

Occupational Licensure at the Intensive Margin: New Historical Legal Data On Requirements for Licensure

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Occupational Licensing Law Research Project

- New dataset on requirements for licensure
- Method for collecting data on licensure requirements
- Open-source platform for accessing, uploading, and reviewing datasets on licensure requirements



Relevance to NCRN

- Occupational Licenses are prominent non-degree credential
- One of the licensure requirements that we collect in our data is credential requirement – third party credentials necessary to obtain a license



Overview

- Institutional Background on Occupational Licensing
- Project Background
- Data Walkthrough
- Example Visualizations



Occupational licensing is a pervasive feature of the U.S. labor market and service markets

- A license is a government credential legally required to perform certain tasks
- Attaches to an individual (not establishment/firm) and requires a demonstration of competency
- About 20-25% of U.S. workers currently hold an occupational license
- Licensing has been shown to raise wages of regulated workers from 4 to 15% (Kleiner, 2015; Gittleman et.al. 2018, Koumenta and Pagliero, 2018) and reduce employment (Kleiner and Soltas, 2023).



Data Overview – Scope

- Years: 1991-2020
- Occupations: 36 Partially-Licensed Occupations
 - To be rolled out in waves, with 8 occupations in first wave
- States: All 50 states and the District of Columbia
- Variables: Qualification requirements necessary for licensure
- Sources: State-level statutes and regulations



Data Overview—Occupations Collected

Cosmetologist

Dispensing Optician

Funeral Director

Licensed Practical
Nurse

Massage Therapist

Nursing Assistant

Professional
Counselor

Respiratory Therapist

Barber

Electrician

Embalmer

Forester

Locksmith

Interior Designer

Marriage/Family
Therapist

Security Guard

Surgical Technologist

Crane operator

Dietitian/Nutritionist

Esthetician

Landscape Architect

Manicurist

Pharmacy Technician

Psychiatric
Technician

Radiology
Occupations

Real Estate Agent

Recreation Therapist

Shampoo Assistant

Tax Preparer

Veterinary Technician

Plumber



Data Overview – Requirements Collected

- Training programs/Education
- Apprenticeships
- Experience
- Credential Requirements
- Exam
- Continuing education



Project Timeline

- Already done: preliminary data collected on 36 occupations
 - Research Assistants from University of Minnesota Law School collected 2 datasets for each occupations using Lexis and Westlaw
- **Currently: harmonizing passes of data, cleaning, and final preparations for publication**
- Summer: Publish data for initial 8 occupations then publish data for additional occupations in waves



Organizational Structure

- Currently part of the University of Minnesota's Minnesota Population Center
- Will become part West Virginia University's Knee Regulatory Research Center
- All data will be published through the Knee Center



How this Compares to Existing Data Resources

- Existing Sources
 - Survey Data – e.g. SIPP, CPS
 - Carollo (2020) – “Extensive” margin
 - Blair and Chung (2018) – Restrictions on ex-offenders
 - NCSL – Current licensing requirements
- Our data
 - Qualification requirements
 - The “intensive” margin of licensing
 - Accurately describes the regulatory environment using both statutes and regulations (as opposed to relying on respondents’ understanding of licensing)
 - Pathways
 - Statutory data from 1991-2020, Regulation data from 2004-2020



Data Utility

- Allows researchers (academic and non-academic) to get more granular with their analyses of the effects of occupational licensure
 - Existing research generally just looks at whether an occupation is licensed
 - These data allow us to look at questions like, “What is the effect of reducing the number of training hours required on labor supply?” or “Do certain qualification requirements have heterogeneous effects on different populations?”
- Reference for policymakers
 - In-depth understanding of the current state of occupational licensing
 - Easily look at trends in qualification requirements



The Data

| | Occ | Levels | State | Year | PW_num | PW1 | PW2 |
|---|---------------|----------------------|---------|------|--------|-------------|-------------|
| 1 | Cosmetologist | Natural Hair Stylist | Alabama | 2020 | 2 | TP1, ER, SE | AP1, ER, SE |

- Data is identified on Occupation, State, and Year
- Recall for this occupation we collected
 - All 50 states
 - 1991-2020
- PW: Pathway
 - Lists the requirements for each pathways
 - In this case potential cosmetologists can substitute training programs and apprenticeships



The Data: Training Program Options

| State | Year | TP | TP_1S_lev | TP_1S_min | TP_1S_unit | TP_1R_lev | TP_1R_amt | TP_1R_unit |
|---------|------|----|-----------|-----------|------------|-----------|-----------|------------|
| Arizona | 2020 | 2 | 5e | 1600 | h | 5e | 1600 | h |

- Statutes: requires graduating a cosmetology course consisting of at least 1600 hours.
- Regulations: requires graduating a cosmetology course consisting of 1600 hours.
- “Lev” variable captures:
 - If formal education, type of degree
 - If non-degree training program, whether it references completing a course or just an amount of time
 - Whether training is in a specific field or general
 - Whether training is required to be from an accredited institution
 - Will be splitting this variable out into 3 separate variables in the final dataset



The Data: Training Program Options

| State | Year | TP | TP_1S_lev | TP_1S_min | TP_1S_unit | TP_1R_lev | TP_1R_amt | TP_1R_unit |
|---------|------|----|-----------|-----------|------------|-----------|-----------|------------|
| Arizona | 2020 | 2 | 5e | 1600 | h | 5e | 1600 | h |

- Statutes: That the person is the graduate of a cosmetology course consisting of at least 1600 hours.
- Regulations: That the person is the graduate of a cosmetology course consisting of 1600 hours.
- “Lev” variable captures:
 - If formal education, type of degree
 - If non-degree training program, whether it references completing a course or just an amount of time
 - Whether training is in a specific field or general
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- Statutes: That the person is the graduate of a cosmetology course consisting of at least 1600 hours.
- Regulations: That the person is the graduate of a cosmetology course consisting of 1600 hours.
- “Lev” variable captures:
 - General or specific training
 - If formal education, type of degree
 - If specific training, whether it references completing a course or just an amount of time
 - Whether training is required to be from an accredited institution
 - Whether training is in a specific field or general
 - Will be splitting this variable out into 3 separate variables in the final dataset



The Data: Experience

| Year | EXP | EXP_1S_min | EXP_1S_unit | EXP_1S_cond | EXP_1R_amt | EXP_1R_unit | EXP_1R_cond |
|------|-----|------------|-------------|-------------|------------|-------------|-------------|
| 2020 | 1 | 100 | h | 2 | 100 | h | 1 |

- Statutes
 - Minimum of 100 hours
 - Conditions on supervisor
 - *“Completed at least 100 hours of training and experience in the fitting of and filling of prescriptions for contact lenses under the direct supervision of a licensed dispensing optician authorized to fit and fill prescriptions for contact lenses, a licensed ophthalmologist or a licensed optometrist”*
- Regulations
 - 100 hours required
 - Conditions on content
 - *(a) Thirty hours of contact lens fitting; (b) Twenty hours of follow-up care relating to contact lens fitting; (c) Twenty hours of instrumentation; [...]*



The Data: Experience

| Year | EXP | EXP_1S_amt | EXP_1S_unit | EXP_1S_cond | EXP_1R_amt | EXP_1R_unit | EXP_1R_cond |
|------|-----|------------|-------------|-------------|------------|-------------|-------------|
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The Data: Exams

| Year | ER | Comment_ER |
|------|----|---|
| 2020 | 1 | There shall be three parts to the examination for Florida Licensure in opticia_ |

- Whether an exam is required for licensure
- For this and all other variables
 - 0 = not required
 - 1 = is required
 - 2 = optional (multiple pathways)



The Data: Credential Requirement

| Year | CR | CR_CO_1S | CR_CO_1R | State |
|------|----|----------|--------------|---------|
| 2017 | 1 | | ABO and NCLE | Florida |

- Whether a license requires, does not require, or provides the option of a third-party credential for licensure
- Credentialing organization's acronym collected as exactly listed in the statute or regulation
- Credentialing organizations' requirements are outside the scope of this project



The Data: Continuing Education

| Year | CE | CE_1R_amt | CE_1R_min | CE_1R_unit | CE_1R_CT |
|------|----|-----------|-----------|------------|----------|
| 2020 | 1 | -111 | 10 | h | 2 |

- -111: The statute requires a requirement, but leaves it to the regulations to determine the exact details
 - *Before a license may be renewed the licensee shall submit to the board evidence of continuing competence in optical dispensing as prescribed by regulations of the board*



The Data: Format

- The data is currently in wide format

| | Occ | Levels | State | Year | PW_num | PW1 | PW2 |
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| 1 | Cosmetologist | Natural Hair Stylist | Alabama | 2020 | 2 | TP1, ER, SE | AP1, ER, SE |

- Can easily transform to long

| Occ | State | Year | PW_id | PW |
|---------------|---------|------|-------|-------------|
| Cosmetologist | Alabama | 1991 | 1 | TP1, ER, SE |
| Cosmetologist | Alabama | 1991 | 2 | AP1, ER, SE |
| Cosmetologist | Alabama | 1991 | 3 | |



The Data: Pathways

| PW | Freq. | Percent | Cum. |
|---------------------|-------|---------|--------|
| (TP1, AP1, inf), ER | 30 | 1.25 | 1.25 |
| -777 | 41 | 1.71 | 2.96 |
| AP1, ER | 107 | 4.46 | 7.42 |
| AP1, ER, SE | 34 | 1.42 | 8.84 |
| AP1, SE, ER | 495 | 20.64 | 29.48 |
| TP1, AP1, SE, ER | 27 | 1.13 | 30.61 |
| TP1, ER | 245 | 10.22 | 40.83 |
| TP1, ER, SE | 60 | 2.50 | 43.33 |
| TP1, EXP1, ER | 32 | 1.33 | 44.66 |
| TP1, SE, ER | 1,122 | 46.79 | 91.45 |
| TP2, AP1, ER | 30 | 1.25 | 92.70 |
| TP2, AP1, SE, ER | 53 | 2.21 | 94.91 |
| TP2, AP2, SE, ER | 7 | 0.29 | 95.20 |
| TP2, CR, SE, ER | 30 | 1.25 | 96.46 |
| TP2, EXP1, ER | 25 | 1.04 | 97.50 |
| TP2, SE, ER | 60 | 2.50 | 100.00 |
| Total | 2,398 | 100.00 | |



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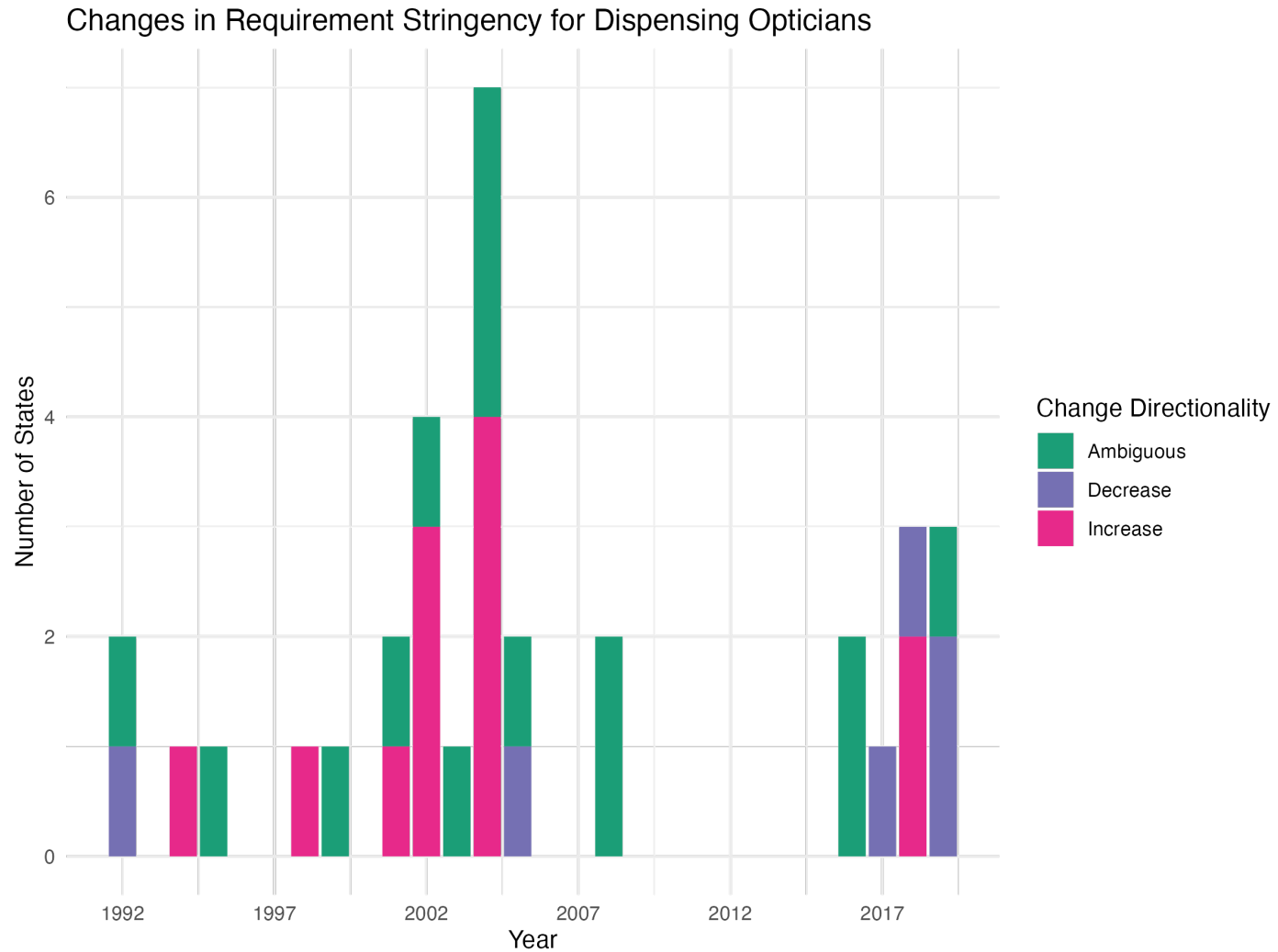
The Data: Total Time to Licensure

| PW_id | Occ | State | Year | PW | PW1_total_time | PW2_total_time | min_time2license |
|-------|---------------|---------|------|-------------|----------------|----------------|------------------|
| 1 | Cosmetologist | Alabama | 1991 | TP1, ER, SE | 1200 | . | 1200 |
| 2 | Cosmetologist | Alabama | 1991 | AP1, ER, SE | . | 3000 | 1200 |

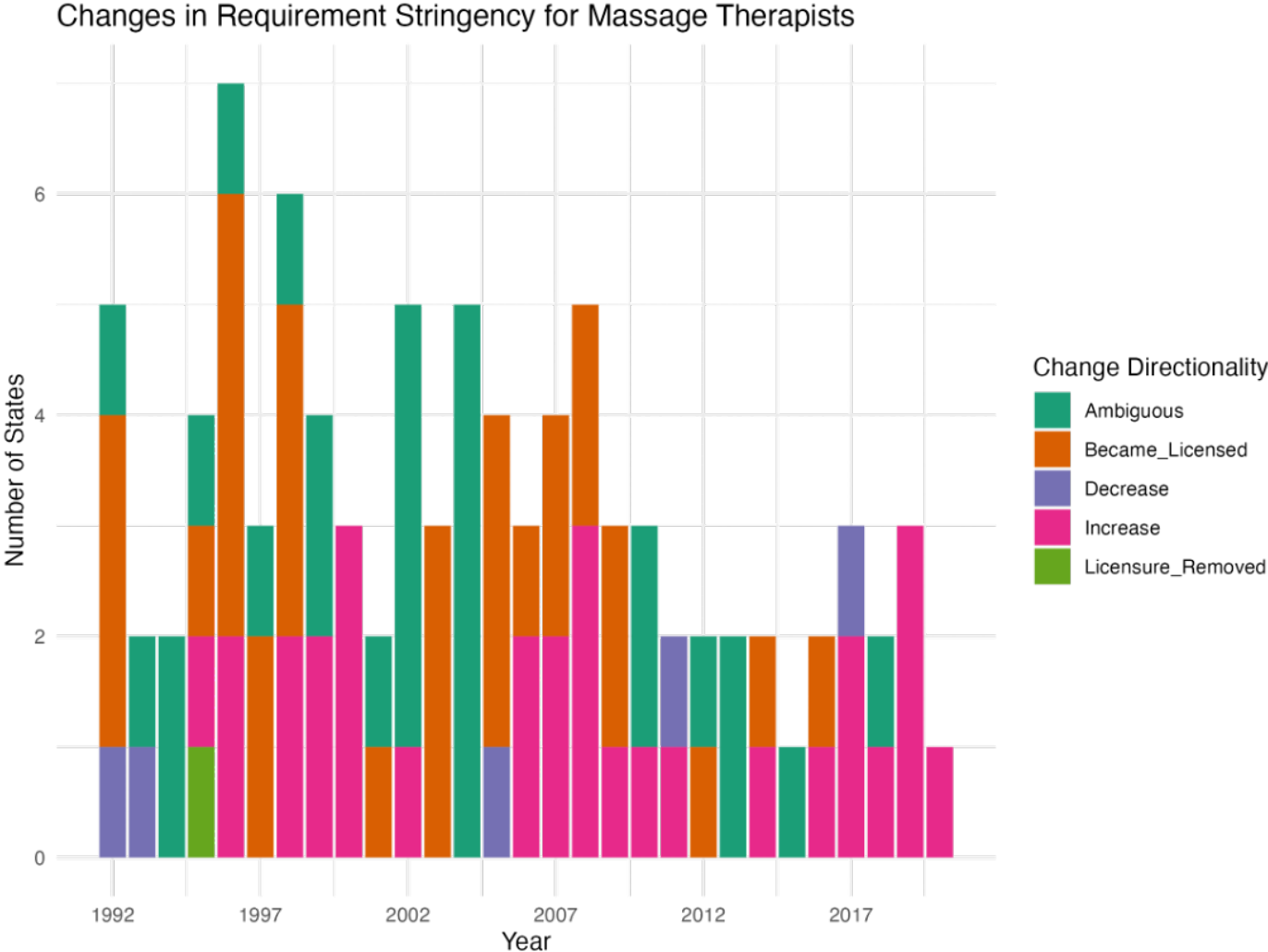
- If we assume an hour in each requirement is an equally large burden, and that we can accurately convert between units, we can create a total time to licensure variable



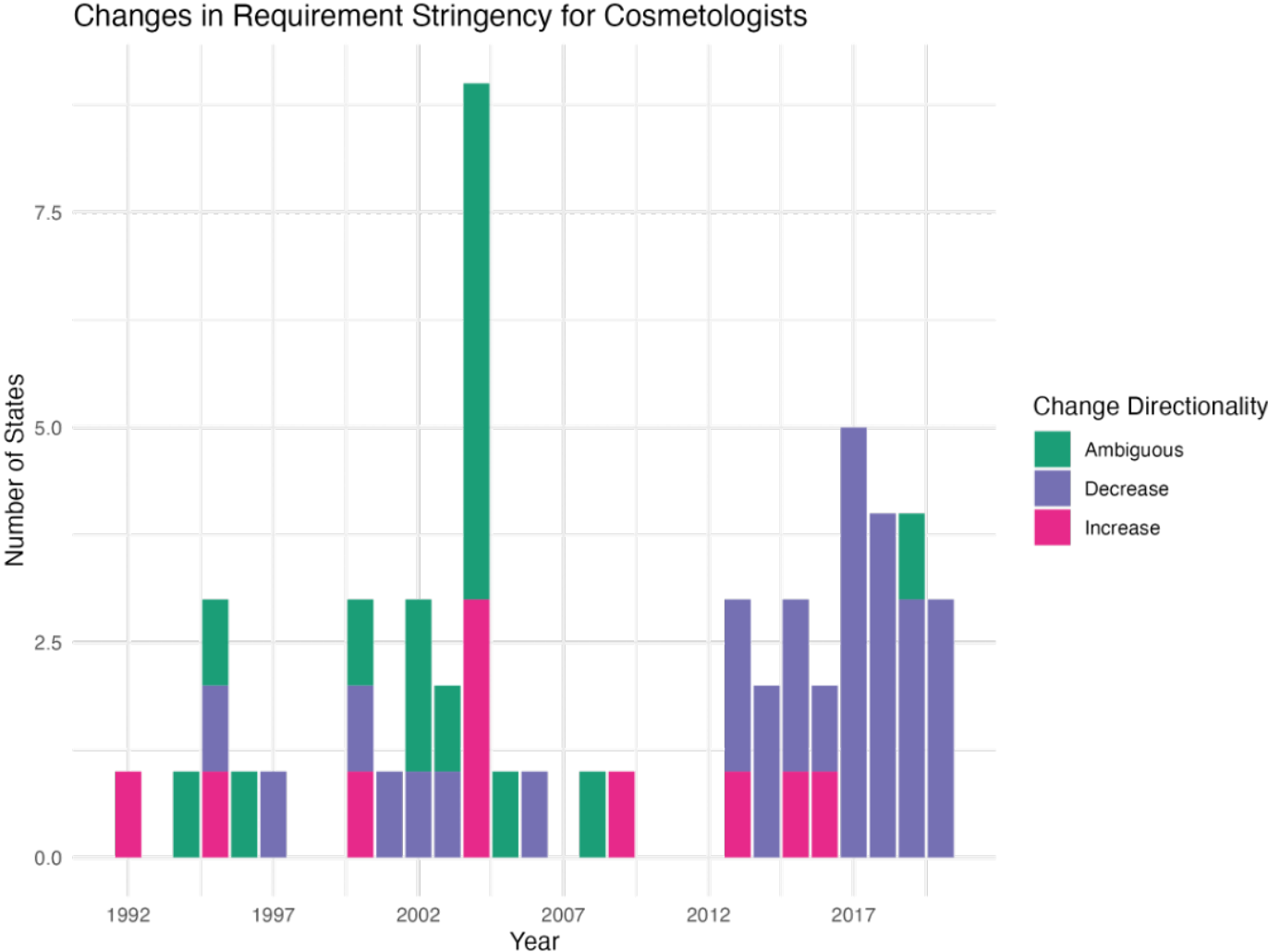
Uses for the data



Uses for the data

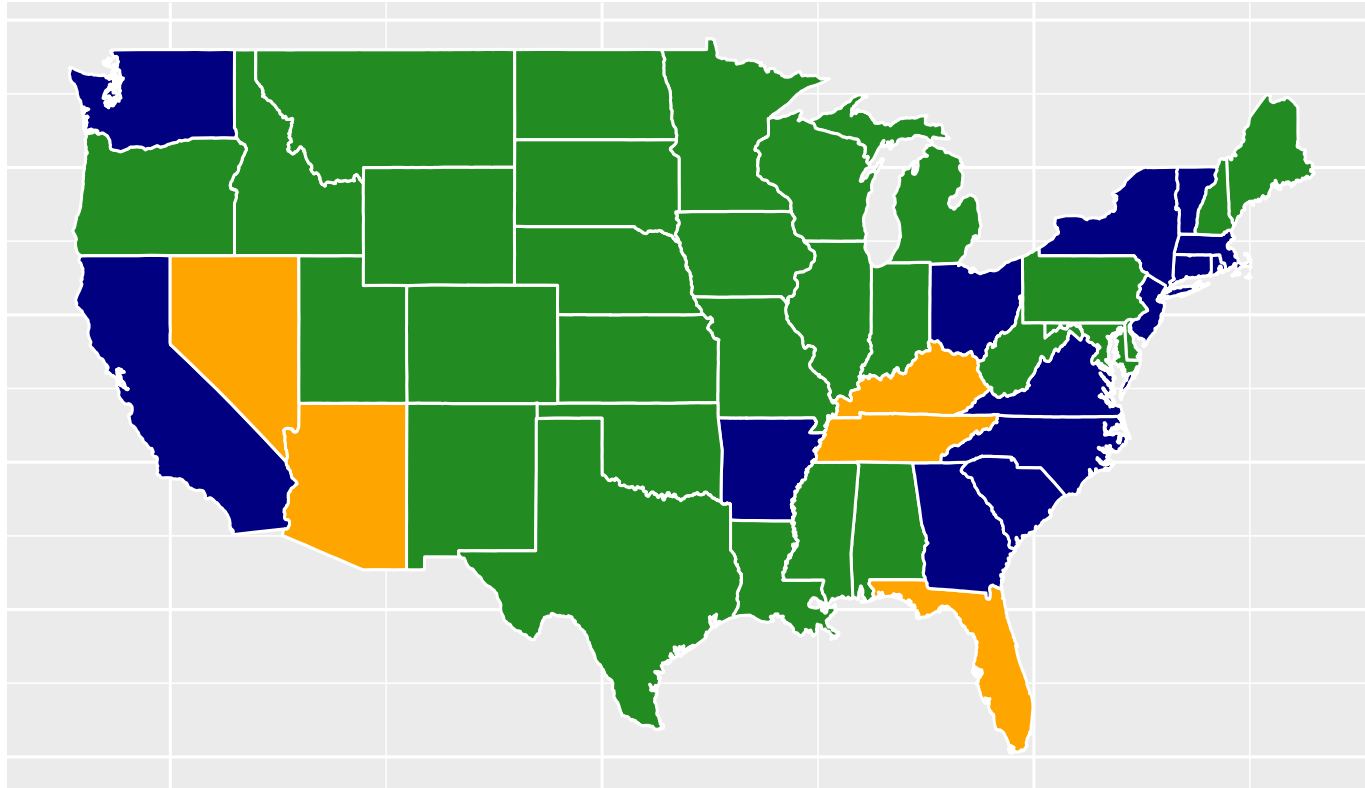


Uses for the data



Uses for the data

Licensing and Credential Requirement by State, Dispensing Opticians, 2005

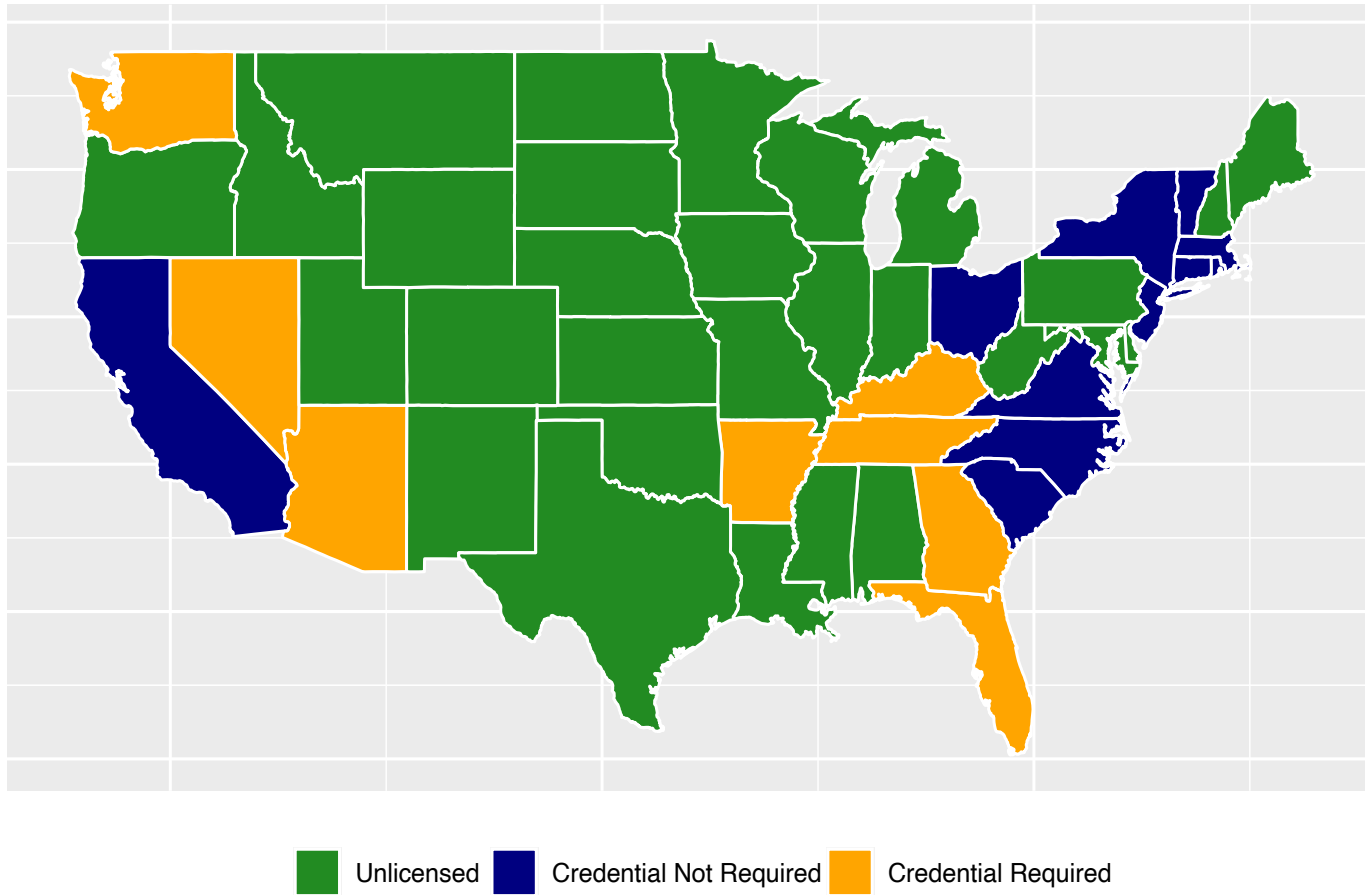


Unlicensed Credential Not Required Credential Required



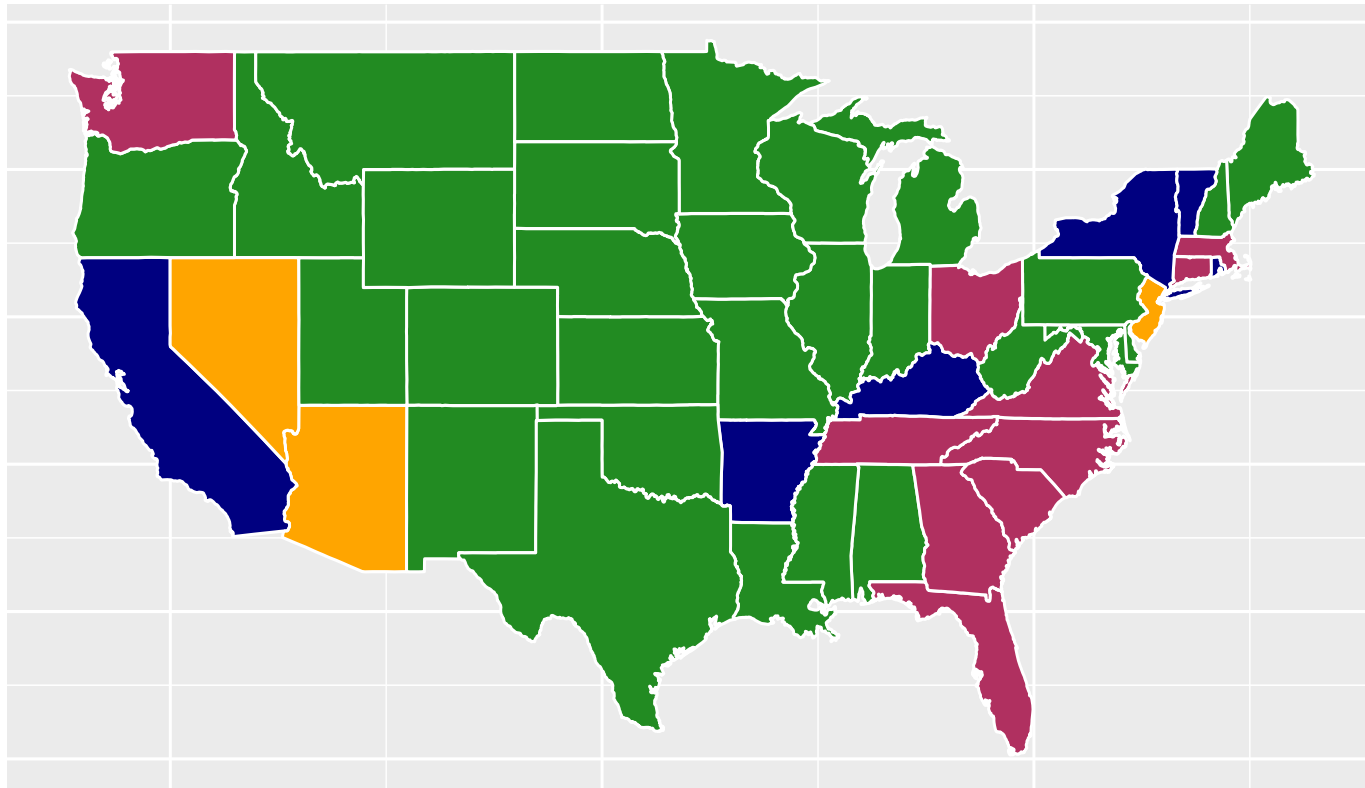
Uses for the data

Licensing and Credential Requirement by State, Dispensing Opticians, 2020



Uses for the data

Licensing and Apprenticeship Requirement by State, Dispensing Opticians, 2020



Unlicensed AP Not Required AP Required AP Optional



Limitations

- Limited to the variables presented in this presentation
- Did not collect federal or credentialing organization requirements
- Scope of practice (for most occupations)
 - Makes sure to be very specific about title of occupation in each state, but does not include scope of practice
 - Generally picked one level per occupation and stuck with it (though we have some preliminary data on other levels)
- Limited number of occupations
- Regulation data available only back to 2004



Moving forward



- Short term:
 - [Link](#) to get on our mailing list:
 - Open to feedback on which occupations to prioritize
 - Data and methodology to be released in Summer 2024
- Medium-Long term:
 - Open to feedback on new occupations to collect data on and new variables to collect
 - Create a network of researchers using and contributing to open-source platform



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