintaining a clean and hygienic appearance.	<ul style="list-style-type: none"> <li>• Personal hygiene</li> <li>• Personal grooming</li> </ul>
Business & Professional Development	Communication Skills	Communicating with consumers.	<ul style="list-style-type: none"> <li>• Listening skills</li> <li>• Public relations</li> <li>• Communication skills</li> </ul>
	Ethics	Content and practice of business ethics.	<ul style="list-style-type: none"> <li>• Ethics</li> <li>• Professional ethics</li> </ul>
	Professionalism	Maintaining a professional demeanor.	<ul style="list-style-type: none"> <li>• Professional image</li> <li>• Attitude</li> <li>• Poise</li> </ul>
	Reception Desk/ Dispensary	Dispensary operations and reception activities.	<ul style="list-style-type: none"> <li>• Ordering supplies and retail merchandise</li> <li>• Reception desk</li> <li>• Answering phones and scheduling appointments</li> </ul>
	Sales	Content related to retail experience.	<ul style="list-style-type: none"> <li>• Salesmanship</li> <li>• Sales of products or merchandise</li> </ul>
	Salon Operation & Management	Content related to the business aspects of salon operation or management.	<ul style="list-style-type: none"> <li>• Salon or shop management</li> <li>• Salon procedures/practices</li> </ul>
Legal Issues	State & Federal Law	State and federal laws, inspections and enforcements, licensing requirements, and record-keeping.	<ul style="list-style-type: none"> <li>• Product and labor laws</li> <li>• OSHA regulations</li> <li>• State administrative codes</li> </ul>

*(continued on next page)*

**Exhibit 59. Topics and Sub-Topics for Coding (Continued)**

Topic	Sub-Topic	Definition for Coding	Examples
Scientific Concepts	Anatomy & Physiology	Anatomy and physiology of the skin and nails.	<ul style="list-style-type: none"> <li>• Skeletal and muscular systems</li> <li>• Structure and function of the skin and nails</li> <li>• Disorders of the skin and nails</li> </ul>
	Biology	Biology as applied to cosmetology.	<ul style="list-style-type: none"> <li>• Infectious disease</li> <li>• Bacteriology</li> </ul>
	Chemistry	Chemistry as applied to cosmetology.	<ul style="list-style-type: none"> <li>• Chemical reactions and solutions</li> <li>• pH scale</li> <li>• Forms and properties of matter</li> </ul>
	Electricity	Electricity as applied to cosmetology.	<ul style="list-style-type: none"> <li>• Principles of electricity</li> <li>• Safety of electricity</li> </ul>
	Trichology	Science of the structure, function, and diseases of hair and scalp.	<ul style="list-style-type: none"> <li>• Hair structure</li> <li>• Hair growth patterns</li> <li>• Texture of hair</li> <li>• Hair and scalp disorders</li> </ul>
Hair Care & Services	Consultation	Analyzing consumer hair and consulting with the consumer before starting hair care services.	<ul style="list-style-type: none"> <li>• Analyzing consumer hair</li> <li>• Consulting with the consumer</li> </ul>
	Hair Coloring	Theory and practical topics of hair coloring.	<ul style="list-style-type: none"> <li>• Color theory</li> <li>• Hair lightening</li> <li>• Application of hair coloring products</li> </ul>
	Hair Cutting & Shaping	Theory and practical topics of hair cutting and shaping.	<ul style="list-style-type: none"> <li>• Principles and concepts of design</li> <li>• Scissor cutting</li> <li>• Razor cutting</li> <li>• Men's haircuts</li> </ul>
	Hair Shampooing, Rinsing, & Treatments	Theory and practical topics of hair shampooing, rinses, and treatments.	<ul style="list-style-type: none"> <li>• Composition of shampoo and conditioning products</li> <li>• Procedures for shampooing and conditioning</li> <li>• Theory of scalp massage</li> </ul>
	Chemical Hair Styling	Theory and practical topics of chemical hair styling.	<ul style="list-style-type: none"> <li>• Preparatory procedures for chemical services</li> <li>• Chemical restructuring products</li> <li>• Application of chemical products</li> </ul>
	Non-Chemical Hair Styling	Theory and practical topics of non-chemical hair styling.	<ul style="list-style-type: none"> <li>• Thermal styling (e.g., blow drying, straightening)</li> <li>• Finger waving</li> <li>• Procedures for hairpieces or weaves</li> </ul>
	Electricity & Light Therapy for Scalp	Theory and practice of electricity and light therapy for the scalp.	<ul style="list-style-type: none"> <li>• Types and effects of electricity and light therapies for the scalp</li> </ul>

(continued on next page)

**Exhibit 59. Topics and Sub-Topics for Coding (Continued)**

Topic	Sub-Topic	Definition for Coding	Examples
Nail Care & Services	Consultation	Analyzing consumer nails and consulting with the consumer before starting nail care services.	<ul style="list-style-type: none"> <li>Analyzing consumer nails</li> <li>Consulting with the consumer</li> </ul>
	Manicure/ Pedicure	Theory and practical topics of manicures/pedicures.	<ul style="list-style-type: none"> <li>Basic manicure/pedicure procedures</li> <li>Massage of the hand, arm, foot, and leg</li> <li>Nail tip application</li> </ul>
Skin Care & Services	Consultation	Analyzing consumer skin and consulting with the consumer before starting skin care services.	<ul style="list-style-type: none"> <li>Analyzing consumer skin</li> <li>Consulting with the consumer</li> </ul>
	Body Hair Removal	Theory and practice of grooming and removing non-facial hair.	<ul style="list-style-type: none"> <li>Body hair waxing</li> <li>Permanent hair removal (non-facial)</li> </ul>
	Facial Hair Care	Theory and practice of grooming, removing, and shaping facial hair.	<ul style="list-style-type: none"> <li>Facial hair waxing</li> <li>Eyebrow arching</li> <li>Beard and mustache shaping</li> </ul>
	Facials	Theory and practice of facials.	<ul style="list-style-type: none"> <li>Facial massage</li> <li>Wet and dry exfoliations</li> <li>Use of skincare products</li> </ul>
	Makeup Application	Theory and practice of makeup application.	<ul style="list-style-type: none"> <li>Application of makeup</li> <li>Shading</li> </ul>
	Electricity & Light Therapy for Skin	Theory and practice of electricity and light therapy for the skin.	<ul style="list-style-type: none"> <li>Types and effects of electricity and light therapies for the skin</li> </ul>
Other	Unassigned	Hours left to the discretion of the school.	N/A
	Other	Topics that did not fit under the aforementioned topics but were not common enough to warrant their own sub-topic.	<ul style="list-style-type: none"> <li>Psychology</li> <li>Pharmacology</li> </ul>

**Comparison of Curriculum Outlines for Schools with Locations in Multiple States**

To provide a more direct comparison of curriculum hours across states, curriculum outlines for three large schools with locations in multiple states were examined, because it was thought that this would provide a control for differing levels of specificity in content outlines across states. AIR predicted that these large schools would have a standard content outline that would differ in meaningful ways to meet the particular number of hours required in each state, but this was not the case. In most cases, each school followed the state curriculum but then further conceptualized the curriculum with a standardized outline specific to that school. For example, one school divided curriculum into six designations (i.e., core curriculum, protégé learning experience, clinic learning experience, classroom learning experience, adaptive curriculum, and creative curriculum) and assigned hours to each designation varied by state. The results of this qualitative review of curricula did not lead to any conclusions regarding meaningful differences across states.

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