State of California

Little Hoover Commission

Occupational Licensing Hearing

Wednesday, March 30, 2016

Culver City, CA

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Professional Beauty Association (PBA)

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March 30, 2016

Chairman Pedro Nava, Vice Chairman Loren Kaye and Honorable Members of the Little Hoover Commission, thank you for the opportunity to speak to you on behalf of the Professional Beauty Association (PBA) and licensed beauty professionals throughout the United States regarding occupational licensing for cosmetologists.

I serve as the Government Affairs Director for the Professional Beauty Association (PBA). Prior to joining PBA, I served on the staff for Members of our U.S. Congress, the California State Assembly, and the Texas House of Representatives. I understand the challenges and the task you have accepted as you review the importance of occupational licensing.

Professional Beauty Association (PBA)

The Professional Beauty Association (PBA) is a national nonprofit 501(c)(6) trade association. PBA is the only trade association that represents all segments of the professional beauty industry including manufacturers, distributors, salon and spa business owners, and licensed beauty professionals.

PBA's roots began in 1904 when forty-seven men came together to form the Beauty and Barber Supply Institute. BBSI and several separate organizations changed and merged throughout the years, culminating in 2010 when a merger completed the goal to bring all segments of the professional beauty industry together under PBA.

PBA's mission is to elevate, unify and serve the beauty industry and the professionals that improve people's lives by providing education, scholarships, charitable outreach, government advocacy, events and professional networking opportunities.

PBA's charitable outreach efforts include the Disaster Relief Fund established in 1951, the Look Good Feel Better Program (partnered with the American Cancer Society and the Personal Care Products Council) established in 1989, and Cut It Out: Salons Against Domestic Abuse established in 2004.

Licensed Beauty Professionals and Services

Licensed beauty professionals are trained to provide an array of professional beauty services that include utilizing chemicals to treat and or color hair, manicures and pedicures, facials, hair removal and waxing, eye lash extensions, hair extensions, hair straightening/curling, cutting, styling, and skin and hair analysis and product recommendations.

Licensed beauty professionals work in a variety of environments that include but are not limited to a salon, spa, resort, medical office, and medical spa.

Different types services may include the use of sharp objects, lasers, razors, professional grade chemicals, and hot wax. Complications associated with these services can occur and include the following examples:

Chemical burns due to chemical exfoliation, waxing, or misuse of professional grade products.

Infections due to lack of disinfecting tools and surfaces, not following universal precautions, and cross contamination of products.

Types of infections that can spread within a salon environment include ring worm, folliculitis, lice, fungal infections, staph infections, strep throat, Hepatitis B or Hepatitis C, HIV, and athlete's foot, severe acute respiratory syndrome (SARS), herpes simplex virus/human papillomavirus (HSV/HPV), and methicillin-resistant staphylococcus aureus (MRSA).

Contact dermatitis due to lack of proper client analysis, cross contamination of products, poor treatment application and poor choice of products.

Irritation and damage to eyes due to improper draping and protection procedures, misuse of products, untrained application of lash extensions, untrained brow waxing procedure, and poor application of cosmetic eye products.

Tearing of skin due to improper waxing procedures, overuse of acidic chemicals and overly abrasive exfoliation techniques.

Allergic reaction to hair color, hair straightening, or hair curling treatments resulting in skin and scalp burns, rashes, hair breakage, and hair loss.

Nail infections and nail loss due to improper use of chemicals and filing to disinfect tools including pedicure and manicure instruments and bowls.

Waxing regularly exposes private body parts that can easily be damaged if the incorrect technique is used, not to mention the psychological effects of being improperly draped or handled unprofessionally. Proper client interaction in regards to physical touch is extremely important and necessary to maintain a professional and appropriate environment for treatments and services.

Without mandatory requirements supporting health and safety standards, infections and misuse of chemical compounds will lead to an increase risk of injuries to consumers. Most of the above mentioned risks include unforeseen reactions with the multiple chemicals that a licensed professional and client have regular exposure to in a salon or

spa environment. Education in the proper use of all chemicals and the required state inspection for compliance is essential to maintain a high level of safety.

Licensing versus Overregulation

PBA believes licensing establishes accountability and provides the consumer with a resolution process overseen by the state. Licensed professionals that are trained graduates and have passed a state licensing exam are held accountable for the health and safety standards required by the state while providing services to consumers. Licensed beauty professionals must also comply with OSHA and EPA regulations. Because so many services provided by beauty professionals include the use of chemicals, sharp objections, and physical touch between the professional and client, PBA believes licensing for these professionals should remain a mandatory requirement of the state. However, PBA does not believe that any overregulation associated with licensing of beauty professionals should continue and suggests that requirements that prove to be above and beyond supporting health and safety standards should not be regulated. Examples of overregulation include requirements for a manager's license, a master level license, or additional requirements that do not support specific health and safety standards required by the state.

Health and Safety Regarding Beauty Products

There are not any over the counter devices, chemical peels, or skin care products that can provide the same results as a professional facial treatment due to the percentage of active chemical ingredients, cosmetic delivery systems, and strength of the device used. Mass market products require no complex directions or skin analysis to be performed before use and are designed for cumulative effect in order to reduce complications. Home use products are sold to consumers with different ingredients and or at much lower concentration level of chemicals.

In addition to over the counter skin care and chemical hair treatments, artificial nails were also included among the number of products marketed to consumers. Artificial nails are produced by the reaction of monomers with polymers to form a new polymer. There is about a five to ten-minute window to allow this chemical mixture to be formed into the exact shape needed to be glued onto the nail. The liquid monomers are very thin and very irritating if it comes into contact directly with the skin. A brush is used and is dipped into the liquid and then the powdered polymer. Home use kits were unsuccessful due to the skills and training required for correct, safe application and desired results.

Professional products are manufactured for licensed trained professionals and require a license in order to purchase the products. Professional use only products often require a number of steps to apply and effectively treat the consumer. The licensee has the ability to recognize when the product is too strong and how to stop its action before there is permanent damage. Further there must be adequate ventilation systems in place and constantly monitored to ensure the safety of the licensed professionals and their clients.

The Courts
Alternative dispute resolution is often preferred in lieu of a costly and timely litigation process in the courts. Beauty professionals will bear the costs, their professional liability insurance deductibles will be exhausted sooner and the cost of premiums will increase. The high standard of professional competence, assured through licensing, is an essential safeguard in reducing incidents of personal injury in the practice of cosmetology. Reducing claims and consequently litigation, including frivolous lawsuits, is an objective of the courts.

A rise in lawsuits against untrained unlicensed individuals in the beauty industry could act as a significant barrier for entry into this profession, and overburden our justice system by transferring the work load from an agency that is intimate with the industry on every front to the courts.

Eliminating the testing and licensing requirement for the cosmetology profession will have the unwanted effect of increasing disputes and claims for personal injury thereby also disparaging the profession. Additionally, the professional beauty industry is regulated and inherently provides for both accountability and dispute resolution. The California Board of Barbering and Cosmetology provides a consumer complaint process, which enables dispute resolution. This current method of resolution reduces the volume of lawsuits and provides for accountability.

Upward Mobility and Entrepreneurship
California has experienced a 48% increase in licensed barber and cosmetology professionals over the 10-year period from 2004-2014, and a 25% increase in the average wage for these professions, compared to a 4% growth in employment and a 28% increase in average wages statewide during this time.

According to the Bureau of Labor Statistics Occupational Outlook, overall employment of beauty professionals will grow ten percent by 2024 which is higher than the average of all occupations reported by the U.S. economy. As you can see, occupational licensing is not preventing individuals from obtaining a career in the professional beauty industry and is not a barrier to work.

The professional beauty industry allows for an individual to begin his or her career with a solid foundation of training and education. The array of opportunities for growth and upward mobility once the professional has obtained their license are vast. A beauty professional can choose to work in the following ways:

1. Starting their own business as a salon owner employing fellow professionals
2. Starting their own business as an independent contractor
3. Managing beauty professionals in a salon or spa or resort environment
4. Teach future professionals
5. Travel and train professionals as a product educator
6. Serve the industry as a member of the state Board
7. Develop and manufacturer their own line of professional products

8. Provide professional beauty services for the T.V., theater and film industry
9. Industry business and marketing consultant
10. Executive and management positions for large professional beauty companies

There are many opportunities to expand upon a cosmetology license that moves beyond a professional's work behind the chair at a salon. Insurable, licensed professionals are sought after by the beauty industry to work in a changing, dynamic, growing, sustainable industry. Obtaining a license in the cosmetology is not a long or challenging process that prevents upward mobility. Business owners seek sustainability and when choosing employees, they want licensed professionals that met the minimum requirements and understand standards for health, safety, and proper sanitation in the beauty environment.

Impact of Licensing Laws

The Professional Beauty Association believes that upward mobility and entrepreneurship are positively impacted by licensing laws. Cosmetology is not a recently regulated professional career. Requiring accountability and a high standard of safety was established as far back as 1897 with the creation of a barber license. In 1927 the state of California established the Board of Barber Examiners and the Board of Cosmetology. The U.S. Bureau of Labor Statistics Employment Projections Program reports a steady and high increase of beauty professionals entering the industry. This high steady flow has not been deterred by cosmetology licensing requirements that have existed for nearly a hundred years.

The California Assembly has introduced and passed laws mandating safety standards for salons and spas as well as providing guidelines for the use of professional products. Cosmetology licensing laws are mandatory across the United States because this requirement ensures that the individuals physically touching consumers have the core knowledge of how to safely work with professional grade chemicals, products and tools. The mandatory training, accountability, and resolution process through the state Board is the result of mandatory occupational licensing for cosmetologists and should not be changed to a voluntary certification process.

Licensed beauty professionals understand the importance of their training and the possible damage that could occur to consumers, further licensed beauty professionals do not want to be unlicensed and consumers do not want to receive treatments and services from unlicensed individuals. Consumers across the U.S. overwhelmingly support professional beauty licensing to maintain the best practices for safety and quality standards. An independent national post-election study in 2012 shows that 82% of respondents think safety and quality would decline significantly if states ended licensing professions including hairstylists, barbers, nail technicians and skin care specialists.

American Institutes for Research Study

The Professional Beauty Association is a proud member of the Beauty Industry Working Group (BIWG). This group is comprised of leading professional organizations that include the American Association of Cosmetology Schools, the International Salon Spa Business Network,

the National-Interstate Council of State Boards of Cosmetology, Milady (Education Resource), and King Research. Together representing all segments of the professional beauty industry, the BIWG's mission is to suggest the development of consistent standards and recommendations for reform. The Working Group will focus on standards relating to licensing, education, national testing, health and public safety. BIWG supports a consistent number of hours for cosmetology schools across the U.S., one national test, continuing education, and license reciprocity/mobility for all states.

The American Institutes for Research (AIR), an international behavioral and social science research organization, is working with the BIWG to collect and analyze data regarding the professional beauty industry. AIR is currently reviewing and comparing data regarding curriculum hours for cosmetology school programs, testing results and patterns, employment and wages, and student loan debt. Additional data points are also being considered within their scope of research.

The research and analysis provided by AIR coupled with the report, *The Value of Cosmetology Licensing to the Health, Safety, and Economy of America* authored by ndp|analytics (an economics and legal strategic research firm) will be provided to State Boards as well as elected officials to support BIWG's mission to achieve consistent streamlined standards across the United States for the professional beauty industry.

Standardize Requirements Nationally

PBA supports reform efforts that include national standards, one consistent national set of hours to graduate from a cosmetology program, one national test, continuing education, license mobility from state to state, and a return to the basic reasoning for licensing which includes sanitation, health, and safety. As noted in the following excerpt from the July 2015 White House report prepared by the Department of the Treasury Office of Economic Policy, the Council of Economic Advisers, and the Department of Labor, *Occupational Licensing A Framework For Policymakers* (page 46):

> STREAMLINING REQUIRED TRAINING TO FOCUS ON HEALTH AND SAFETY
>
> The Professional Beauty Association (PBA) represents a variety of professions related to personal appearance: cosmetologists, barbers, hairdressers, and manicurists, among others. Cosmetologists are uniformly licensed, though requirements vary substantially across States, with some requiring more than twice as much education as others. On average, more than a year of education is required, with fees that are often non-trivial. The PBA is now pushing for two general types of reform in the licensing of cosmetologists. First, they are seeking to standardize requirements for hours of schooling across States. This should eventually help make it simpler for workers to move across States. Second, they are advocating for licensing qualifications (mostly related to required school curriculum) that are more closely aligned with public health and safety concerns. This second initiative in particular is an important step forward for licensing reform. Many occupations have educational requirements that are not necessary to promote public safety. Limiting licensing requirements to those that are necessary to

protect the public can go a long way towards achieving a rational, minimally-intrusive licensing regime.

The Professional Beauty Association and fellow members of the Beauty Industry Working Group agree that improvements are necessary and support reform efforts to streamline the process to obtain an occupational license for cosmetology. We strongly support and have clearly demonstrated that occupational licensing for beauty professionals should remain a mandatory requirement. Occupational licensing for cosmetologists ensures a core knowledge for safely handling professional grade products and chemicals and providing an array of services as well infection and disease control, proper sanitation, accountability, and sustainability. Professional beauty licensing for cosmetologists in no way is creates barrier to workforce employment or prohibits upward mobility, in fact federal and state national public economic data prove the exact opposite of this incorrect claim.

Recommendations for California State Policymakers

California has always been the leader in consumer safety establishing licensing more than ninety years ago driven in part because of hepatitis outbreaks in barbershops. Beauty professionals touch nearly all Californians across every demographic in large and small communities. These professionals acquire their specific set of skills to provide safe, high quality services to their clients.

Consumers expect and have a right to standards and rules, safe, sanitary and infection free services and establishments. Professional beauty licensing leads to higher employment rates, facilitates market entry, and acts as a stepping-stone to higher earnings and longer more sustainable careers. Lastly consumers appreciate the protection their state government has put into place for their benefit and overwhelmingly supports professional beauty licensing.

I welcome and encourage the opportunity to work together with the state of California to lead the way for reform. Upon completion of the research and work of the Beauty Industry Working Group I ask to work with the state Assembly and the Board of Barbering and Cosmetology to put into place reform recommendations that will streamline the licensing process for cosmetology.

I ask that you please consider the health and safety points explained in today's testimony as well as the supporting documents provided to the Honorable Members of the Commission. I believe that the professional beauty industry as well as independent third party research and data provided to you today correctly and honestly proves that occupational licensing for cosmetology is not a barrier to work, does not lessen entrepreneurship, and by no means limits upward mobility. You now have accurate information that provides in detail the positive impact occupational licensing has on the professional beauty industry.

Chairman Nava, Vice Chairman Kaye and Honorable Members of the Little Hoover Commission thank you for your time, I am happy to answer any of your questions.

Additional Information

Bureau of Labor Statistics Occupational Outlook Handbook. Barbers, Hairdressers, and Cosmetologists.

Department of the Treasury Office of Economic Policy, the Council of Economic Advisers, and the Department of Labor, White House Report: Occupational Licensing A Framework For Policymakers (page 46). July 2015.

Hepatitis C Support Project. "HCSP Fact Sheet: Personal Care Settings." February 2015.

Licensing Fact Page

National Poll – Post Election Professional Licensing Findings

Nam D. Pham, Ph.D. and Anil Sarda. The Value of Cosmetology Licensing to the Health, Safety, and Economy of America. January 2015.

The New England Journal of Medicine. "An outbreak of mycobacterial furunculosis associated with footbaths at a nail salon." May 2, 2002.

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Barbers, Hairdressers, and Cosmetologists

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Job Outlook

About this section

Overall employment of barbers, hairdressers, and cosmetologists is projected to grow 10 percent from 2014 to 2024, faster than the average for all occupations.

Employment of barbers is projected to grow 10 percent from 2014 to 2024, faster than the average for all occupations. The need for barbers will stem primarily from an increasing population, which will lead to greater demand for basic hair care services.

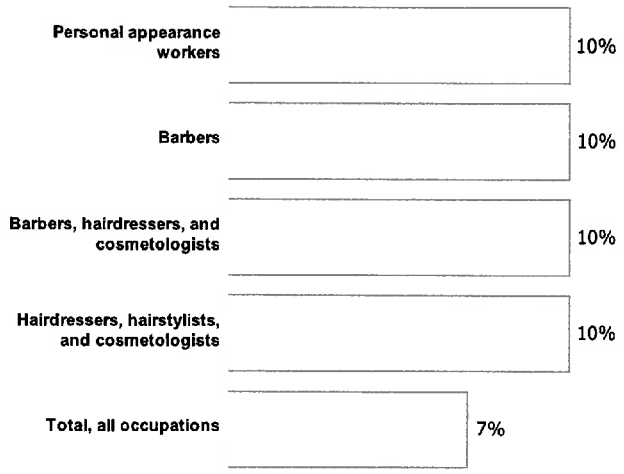
Employment of hairdressers, hairstylists, and cosmetologists is projected to grow 10 percent from 2014 to 2024, faster than the average for all occupations. Demand for hair coloring, hair straightening, and other advanced hair treatments has risen in recent years, a trend that is expected to continue over the coming decade.

Job Prospects

Overall job opportunities are expected to be good. A large number of job openings will stem from the need to replace workers who transfer to other occupations, retire, or leave the occupation for other reasons. However, workers should expect strong competition for jobs and clients at higher paying salons, of which there are relatively few and for which applicants must compete with a large pool of experienced hairdressers and cosmetologists.

Barbers, Hairdressers, and Cosmetologists

Percent change in employment, projected 2014-24



Note: All Occupations includes all occupations in the U.S. Economy.
Source: U.S. Bureau of Labor Statistics, Employment Projections program

Employment projections data for barbers, hairdressers, and cosmetologists, 2014-24

Occupational Title	SOC Code	Employment, 2014	Projected Employment, 2024	Change, 2014-24 Percent	Change, 2014-24 Numeric	Employment by Industry
Barbers, hairdressers, hairstylists and cosmetologists	39-5010	656,400	720,700	10	64,400	[XLSX]
Barbers	39-5011	59,200	65,100	10	6,000	[XLSX]
Hairdressers, hairstylists, and cosmetologists	39-5012	597,200	655,600	10	58,400	[XLSX]

SOURCE: U.S. Bureau of Labor Statistics, Employment Projections program

<- Pay

State & Area Data ->

SUGGESTED CITATION:

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2016-17 Edition, Barbers, Hairdressers, and Cosmetologists, on the Internet at http://www.bls.gov/ooh/personal-care-and-service/barbers-hairdressers-and-cosmetologists.htm (visited March 09, 2016).

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OCCUPATIONAL LICENSING: A FRAMEWORK FOR POLICYMAKERS

July 2015

THE WHITE HOUSE
WASHINGTON

This report was prepared by
the Department of the Treasury Office of Economic Policy,
the Council of Economic Advisers,
and the Department of Labor.

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without excluding practitioners from the labor force. For example, establishments that serve alcoholic beverages are often regulated at the establishment level, while service workers are often unlicensed.

In weighing the most appropriate form of regulation, policymakers should also account for the costs of administering and enforcing the regulation. These costs vary depending on the content of licensing requirements and activities of the boards. For instance, licensing boards will often oversee entrance requirements regarding education and experience, set rules for other States' licensees, and hear complaints against violators of licensing regulations.

Some States have implemented or are considering adopting alternative regulatory approaches. For example, in 2015, the Indiana legislature passed a law that sets up a pilot program that would create a State registry of privately certified individuals. Occupations that are currently licensed will be unaffected (as will workers in health care occupations), but associations that privately certify workers in currently unlicensed fields will be able to apply to have their certification count as "State registered." Conditional on meeting a set of requirements, certified workers will then have exclusive right to use the title "State registered," but not an exclusive right to practice.[95]

In conversations with State regulators, they have suggested that some professionals have been seeking licensing not because unlicensed practitioners are a threat to public safety, but because third-parties won't recognize unlicensed practitioners in situations such as reimbursement for services. In these cases, States may want to engage with third-party payers to identify and address appropriate paths forward.

Reducing the Substantive and Procedural Burdens of Professional Regulations

Regardless of whether a profession is licensed or certified, it is important that the application process be as straightforward and transparent as possible, and that the requirements for obtaining a license or certification be narrowly tied to the specific public health and safety concerns of the work. There are two ways in which requirements tend to drift from these objectives. The first is when practitioners, often through the regulatory boards they participate in, act to raise standards. For example, the American Physical Therapy Association has considered requiring a bachelor's degree for obtaining a physical therapist assistant license.[96] Regulatory agencies also sometimes apply the requirements of an older occupation to a new but related type of work. For example, the "corporate practice of law" doctrine, which prohibits non-lawyers from participating in the financing, ownership, or management of law businesses, has been applied to online legal document and information companies seeking to provide online legal assistance or other innovative products.[97] These services are related to the activities of lawyers

[95] Indiana General Assembly. 2015. House Bill 1303. https://iga.in.gov/legislative/2015/bills/house/1303.
[96] American Physical Therapy Association. 2012. "APTA to Explore Feasibility of Transitioning PTA Education to Bachelor Degree Level." http://www.apta.org/PTinMotion/NewsNow/2012/6/15/HODRC20/.
[97] Hadfield (2014).

but are legitimately new forms of work that merit separate consideration of the need for licensing.

Also, the labor market effects of specific occupational regulations sometimes depend less on their formal category than on other factors, such as their substantive and procedural requirements, as well as norms within the labor market. For example, a doctor who is not "board-certified" may find it difficult to obtain or maintain a position for practice in a hospital.[98] By contrast, if a particular license is not well-enforced, or if it imposes only minimal substantive requirements (e.g., educational and training standards) and is procedurally very easy to obtain (for example, it entails minimal paperwork and processing time), then it may have less of an impact on workers and consumers.

Streamlining Required Training to Focus on Health and Safety

The Professional Beauty Association (PBA) represents a variety of professions related to personal appearance: cosmetologists, barbers, hairdressers, and manicurists, among others. Cosmetologists are uniformly licensed, though requirements vary substantially across States, with some requiring more than twice as much education as others. On average, more than a year of education is required, with fees that are often non-trivial.

The PBA is now pushing for two general types of reform in the licensing of cosmetologists. First, they are seeking to standardize requirements for hours of schooling across States. This should eventually help make it simpler for workers to move across States. Second, they are advocating for licensing qualifications (mostly related to required school curriculum) that are more closely aligned with public health and safety concerns. This second initiative in particular is an important step forward for licensing reform.

Many occupations have educational requirements that are not necessary to promote public safety. Limiting licensing requirements to those that are necessary to protect the public can go a long way towards achieving a rational, minimally-intrusive licensing regime.

Allow Licensed Professionals to Provide Services to the Full Extent of their Current Competency

When licensing is deemed appropriate for a given occupation, policymakers must also determine the boundaries of the licensed activity, or "scope of practice." Typically, this becomes an important issue when multiple licensed occupations provide complementary or overlapping services. For instance, physicians and nurse practitioners may both prescribe medicines in some States. According to the Pew Health Professions Committee report in 1995, policymakers should endeavor to allow practitioners to offer services to the full extent of their competency and

[98] Freed, Gary L., Kelly M. Dunham, and Acham Gebremariam. 2013. "Changes in Hospitals' Credentialing Requirements for Board Certification from 2005 to 2010." *Journal of Hospital Medicine* 8, no. 6: 298-303.

knowledge, even if this means that multiple professions are licensed to offer overlapping services.[99]

While most States simply focus on scope of practice on a case-by-case basis, a few States have recently considered their scope of practice rules in a more comprehensive manner, primarily in the health care context. In 2007, Pennsylvania expanded the types of services that can be provided by physician assistants, advanced practice nurses, physical therapists, and pharmacists. In 2008, the Colorado Governor commissioned a committee to investigate options for improving utilization of non-physician providers. In New Mexico, an interim legislative committee was established to help legislators evaluate proposed scope of practice reforms. Minnesota and California both have agencies that review scope of practice rules and potential policy changes.[100]

Connecticut's State legislature conducted a particularly thorough 2009 review of scope of practice for the health care professions, including comparisons with regulatory models from other States.[101] In keeping with the academic literature, Connecticut's report emphasizes the importance of evaluating scope of practice implications for consumer access to care. It also recommends that the legislature set up a process by which any health care profession could submit a request to change its scope of practice. Since 2012, the scope of practice review committee has received 21 requests from different health care occupations' associations through this process and has ruled on 6 of them.[102]

Easing Exclusions for Workers with Criminal Records

Occupational licenses are often unavailable to workers with criminal records.[103] Licensing regulations often refer broadly to "good moral character" as a requirement for holding a license, and in practice this has in many cases been interpreted to ban individuals with any criminal record.[104] Policymakers should endeavor to strike a more appropriate balance between protecting the public and ensuring that licensing laws do not prevent qualified individuals from securing employment opportunities. First, policymakers should refrain from categorically

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[99] Pew Health Professions Committee. 1995. "Reforming Health Care Workforce Regulation: Policy Considerations for the 21st Century." *Report of the Taskforce on Health Care Workforce Regulation*. http://www.futurehealth.ucsf.edu/Content/29/1995-12_Reforming_Health_Care_Workforce_Regulation_Policy_Considerations_for_the_21st_Century.pdf.

[100] Swankin, LeBuhn, and Gulish (2010).

[101] Connecticut General Assembly. 2009. "Scope of Practice Determination for Health Care Professions." Legislative Program Review and Investigations Committee. http://www.cga.ct.gov/2009/pridata/Studies/PDF/Scope_of_Practice_Final_Report.PDF.

[102] Connecticut Department of Public Health. 2015. *Scope of Practice Requests for 2014 – 2015.* http://www.ct.gov/dph/cwp/view.asp?a=3121&Q=563950&PM=1.

[103] This paragraph benefited from a conversation with the National Employment Law Project.

[104] Craddock, Larry. 2008. "'Good Moral Character' as a Licensing Standard." *Journal of the National Association of Administrative Law Judiciary* 28, no. 2: 450-469; See Massachusetts Department of Health and Human Services for example of a state regulation in Massachusetts requiring good moral character. Massachusetts Department of Health and Human Services. *Good Moral Character Requirements for Licensing.* http://www.mass.gov/eohhs/gov/departments/dph/programs/hcq/dhpl/nursing/licensing/good-moral-character-requirements-for-licensure.html.

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Personal Care Settings

Written by: Alan Franciscus, Editor-in-Chief

Foreword

Hepatitis C is a disease of the liver caused by a virus called the hepatitis C virus, or HCV. The U.S. government estimates that more than three million Americans have chronic HCV infection. The virus is spread by blood-to-blood contact; primarily through use of shared needles for injection drug use. Sexual transmission and transmission from mother to child are also possible, but less common. Although many people with hepatitis C have no symptoms, over time the disease can cause serious liver damage including cirrhosis (scarring) and liver cancer. There is no vaccine to prevent HCV infection, but there are several important measures people can take to reduce the risk of transmission. There are also medications now that can cure more than 90% of people with hepatitis C who take them.

How is HCV Spread?

Hepatitis C is a blood-borne infection, which means it is spread through contact with the blood of an infected person. The most common method of transmitting HCV is through sharing needles used to inject drugs. Healthcare workers may contract HCV infection through needle-sticks with contaminated needles or other accidental exposures on the job. In at least 1 in 10 cases, people have no identifiable risk factors for infection; in other words, it is not known how they got hepatitis C.

Since HCV is a blood-borne virus, it can – at least in theory – be transmitted by contaminated personal items such as razors or nail care equipment. Any equipment used by manicurists, estheticians (skin care specialists), barbers, and cosmetologists that may come into contact with HCV-infected blood might transmit the virus. This

HCSP FACT SHEET
A publication of the Hepatitis C Support Project

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can happen when a small amount of HCV-containing blood – even a tiny amount that is too small to see – stays on the equipment after it is used on one person, and then comes into contact with the bloodstream (through a cut or other open area on the skin) or mucous membranes (such as the mouth or nostrils) of another person on whom the same equipment is later used. Personal equipment that is shared between persons and can come into contact with blood and spread HCV includes tattooing and body piercing needles and other equipment; cuticle scissors, nail files, and emery boards; razors and hair clippers; hair removal tools such as tweezers and electrolysis equipment; and even hair-cutting scissors and combs.

The transmission of hepatitis C through personal care procedures has not been well-studied. State laws regarding health and safety standards in personal care settings vary widely from state to state.

Prevention

Disposable Items

Some tools used by tattooists, piercers, manicurists, and barbers should be used only once, on a single person. Professional tattooists, piercers, and electrologists should use new, disposable needles for each customer; disposable ink pots should also be used. Paper emery boards, files, orange wood sticks, cotton balls or swabs, sponges, neck strips, and other items that cannot be sterilized should be used on only one person and then thrown away. Whenever possible, substitute single-use items for reusable items.

Risky Items

Blade or scraper tools used to trim calluses (such as Credo blades) are especially likely to come into contact with blood. Many states prohibit the use of such tools in nail salons. Needle-like instruments used to extract skin blemishes are also likely to be prohibited. Cutting cuticles presents a risk for contact with blood, and many experts recommend that nail salon workers should not cut cuticles. Straight razors are also likely to draw blood; therefore, disposable blades or safety razors should be used and discarded after each customer.

Cleaning and Disinfecting

Equipment that is used for more than one person should be properly cleaned and disinfected between users. For procedures that pierce the skin, disposable tools should be used unless they can be completely sterilized (that is, made completely germ-free). Sterilization can be done using steam or dry heat. An autoclave is a machine that sterilizes using both heat and pressure and is frequently used in medical settings.

Other types of tools should be cleaned using a disinfectant solution. Commercial products such as Barbicide disinfect rather than sterilize. Look for an EPA-registered hospital grade product that kills bacteria (bactericide), viruses (virucide), and fungi (fungicide). Immerse items in the solution for at least 10 minutes (some experts recommend

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20 minutes). Small items may be stored in the disinfectant solution between uses. Commercial solutions should be changed at least once per week or when visibly dirty. Alternatively, alcohol, chlorine, or a 10% solution of bleach and water may be used for disinfection. Most experts recommend soaking items in a bleach solution (10 parts cool water to one part household bleach) for 10 minutes. Bleach solution should be made fresh daily and kept away from sunlight.

Although the actual needles and blades are disposable, tattoo guns, razor blade handles, and electrolysis machines should be sterilized between use.

Workspace Precautions

Work-spaces should be set up so that new or clean and used or dirty equipment is separated and cannot be mixed up. Cover work surfaces with a clean cloth or paper towel or sheet before each customer. Lotions, powders, and other products should be kept in containers that allow for dispensing a portion of the product without contaminating the container, and sanitary applicators should be used for cosmetics.

Work surfaces should be disinfected between users. Manicurists should not use soaking water for more than one customer. Soaking bowls and foot spas should be disinfected after each user. Counters, chairs, lamps, and other surfaces should be cleaned regularly with a disinfectant solution. Used razor blades and other sharp items should be discarded in a puncture-proof container. Nail and hair cuttings should be disposed of properly. Used towels, sheets, and gowns should be placed in a covered receptacle and washed in hot water with detergent.

Personal care professionals should be educated about disease transmission and trained to use proper health and safety procedures. Manicurists, cosmetologists, barbers, estheticians, and electrologists (hair removal specialists) must be licensed in most states. Workers should wash their hands with soap and water before each customer and, if appropriate, wear disposable gloves. Any cuts or sores should be covered with waterproof bandages.

Personal Use Items

To be as safe as possible, some customers prefer to bring their own equipment with them to the nail salon or barbershop. Personal manicure and pedicure kits are available at local and national pharmacies. This is especially important for items like cuticle scissors and razors that are likely to come into contact with blood. Some professionals will keep personal client packs or kits at the salon with tools to be used only for a specific customer. Another option is to keep the personal care kit at home and bring it in to the shop when having work done.

Note: There have been reports of serious infections from people soaking hands and feet in solutions that have not changed or disinfected. To protect yourself there are disinfection solutions that can be purchased at

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Personal Care Settings

pharmacies or online retailers. The solutions are sold in individual packets that can be poured directly into the soaking mediums that will disinfect the solutions and prevent infections. Check to make sure that the solutions are EPA approved.

Finally, as is the case with equipment used in nail salons, hair salons, and barbershops, personal health and beauty items used at home, including nail files, razors, toothbrushes, and pierced earrings, should not be shared.

Related publications:

- **HCV and Tattoos**
  www.hcvadvocate.org/hepatitis/factsheets_pdf/Tattoos.pdf
- **Occupational Exposure to Hepatitis C**
  www.hcvadvocate.org/hepatitis/factsheets_pdf/occupational_exposure.pdf
- **How Long Does HCV Live on Surfaces and in Syringes?**
  www.hcvadvocate.org/hepatitis/factsheets_pdf/How_long.pdf

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- **Americans with Disabilities Act**
  www.ada.gov
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  www.cdc.gov
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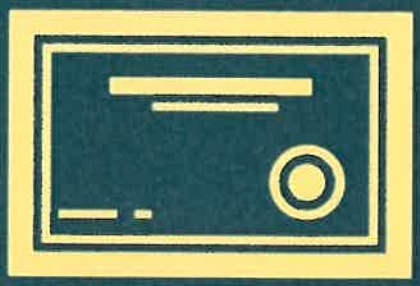
THE VALUE OF COSMETOLOGY LICENSING

A report measuring the importance of cosmetology licensing in the Professional Beauty industry and its economic contributions



Training and licensing are vital for the safety of beauty professionals and consumers

cosmetology school

learn about safety, sanitation, technical skills, and business management

graduate

obtain certificates and degrees

board exam

demonstrate knowledge and abilities

license!

accountable and ready to work

Licensed Professionals

are accountable for safety and sanitation

82%

of poll respondents across age and income groups support the licensing of beauty professionals

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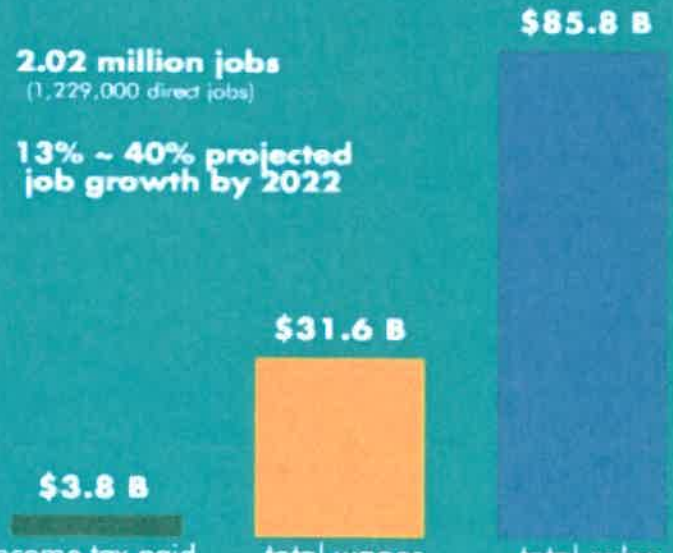
ECONOMIC CONTRIBUTIONS OF BEAUTY PROFESSIONALS

2.02 million jobs
(1,229,000 direct jobs)

13% ~ 40% projected job growth by 2022



The Value of Cosmetology Licensing to America's Health, Safety and Economy

Nam D. Pham, Ph.D. and Anil Sarda

Beauty professionals touch nearly all Americans across every demographic in large and small communities. These professionals acquire their special skills to provide safe, high quality services to their clients through extensive training, certification and licensing.

Licensed cosmetologists, barbers, manicurists, skincare specialists and makeup artists in America are educated and trained beauty professionals from cosmetology programs that are approved and regulated by the state in which they operate.

- Licensing helps meet consumers' expectations to standards and rules.
- Licensing helps ensure consumers' right to safe, sanitary and infection free services.
- Licensing leads to higher employment rates, facilitates market entry, and acts as a stepping stone to higher education, higher earnings and longer more sustainable careers.
- Licensing enhances insurability and helps protect individuals and small business owners.
- The American public overwhelmingly supports professional beauty licensing.

Economic contributions of the professional beauty industry are far-reaching and significant

- The industry supports 2 million direct and indirect jobs, generates more than $85.8 billion in sales, pays nearly $31.6 billion in wages and contributes nearly $3.8 billion in income taxes.
- Beauty professional jobs are expected to grow at a rate well above the 11% national average for all industries, discrediting the claim that licensing acts as a barrier to job growth.
- The industry supports small businesses and minorities.

State administered training, testing, licensing enhance accountability for safety, sanitation, infection control

- In addition to establishing training requirements, licensing and regulations, State Boards of Barbering and Cosmetology establish health and safety standards for the operation of beauty salons and trade schools to protect professionals as well as customers.
- State boards review complaints and take actions against individuals and businesses that do not adhere to the minimum industry standards and violate the law.
- State licensing helps ensure essential skills needed to prevent transmitted diseases for both customers and employees at professional beauty establishments. Bacterial infections, blood borne pathogens, hepatitis B and C, nail and toe fungus, and boils and rashes are common diseases that can be transmitted at beauty salons.

National Public opinion poll indicates overwhelming support for professional beauty licensing

Public opinion overwhelmingly supports professional beauty licensing to maintain the best practices for safety and quality standards. An independent national post-election study in 2012 shows that 82% of respondents think safety and quality would decline significantly if states ended licensing professions including hairstylists, barbers, nail technicians and skin care specialists.

Post-Election Professional Licensing Findings

Currently, licensing for hair stylists, barbers, nail technicians, and estheticians is very popular. More than nine in ten (94%) 2012 general election voters say they support requiring licenses, including 97% of Democrats, 92% of Republicans, and 92% of independent voters. Voters say that professional licenses protect the public as well as improve quality and safety. While support is very broad, the strongest support is from women, older voters, African Americans, and voters with low household income.

To the degree is there is room to improve, it's important to stress the public health benefits from licensing. While voters know that becoming a hair stylist, barber, or a related profession requires attending cosmetology school and passing a test, the public does not currently see the connection to public health issues like lice and scalp disease as strongly as other requirements. Our findings suggest the most compelling message focuses on how licensing ensures proper sanitation and cleanliness. Over two in three (67%) voters said the message was very compelling, including voters of all political affiliations and ages. The best way to talk about the benefits of professional licensing is below:

Voters believe licensing requires education; less aware about skills, public health benefits

Four in five (80%) 2012 presidential election voters say that stylist, barber, nail technician, or esthetician has to attend school in order to receive a license. Three in four (74%) voters say that learning proper techniques for handling tools and chemicals is a requirement, including 86% of African American voters. Voters were least likely to know that training in preventing the spread of disease was necessary, though almost three in five (59%) did identify it as a requirement.

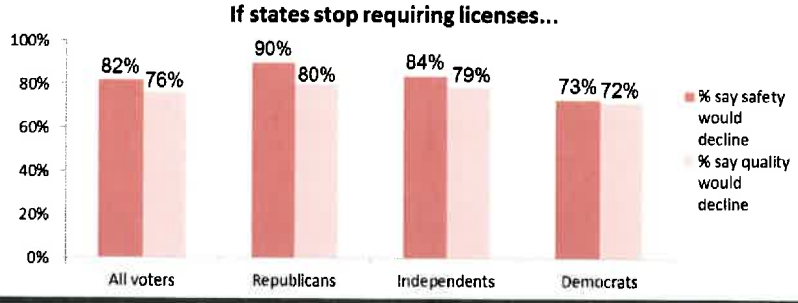
Public thinks safety and quality would decline with law change

The vast majority of voters say quality and safety would decline if states ended licensing professions like hair stylists, barbers, nail technicians and estheticians. More than four in five (82%) say safety would decline and more than three in four (76%) voters say quality would decline without licensing.

Older voters and women are the most concerned demographic groups. Among 50+ voters, 88% say safety will go down and 91% say quality will decline. Among female voters, 87% say it will be less safe and 81% say quality will go down.

Younger voters are relatively more skeptical that ending licensing would impact safety and quality than older voters. Without licensing, six in ten (62%) voters under 35, say that quality would decline and nearly seven in ten (69%) say quality would decline.

As shown in the graph below, these concerns are held by voters of all political persuasions, with strong majorities of Republicans, independents and Democrats saying the procedures will be less safe and lower quality.



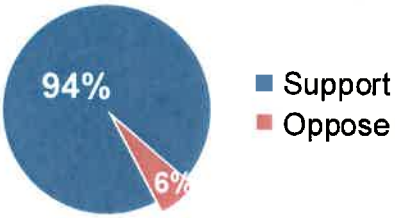
More African Americans say safety would decline (82%) than quality would decline (53%). Hispanics are the reverse, with more saying quality would decline (73%) than safety (56%). White voters are more likely to expect quality (83%) and safety (85%) to decline than either Hispanics or African Americans.

Voters see benefit of licensing

More than nine in ten (94%) voters say they support requiring their stylist, barber, nail technician or esthetician to be licensed. This is a bi-partisan policy with 97% of Democrats, 92% of Republicans, and 92% of independents supporting licensing.

While support for licensing is widespread, there are differences in intensity. Nearly three in four (73%) older voters strongly support licensing, compared to just three in five (60%) voters under 35. Voters with household income under $30,000 per year (72% strongly support) are also stronger supporters of licensing than voters with household incomes over $75,000 (64% strongly support).

Widespread support for professional licensing



The strongest support is from African Americans (79% strongly support), women (76% strongly support) and Democrats (74% strongly support).

Public sees benefit to professional licensing

Nearly eight in nine (88%) voters say that requiring a license protects the public either "a lot" or "some". A majority of voters (54%) believe that state licensing helps protect the public a lot.

Best messages focus on front-line prevention of diseases and safety

The best pro-licensing message focuses on how professional licensing ensures cleanliness and sanitation and enables professionals to identify scalp diseases, head lice, and other public health concerns. Over two in three (67%) voters said the message was very compelling.

Of the three pro-licensing messages PSB tested, the cleanliness message was the most effective among women and men, though it was more effective with women (77% very compelling) than men (54% very compelling). It was equally effective with voters of all political affiliations and ages. The full message is below:

> *Professional licensing and inspections help ensure proper cleanliness and sanitation practices in hair salons and spas. In addition, most states require training in properly identifying scale diseases, head lice, and other ailments.*

Methodology

The results are taken from the 2012 Penn Schoen Berland (PSB) National Post-Election Study. The study was conducted online from November 9-10, 2012 among n=1,202 Americans who voted in the 2012 presidential election. The margin of error for the study is +/- 2.83% at the 95% confidence level and larger for subgroups. Certain questions were split sampled to reduce respondent fatigue.

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The Value of Cosmetology Licensing to the Health, Safety, and Economy of America

Nam D. Pham, Ph.D.
Anil Sarda

January 2015

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Licensed Beauty Professionals: A Part of America's Daily Life

The objective of this report is to detail the health, safety and economic contributions of the professional beauty industry and the critical role professional beauty licensing plays in protecting those contributions. In addition, this report will document the overwhelming public support for the industry and the licensing of its professionals.

This report reinforces and supports the following:

- Consumers expect and have a right to standards and rules.
- Consumers expect and have a right to safe, sanitary and infection free services and establishments.
- Professional beauty licensing fosters income and tax reporting accountability.
- Professional beauty licensing leads to higher employment rates, facilitates market entry, and acts as a stepping stone to higher education, higher earnings and longer more sustainable careers.
- Professional beauty licensing enhances insurability and helps protect individuals and small business owners against personal liability claims.
- The American public overwhelmingly supports professional beauty licensing.
- Nationwide harmonization of licensing requirements, a more efficient consistent process for licensing and reciprocity across the states is required.

Key Findings of the Report

Professional Beauty licensing is critical to the industry, beauty professionals, and every American.

All cosmetologists, barbers, manicurists, skincare specialists and makeup artists in America are trained and licensed beauty professionals from cosmetology schools that are approved by the state in which they operate. Professional beauty programs offer courses to teach individuals skill sets to enhance clients' appearances -- hair, nails, skin, and makeup – and maintain a safe salon environment. One of the most valuable features of all professional beauty programs, from a comprehensive cosmetology program to a shorter nail technology program, is safety and sanitation training to minimize the transfer of infectious diseases and risk of accidents for cosmetologists and clients. Upon completing their training, students who pass their exams are awarded certificates and licenses to work in hair salons, barber shops, nail salons, spas and other personal care service facilities. Currently, professional beauty licenses are set and administered by state offices and the requirements vary from state to state and specialty to specialty.

Economic contributions of the professional beauty industry are far-reaching and significant

More than 1.2 million beauty professionals provide essential services to almost every American during economic upturns as well as downturns.

- Beauty professional jobs are expected to grow 13% for cosmetologists, 16% for manicurists and 40% for skincare over the next 10 years. This is well above the 11% national average for all industries, discrediting the claim that licensing acts as a barrier to job growth. Skincare specialists are predicted to be among the top 20 fastest growing occupations over the next 10 years.

- The industry directly employs 1,229,000 professionals, including hairdressers, hairstylists, cosmetologists, barbers, manicurists, pedicurists, skincare specialists, shampooers, and makeup artists. About half of these practitioners are self-employed and nearly two-thirds of the remaining work in small establishments.
- The beauty industry generates nearly $46 billion in sales and pays over $19 billion in wages to beauty professionals.
- The industry also provides jobs to minorities who make up a disproportionate percentage of the unemployed. Nearly 85% of beauty professionals and 95% of cosmetologists are women compared to 47% of all U.S. industries. Nearly 57% of manicurists, pedicurists and skincare specialists are Asian, while 65% of barbers are African American and Hispanic.
- The industry supports 2,020,107 direct and indirect jobs, generating more than $85.8 billion in sales, paying nearly $31.6 billion in wages and contributing nearly $3.8 billion in income taxes to federal and local governments in 2012-13.

Training, Testing and Licensing enhance accountability

Among the various disciplines within the beauty industry, cosmetologists and barbers usually undertake the most comprehensive programs that cover multiple teachings and skills from safety, sanitation, and technical skills to customer and business management skills. Full-time programs in cosmetology and barbering range from 9 to 24 months and can lead to associate's degrees in cosmetology.

- Professional cosmetology schools also offer shorter, more affordable programs such as nail treatment, skincare and hair styling designed to teach specific skills to work in the beauty industry.
- Upon completion of study, beauty professionals take exams to demonstrate their knowledge, skills, and abilities required to perform their jobs. After passing required exams they are awarded with certificates and licenses to work at hair salons, barber shops, nail salons, spas, nursing facilities and performance art centers.
- Registered professionals are proven to be accountable for the benefit of the consumer.

In order to practice legally, professionals obtain licenses administered and controlled by state cosmetology, barbering or similar boards, or state licensing agencies.

- The requirements for beauty licenses differ from state to state. The school hourly requirements range between 1,000 and 2,300 hours for cosmetologists, 250 and 1,500 hours for skincare specialists and 100 and 600 hours for manicurists. The industry is moving toward the harmonization of licensing requirements and licensing processes.
- In addition to licensing and regulating, the State Boards of Barbering and Cosmetology establish health and safety standards for the operation of beauty salons and trade schools to protect professionals as well as customers. The Board also reviews complaints and takes actions against individuals and businesses that do not adhere to the minimum industry standards and violate the law.

Public opinion polls indicate overwhelming support for professional beauty licensing

Public opinion overwhelmingly supports professional beauty licensing to maintain the best practices for safety and quality standards. The benefits of beauty licensing are significant. Licensing of beauty professionals improves the quality of workers in the beauty industry and ultimately protects consumers from unqualified individuals. In fact, a national post-election study in 2012 shows that 82% of respondents think safety and quality would decline significantly if states ended licensing professions like hairstylists, barbers, nail technicians and skin care specialists. The results are consistent across age groups, income groups and political affiliations.

Professional beauty licensing is an essential component to the health of America's economy and to the health of its citizens. Beauty professionals touch nearly all Americans across every demographic in large and small communities. These professionals acquire their special skills to provide safe, high quality services to their clients through extensive training, certification and licensing.

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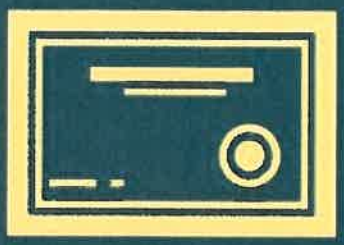

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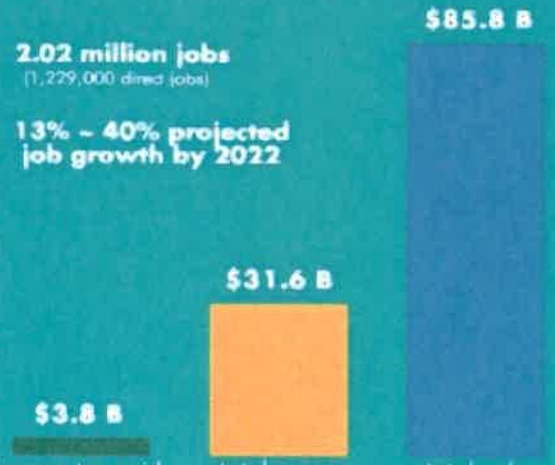

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The Value of Cosmetology Licensing to the Health, Safety, and Economy of America

Nam D. Pham, Ph.D. and Anil Sarda[1]

More than 1.2 million beauty professionals make up one of America's most diverse industries

The professional beauty industry in 2013 employed more than 1.2 million licensed professionals, including hairstylists, hairdressers, cosmetologists, barbers, manicurists, pedicurists, skincare specialists, assistants and makeup artists. About 64% of workers are cosmetologists, including hairdressers and hairstylists. Manicurists and pedicurists account for 14.9% of the total employed. Skincare specialists, shampooers and makeup artists account for 7%, 3.3% and 0.5% of total employment, respectively (Table 1).

Table 1. Employment by Professional Beauty Occupation, 2013[2]

	Employment	Share of Total Employment
TOTAL	**1,229,000**	**100.0%**
Cosmetologists	786,000	64.0%
Manicurists & pedicurists	182,987	14.9%
Barbers	127,000	10.3%
Skincare specialists	86,535	7.0%
Shampooers	40,210	3.3%
Makeup artists	6,269	0.5%

The industry is dominated by small- and diversity-owned businesses

The beauty industry provides opportunity to those who often need it most —those who struggle for business and jobs – especially in time of economic downturn. About half of beauty professionals are self-employed, while small establishments employ most of the remaining. The professional beauty industry is dominated by female workers, accounting for 84.5% of total employment compared to 47.0% in all industries in the United States. In 2013, female workers accounted for 94.8% of all cosmetologists and 85.1% of all manicurists, pedicurists, skincare specialists, shampooers, and makeup artists (Table 2).

The professional beauty industry is diverse, of those employed, 18.3% Asians, 14.4% Hispanics, and 13.3% African Americans. About 56.7% of manicurists, pedicurists, skincare specialists, shampooers and makeup artists are Asian, while 34.5% and 30.0% of barbers are American African and Hispanic, respectively (Table 2).

[1] We would like to thank the Beauty Industry Working Group for their financial support to conduct this study. The opinions and views expressed here are solely those of the authors.
[2] U.S. Bureau of Labor Statistics and author's estimates.

Table 2. Demographic of Professional Beauty Workers, 2013[3]

	Employment	Women	African American	Asian	Hispanic
All Industries (U.S.)	**143,929,000**	**47.0%**	**11.2%**	**5.7%**	**15.6%**
Professional Beauty Industry	**1,229,000**	**84.5%**	**13.3%**	**18.3%**	**14.4%**
Cosmetologists	786,000	94.8%	12.8%	5.2%	14.6%
Barbers	127,000	19.2%	34.5%	3.4%	30.0%
Others	316,000	85.1%	6.1%	56.7%	7.8%

1/ "Others" include manicurists, pedicurists, skincare specialists, shampooers and makeup artists.

The professional beauty industry has 97,207 establishments with one or more paid employees, often referred to as an employer establishment. The beauty industry is made up of three major segments: beauty salons (78.2%), nail salons (17.9%) and barber shops (3.9%). On average, each employer establishment has five workers, with more workers in beauty salons and fewer in nail salons and barber shops. These establishments generated more than $22.9 billion in gross, direct sales, averaging $235,940 in sales per establishment and $45,735 in sales per employee. Total wages paid to employees, excluding typical tips of between 15% and 20%, were over $9.7 billion in 2012, accounting for approximately 42.5% of revenues and averaging $19,432 per worker (Table 3).

Table 3. Number of Establishments and Revenues for the Professional Beauty Industry, 2012[4]

	Beauty Salon	Nail Salon	Barber Shop	Professional Beauty Industry
Establishments	76,016	17,394	3,797	97,207
% of industry	78.2%	17.9%	3.9%	100.0%
Employees	433,912	54,190	13,371	501,473
per establishment	5.7	3.1	3.5	5.2
Gross Sales	$19,518,000,000	$2,726,000,000	$691,000,000	$22,935,000,000
per establishment	$256,762	$156,721	$181,986	$235,940
per employment	$44,981	$50,304	$51,679	$45,735
Wages	$8,613,304,000	$864,424,000	$267,005,000	$9,744,733,000
per employment	$19,850	$15,952	$19,969	$19,432

Nearly two-thirds of employer establishments are small with less than five workers. In addition to employer establishments, the U.S. Census reported more than 1 million establishments in the professional beauty industry do not have paid employees (commonly referred as a non-employer establishment). Overall, the professional beauty industry had 1,142,495 employer and non-employer establishments in 2012 (Table 4). The U.S. Census also reported employer and non-employer establishments generated over $45.9 billion in direct sales in 2012. Using similar wage-revenue ratios in the employer establishments of the professional beauty industry, we estimate total wages paid to both employer and non-employer establishments were nearly $19.1 billion in 2012.

[3] U.S. Bureau of Labor Statistics and author's estimates.
[4] U.S. Census Bureau.

Table 4. Number of Establishments in the Professional Beauty Industry by Employment Size, 2012[5]

	Beauty Salon	Nail Salon	Barber Shop	Professional Beauty Industry
Total Establishments	**789,064**	**215,956**	**137,475**	**1,142,495**
Non-employer Establishments	713,048	198,562	133,678	1,045,288
Establishments (Employer)	76,016	17,394	3,797	97,207
1-4 employees	45,519	13,780	3,063	62,362
5-9 employees	18,066	2,792	451	21,309
10-19 employees	9,223	701	208	10,132
>19 employees	3,208	121	75	3,404

The beauty industry supports more than $85.8 billion in sales and nearly $31.6 billion in wages

Direct employment, wages and sales measure the number of beauty professionals, their wages (excluding tips, averaging between 15% and 20%) and sales of beauty establishments. Indirect and induced effects are changes in employment, wages and sales in other industries along the supply chain resulting from the direct activity. We applied the Bureau of Economic Analysis' multipliers to estimate the indirect and induced economic impacts of professional beauty industry to the U.S. economy. As a result, we estimate that in 2013, the professional beauty industry supported 2,020,107 direct and indirect jobs, produced more than $85.8 billion in economic activity and paid nearly $31.6 billion in wages (Table 5).

Table 5. Direct and Indirect Effects of Professional Beauty Industry, 2012-13[6]

	Employment	Wages ($ millions)	Sales/Revenues ($ millions)
Direct (employer and non-employer)	1,229,000	$19,056.8	$45,978.7
Multipliers (range)	1.2182 ~ 1.8960	1.1925 ~ 1.9075	1.3438 ~ 2.1887
Average	1.6437	1.6566	1.8661
Direct, Indirect, and Induced Effects	2,020,107	$31,569.5	$85,800.9

Based on a 15% federal income tax rate and individual state income tax rates in 2013, we estimate total income tax payments by professionals in the beauty industry to federal and local governments were nearly $3.8 billion in 2012-13. Since the direct wages above ($19.056.8 million) reported by the U.S. statistics do not include tips, we have added an additional 15% of tips to wages to estimate total taxable incomes ($21,915.3 million).

[5] U.S. Census Bureau.
[6] U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics, and author's estimates.

Qualifications of beauty professionals vary from state to state and specialty to specialty

The main service of beauty professionals is to enhance the appearance and well-being of their clients. No other profession, other than medical, requires the degree of skin-to-skin contact as does the beauty industry. Their work heavily involves chemical products, sharp tools and potentially dangerous machines, while focusing on clients' skin, eyes, face, scalp and other human anatomy. In addition to strong physical requirements, beauty professionals need to acquire skills and keep up with new technology and techniques from cosmetology schools. A high school diploma or equivalent is typically required to enter cosmetology schools. Some programs are available in accredited postsecondary vocational schools and other accredited full-time programs lead to an associate's degree in cosmetology.

Although maintaining different focuses, all beauty programs provide comprehensive training on safety, sanitation and infection control. Students learn the arts of hair treatment (shampooing, cutting, coloring, styling and repairing), nail care (polishing, filing, cleaning and disinfecting), makeup and skincare (cleaning, disinfecting, treating and evaluating). In addition to technical skills, cosmetology schools also offer training in sales, marketing, business management and customer skills for those who want to open their own business. These business skills have proven to be helpful for not just employee-based salons, but for the more than 1 million professionals who are self-employed in the beauty industry across the country as well.

Of the various occupations within the beauty industry, cosmetologists and barbers usually undertake the most comprehensive programs that cover multiple aspects from safety, sanitation, anatomy and technical skills to customer skills and business management. Full-time programs in cosmetology and barbering range from 9 to 24 months and often lead to higher degrees. Most professional cosmetology schools also offer shorter, more affordable programs for people to learn specific skills within the beauty industry. For example, nail technology training programs focus solely on safety and sanitation, polishing, filing, cleaning and disinfecting nails. Similarly, hair design programs emphasize safety, sanitation, hair cutting, coloring and styling. Table 6 summarizes typical programs and specializations offered in cosmetology schools.

Table 6. Essential Skills and Basic Training by School[7]

	Safety, Sanitation, Anatomy	Hair	Nails	Makeup	Skincare	Business Mgt	Customer Skills
Cosmetology	X	X	X	X	X	X	X
Barbering	X	X			X	X	X
Hair design	X	X					X
Esthetics	X				X		X
Makeup artistry	X			X	X		X
Nail	X		X				
Electrolysis	X	X			X		
Salon & spa mgt.	X					X	X

[7] Beauty Schools Directory.

Like other professional courses of study, professional beauty students take standardized exams at the end of their courses to demonstrate their knowledge, skills and abilities to perform the occupations at the workplace. After passing required exams and fulfilling state board requirements, they are awarded with certificates and licenses to work at hair salons, barber shops, nail salons, spas, nursing facilities and performance art centers. In order to work and charge clients, beauty professionals are required to obtain work licenses.

Industry seeks to minimize red tape, harmonize requirements, and enhance reciprocity

Licensing legislation for cosmetology has existed in the United States since the turn of the century. Today all 50 states and the District of Columbia require the licensing of cosmetologists. Currently, individual states administer and set the requirements for professional beauty licensing. Depending on the scope and depth of the curriculum, training requirements and fees vary substantially among states. For example, the minimum requirement of training hours for cosmetology licenses range from 1,000 hours (lowest) in Massachusetts and New York, to 2,300 hours (highest) in Oregon. While most states require licenses to be renewed between one and two years, Indiana and New York allow four years and Minnesota and North Carolina allow three years. Among 13 states that require continuing education to renew licenses, North Carolina is the highest, requiring 24 hours and West Virginia, the lowest, requires only 4 hours. Reciprocity and endorsement also differ among states; some states require a simple application while others require an application as well as practical exams (Table 7 and Appendix A4).

This variation is the subject of much discussion with the professional beauty industry, which is advocating for the nationwide harmonization of licensing requirements and a more efficient and consistent process for licensing and reciprocity across the states. Several states have recently streamlined the requirements and process of licensing. For example, Iowa in 2006 combined manicurist/pedicurist licenses and nail technician license to streamline the process.[8] Michigan in 2014 reduced the required number of training hours for barbers from 2,000 hours to 1,800 hours.[9]

Table 7. Professional Beauty Licensure Requirements (as of October 2014)[10]

	Cosmetology	Esthetics	Nails
Training	1,000 ~ 2,300 hrs	250 ~ 1,500 hrs	100 ~ 600 hrs
License Renewal	1 ~ 4 years		
Continuing Education	0 ~ 24 hours		
Reciprocity/Endorsement	Varies		

Skillsets and professional licensing lead to higher wages and higher employment rates

Certified beauty professionals, who pass the board exams and obtain state licenses, are expected to find jobs in reputable workplaces and to be rewarded with higher paying wages. Estimates indicate that more than 35% of employees in the U.S. are either licensed or certified, rising from 5% in the 1950s and around 20% in 2000. Empirical studies found that licensing rises with education: more than 44% of those with post-

[8] Iowa Code Title IV. Chapter 157.5A. https://www.legis.iowa.gov/law/iowaCode/sections?codeChapter=157&year=2014
[9] Michigan House Bill 5396.
[10] Beauty Schools Directory.

college education are required to have a license compared to only 15% of those with less than a high school education. In terms of earnings, cross-sectional studies show that wages of occupational licensing in the U.S. are between 10% and 15% higher than their counterparts of non-licensed occupations.[11]

About 90% of beauty professionals found jobs in the personal care service industry and the other 10% of professionals work in health stores, nursing facilities, traveler accommodations, motion picture and broadcasting industries, amusement industries, and hospitals. According to recent statistics, the range of wages for beauty professionals (lowest and highest 10th percentile) are between $17,010 and $44,220 for cosmetologists, $17,370 and $44,190 for barbers, $16,700 and $30,330 for manicurists and pedicurists, $16,160 and $23,640 for shampooers, $17,480 and 56,930 for skincare specialists and between $19,560 and $121,910 for makeup artists (Table 8).

As with other professions, the time and effort spent in cosmetology school is positively correlated with salaries and employment. Evidence shows that educational attainment is positively correlated with earnings and negatively correlated with unemployment rates.[12] Licensing encourages growth. The U.S. Bureau of Labor Statistics projects the professional beauty industry will grow 13% for cosmetologists and 40% for skincare specialists during 2012-22, compared to 11% of the national average of all industries. Among 580 occupations, the skincare specialist occupation is among the top 20 fastest growing occupations in the United States during the period between 2012 and 2022 (Table 8).

Table 8. Wages and Employment Growth of the Professional Beauty Industry[13]

	2013 Wages (lowest~highest 10th percentile)	Industries with Highest Levels of Employment	Job Growth (2012-22)
Cosmetologists	$17,010~$44,220	Personal care svcs, health stores, nursing facilities, traveler accommodation, motion picture industries	13%
Barbers	$17,370~$44,190	Personal care svcs, employment svcs, psychiatric and substance abuse hospitals	13%
Manicurists and pedicurists	$16,700~$30,330	Personal care svcs, traveler accommodation, amusement industries, health stores	16%
Shampooers	$16,160~$23,640	Personal care svcs	--
Skincare specialists	$17,480~$56,930	Personal care svcs, amusement industries, health offices, health stores	40%
Makeup artists	$19,560~$121,910	Motion picture industries, personal care svcs, performing arts companies, broadcasting	--

[11] Kleiner Morris M. and Alan B. Krueger. 2013. "Analyzing the Extent and Influence of Occupational Licensing on the Labor Market." Journal of Labor Economics, Vol. 31, No. 2.
[12] Earnings and Unemployment Rates by Educational Attainment, U.S. Bureau of Labor Statistics.
[13] Occupational Outlook Handbook, U.S. Bureau of Labor Statistics.

Licensed professionals in the beauty industry are accountable for safety, sanitation and infection control

As shown above, cosmetology schools provide essential skills for safety, sanitation and infection control for all students, regardless whether they are enrolled in a comprehensive cosmetology program or in a shorter nail technology program. Safety and sanitation are proven to be crucial elements in preventing transmitted diseases for both customers and employees at professional beauty establishments. Bacterial infections, blood borne pathogens, hepatitis B and C, nail and toe fungus and boils and rashes are common diseases that can be transmitted at beauty salons.

Reported bacterial outbreaks linked to improperly cleaned and disinfected spas have raised concerns about spa safety and sanitation. Several major mycobacterial skin infection outbreaks in California in 2000 and 2004 infected hundreds of nail salon clients.[14] According to a study in the New England Journal of Medicine, mycobacterial infections associated with nail salons are currently under-recognized and may increase in prevalence. Since mycobacteria are found in soil and water, microorganisms in foot spas can enter through the skin, finding passage into the body.[15]

Blood-borne viruses, such as hepatitis B and C and HIV, are serious global health problems. Patients infected by these viruses may not be aware they are carriers of the disease and could transmit them to others accidentally. Peer-reviewed medical research studies have found strong evidence that razors, barber's scissors, nail files and body piercing instruments are risk factors for transmission of hepatitis B and C, HIV and other blood borne pathogens. Without training and knowledge, professionals in the beauty industry may accidentally transmit diseases from an infected client to others.[16]

Fungal nail infections are common infections of the fingernails and toenails that can cause the nails to become discolored, thick, and more likely to crack and break. The infections can be transmitted by instruments such as nail clippers and scissors at beauty salons. Fungal nail infections are difficult and may take several months to a year to cure with proper antifungal treatment.

Public health officials have called for raising awareness among beauty industry professionals and focusing on regulations to prevent transmissions of diseases. The Centers for Disease Control and Prevention (CDC) advises people to choose salons that are clean and licensed by the state's cosmetology board. Proper cleaning and disinfection greatly reduce the risk of infection and salons should use EPA-registered hospital disinfectant products. Professional Beauty establishments need to follow the instructions on products to disinfect instruments in between serving customers and nightly. The CDC also provides guidance for customers to better understand how to ask how the salon how they clean and disinfect foot spas and tools and how often.

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[14] Board of Cosmetology, State of Oregon. http://www.oregon.gov/ohla/cos/pages/features/bacterial_skin_infections.aspx

[15] Winthrop Kevin L, Marcy Abrams, Mitchell Yakrus, Ira Schwartz, Janet Ely, Duncan Gillies, and Duc J. Vugia. 2002. "An Outbreak of Mycobacterial Furunculosis Associated with Footbaths at a Nail Salon." The New England Journal of Medicine.

[16] Winthrop Kevin L, Marcy Abrams, Mitchell Yakrus, Ira Schwartz, Janet Ely, Duncan Gillies, and Duc J. Vugia. 2002. "An Outbreak of Mycobacterial Furunculosis Associated with Footbaths at a Nail Salon." The New England Journal of Medicine.
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Licensed professionals are trained to properly handle electrical equipment, professional grade chemical products and hazardous substances at the workplace to protect themselves and customers. In addition, proper equipment operation at beauty salons reduces the risk of chemical exposures as well as accidents at the work place.[17] Licensed professionals and beauty salons have protocols to handle, use, and dispose of hazardous chemical products, waste, and equipment.

State boards play a valuable role

Individual state boards were created to provide safe operating standards for the beauty industry, to monitor the industry and to enforce rules that protect consumers and professionals. The state board of barbering and cosmetology establishes licensing requirements, operational rules and health safety standards for beauty salons and trade schools to protect customers as well as professionals. Currently, state boards set training requirements for its own state, this varies substantially across states.

State Boards also provide a platform for customers to file complaints about beauty salons and professionals in the beauty industry. As with any occupation, accidents and negligible work performance sometimes occur. When they do, state boards are there to help. Complaints are filed with individual state boards every year on the work performed by estheticians, barbers, cosmetologists, nail technicians, establishments, and even cosmetology schools. Statistics regarding complaints are available for several states. For example, the California Board of Barbering and Cosmetology provides detailed statistics on complaints in its state. During the fiscal years between 2006 and 2012, the California Board received 21,402 complaints and referred 1,095 cases for further investigation. Among 998 violations issued by the California Board, 286 cases (28.7% of total issues) were related to health and safety, another 283 cases were related to unlicensed activity, and 216 cases were related to incompetence/negligence.[18]

During the 5 fiscal years between 2008 and 2012, the Colorado State Board of Barbers and Cosmetologists received 3,713 complaints filed with the Director.[19] Similarly, Maine reported 459 complaints filed in 2012, 432 in North Carolina, and 396 in Michigan.[20] The accidents range from minor issues, such as not meeting clients' expectations to more serious issues, such as skin burning and infections.

After reviewing complaints, the state board investigates these cases and may take actions against individuals and businesses that do not adhere to the minimum standards and violate the law. Disciplinary decisions of the board include revocation, surrender of license, suspension, probation and public reprimand. The board also issues citations and collects fines.

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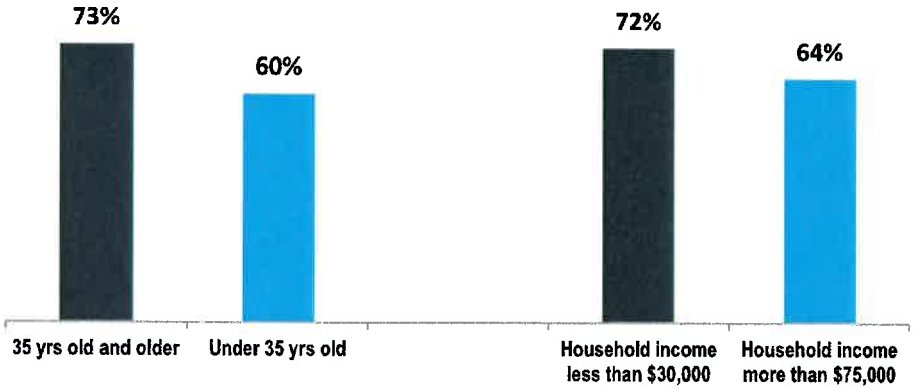
[17] Tsigonia, Alexandra, Argyro Lagoudi, Stavroula Chandrinou, Athena Linos, Nikos Evlogias, and Evangelos Alexopoulos. 2010. "Indoor Air in Beauty Salons and Occupational Health Exposure of Cosmetologists to Chemical Substances." International Journal of Environmental Research and Public Health.
[18] Board of Barbering and Cosmetology. "Enforcement Statistical Overview." Department of Consumer Affairs, State of California.
[19] Department of Regulatory Agencies. "2014 Sunset Review: Barber and Cosmetologist Act and Barber and Cosmetology Advisory Committee." Office of Policy, Research, and Regulatory Reform, State of Colorado.
[20] Data compiled by Professional Beauty Association.

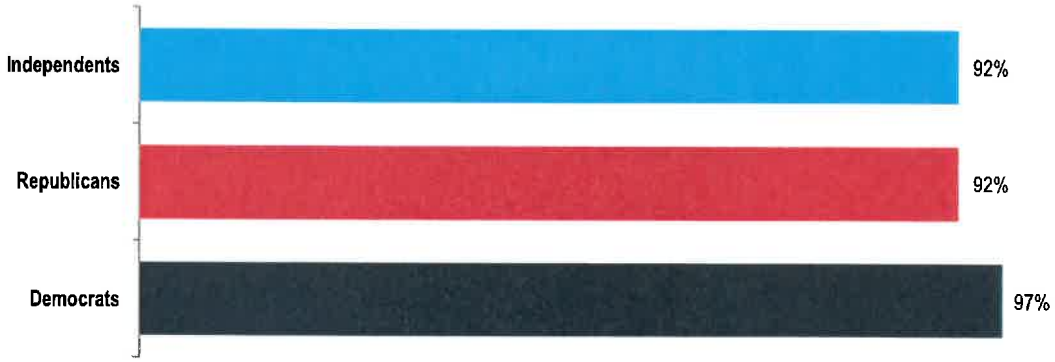
Public Opinion overwhelmingly supports licensing

The benefits of beauty licensing are overwhelming. Professional licensing in the beauty industry ensures the quality and safety of workers and ultimately protects consumers from unqualified, unsafe workers. In fact, a national post-election study in 2012 shows that 82% of respondents think safety and quality would decline if states ended licensing for professionals like hairstylists, barbers, nail technicians and estheticians. The results are consistent across age groups, income groups, and political affiliations (Figure 1).

Figure 1. Public Opinions Supporting Professional Beauty Licensing[21]
Panel A. By Age and Income Groups



Panel B. By Political Affiliations



[21] 2012 Penn Schoen Berland (PSB) National Post-Election Study. The study was conducted online from November 9-10, 2012 among n=1,202 Americans who voted in the 2012 presidential election.

Conclusion

The professional beauty industry is a critical element in America's economic landscape and professional beauty licensing is an essential component to the overall health of American consumers and beauty professionals. Ultimately, licensing of beauty professionals supports an industry of over 2.2 million workers who earn $31.6 billion in wages and contribute $85.8 billion in goods and services to the U.S. economy. The beauty industry is dominated by small businesses, self-employed individuals and exemplifies gender and ethnic diversity. The beauty industry touches almost every American in large and small communities. These trained and licensed beauty professionals acquire special skill sets, including hair, nail, skin treatments, business management, sanitation, hygiene, human anatomy, and infection control to provide safe and high quality services for their clients. As with other professional education programs, participants have to pass standardized course exams to demonstrate their knowledge and ability to perform their skills in the marketplace. With a higher level of training, beauty professionals are able to earn higher wages. Licensing safe and well trained beauty service providers protect customers from unqualified beauty workers. To ensure consistency from state-to-state, industry professionals are pushing to harmonize the requirements and processes to obtain professional beauty licenses to strengthen safety, remove barriers and ensure economic performance of the industry.

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Appendix.

Table A1. Professional Beauty Employment by State (Employers only), 2012[22]

State	Employment	State	Employment
Alabama	4,550	Montana	860
Alaska	440	Nebraska	3,310
Arizona	7,760	Nevada	3,650
Arkansas	1,750	New Hampshire	3,030
California	49,060	New Jersey	25,270
Colorado	8,210	New Mexico	1,320
Connecticut	8,350	New York	44,190
Delaware	1,870	North Carolina	8,910
District of Columbia	1,380	North Dakota	1,440
Florida	29,200	Ohio	22,350
Georgia	10,830	Oklahoma	3,060
Hawaii	1,600	Oregon	4,660
Idaho	1,530	Pennsylvania	29,880
Illinois	22,280	Rhode Island	1,520
Indiana	8,380	South Carolina	3,800
Iowa	4,410	South Dakota	940
Kansas	3,610	Tennessee	6,640
Kentucky	4,370	Texas	28,700
Louisiana	4,460	Utah	3,000
Maine	1,230	Vermont	760
Maryland	13,120	Virginia	15,520
Massachusetts	15,240	Washington	13,190
Michigan	14,100	West Virginia	1,440
Minnesota	11,880	Wisconsin	11,710
Mississippi	2,190	Wyoming	550
Missouri	7,830	United States	490,050

[22] U.S. Bureau of Labor Statistics. Occupational Employment Statistics. May 2013.

Table A2. Professional Beauty Employment (Employers only) per 10,000, by State, 2012[23]

State	Professional Beauty per 10,000	State	Professional Beauty per 10,000
Alabama	9	Montana	8
Alaska	6	Nebraska	18
Arizona	12	Nevada	13
Arkansas	6	New Hampshire	23
California	13	New Jersey	28
Colorado	16	New Mexico	6
Connecticut	23	New York	22
Delaware	20	North Carolina	9
District of Columbia	21	North Dakota	20
Florida	15	Ohio	19
Georgia	11	Oklahoma	8
Hawaii	11	Oregon	12
Idaho	9	Pennsylvania	23
Illinois	17	Rhode Island	14
Indiana	13	South Carolina	8
Iowa	14	South Dakota	11
Kansas	12	Tennessee	10
Kentucky	10	Texas	11
Louisiana	10	Utah	10
Maine	9	Vermont	12
Maryland	22	Virginia	19
Massachusetts	23	Washington	19
Michigan	14	West Virginia	8
Minnesota	22	Wisconsin	20
Mississippi	7	Wyoming	9
Missouri	13	United States	16

[23] U.S. Bureau of Labor Statistics. Occupational Employment Statistics. May 2013; U.S. Census Bureau.

Table A3. Establishments of Professional Beauty Industry by State, 2012[24]

State	Establishments	State	Establishments
Alabama	24,751	Montana	2,962
Alaska	1,247	Nebraska	5,914
Arizona	18,293	Nevada	10,510
Arkansas	10,635	New Hampshire	3,289
California	136,453	New Jersey	20,176
Colorado	14,801	New Mexico	4,569
Connecticut	8,675	New York	71,542
Delaware	1,997	North Carolina	39,494
District of Columbia	3,140	North Dakota	1,579
Florida	92,591	Ohio	34,835
Georgia	61,001	Oklahoma	13,209
Hawaii	3,083	Oregon	10,773
Idaho	4,714	Pennsylvania	28,140
Illinois	64,695	Rhode Island	3,750
Indiana	23,950	South Carolina	19,219
Iowa	8,801	South Dakota	1,985
Kansas	8,327	Tennessee	29,040
Kentucky	13,124	Texas	97,922
Louisiana	25,922	Utah	8,917
Maine	3,558	Vermont	1,368
Maryland	20,652	Virginia	24,924
Massachusetts	17,404	Washington	15,901
Michigan	52,247	West Virginia	4,030
Minnesota	13,238	Wisconsin	16,293
Mississippi	14,748	Wyoming	1,651
Missouri	22,456	United States	1,142,495

[24] U.S. Census Bureau. County Business Patterns. 2012.

Table A4. License Requirements by State[25]

State	Cosmetology (hours)	Esthetics (hours)	Nails (hours)	Renewal (years)	Continuing Education (hours)
Alabama	1500	1500	600	2	0
Alaska	1650	350	250	2	0
Arizona	1600	600	600	1	0
Arkansas	1500	600	600	2	0
California	1600	600	400	2	0
Colorado	1800	600	600	2	0
Connecticut	1500	NR	NR	2	10
Delaware	1500	600	300	2	0
District of Columbia	1500	600	350	2	6
Florida	1200	260	240	2	16
Georgia	1500	1000	525	2	5
Hawaii	1800	600	350	2	0
Idaho	2000	600	400	1	0
Illinois	1500	750	350	2	14
Indiana	1500	700	450	4	0
Iowa	2100	600	325	2	8
Kansas	1500	1000	350	2	0
Kentucky	1800	1000	600	1	0
Louisiana	1500	750	500	1	0
Maine	1500	600	200	1	0
Maryland	1500	600	250	2	0
Massachusetts	1000	300	100	1 and then 2	0
Michigan	1500	400	400	1 and then 2	0
Minnesota	1550	600	350	3	0
Mississippi	1500	600	350	2	0
Missouri	1500	750	400	2	0
Montana	2000	650	350	2	15
Nebraska	2100	600	300	2	8
Nevada	1800	900	600	2	0
New Hampshire	1500	600	300	2	0
New Jersey	1200	600	300	2	0
New Mexico	1600	600	350	1	0
New York	1000	600	250	4	0
North Carolina	1500	600	300	3	24
North Dakota	1800	600	350	1	0
Ohio	1500	600	200	2	0
Oklahoma	1500	600	600	1	0

[25] Cosmetology License Requirements by State, Beauty Schools Marketing Group, Inc.

Oregon	2300	250	350	2	0
Pennsylvania	1250	300	200	2	0
Rhode Island	1500	600	300	1 and then 2	0
South Carolina	1500	450	300	2	12
South Dakota	2100	600	400	1	0
Tennessee	1500	750	600	2	16
Texas	1500	750	600	2	4
Utah	1600	600	300	2	0
Vermont	1500	600	400	2	0
Virginia	1500	600	150	2	0
Washington	1600	600	600	2	0
West Virginia	1800	600	400	1	4
Wisconsin	1800	450	300	2	0
Wyoming	2000	600	400	2	0

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AN OUTBREAK OF MYCOBACTERIAL FURUNCULOSIS ASSOCIATED WITH FOOTBATHS AT A NAIL SALON

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ABSTRACT

Background In September 2000, a physician in northern California described four patients with persistent, culture-negative boils on the lower extremities. The patients had received pedicures at the same nail salon. We identified and investigated an outbreak of *Mycobacterium fortuitum* furunculosis among customers of this nail salon.

Methods Patients were defined as salon customers with persistent skin infections below the knee. A case–control study was conducted that included the first 48 patients identified, and 56 unaffected friends and family members who had had a pedicure at the same salon served as controls. Selected *M. fortuitum* isolates, cultured from patients and the salon environment, were compared by pulsed-field gel electrophoresis.

Results We identified 110 customers of the nail salon who had furunculosis. Cultures from 34 were positive for rapidly growing mycobacteria (32 *M. fortuitum* and 2 unidentified). Most of the affected patients had more than 1 boil (median, 2; range, 1 to 37). All patients and controls had had whirlpool footbaths. Shaving the legs with a razor before pedicure was a risk factor for infection (70 percent of patients vs. 31 percent of controls; adjusted odds ratio, 4.8; 95 percent confidence interval, 2.1 to 11.1). Cultures from all 10 footbaths at the salon yielded *M. fortuitum*. The *M. fortuitum* isolates from three footbaths and 14 patients were indistinguishable by electrophoresis.

Conclusions We identified a large outbreak of rapidly growing mycobacterial infections among persons who had had footbaths and pedicures at one nail salon. Physicians should suspect this cause in patients with persistent furunculosis after exposure to whirlpool footbaths. (N Engl J Med 2002;346:1366-71.)
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RAPIDLY growing mycobacteria are distributed ubiquitously in soil and water, including chlorinated municipal water systems.[1-5] They are known to cause localized cutaneous infections, such as cellulitis and soft-tissue abscesses, as well as rare extracutaneous or disseminated disease.[6] Since the first description of *Mycobacterium fortuitum* infection, from an abscess resulting from vitamin injection in 1936,[7] nosocomial outbreaks of infection with rapidly growing mycobacteria have been documented. These outbreaks are typically associated with surgical or clinical devices contaminated with water from a hospital or municipal water system.[8] In the community setting, only sporadic infections have been reported, usually resulting from the contamination of a traumatic wound with soil or water.[6,9]

On September 26, 2000, a physician in northern California reported to her local health department a cluster of four female patients in whom lower-extremity furunculosis of unknown cause had developed in the previous six months. The patients presented with small erythematous papules that, after several weeks or months, became large, tender, fluctuant, violaceous boils (Fig. 1A). Some progressed to frank ulceration, and some resolved spontaneously with substantial scarring (Fig. 1B). In all four patients, empirical trials of antibiotic therapy had failed, and wound swabs failed to yield bacterial growth on routine culture. The physician noted that all boils occurred below the knee and that all four patients had received pedicures at the same nail salon.

At the salon, we observed that patrons began with a 10-to-15-minute soaking of the lower extremities in a whirlpool footbath. The water levels were always below the knee but often reached to the mid-calf. After the bath, and before working on nails and calluses, the nail technician massaged the leg below the knee with oil or lotion.

We suspected that rapidly growing mycobacteria might be responsible for the disease in these four patients. We undertook an investigation to search for similar cases in the community.

METHODS

Patient Identification

To define the extent of the outbreak, we notified all local primary care and dermatology clinicians of a potential outbreak of mycobacterial disease among customers of the salon, and we asked them to report to the local health department all patients with lower-extremity skin infections in the previous six months who had received a pedicure from the salon. These persons were contacted by local or state health-department staff, and a brief, standardized

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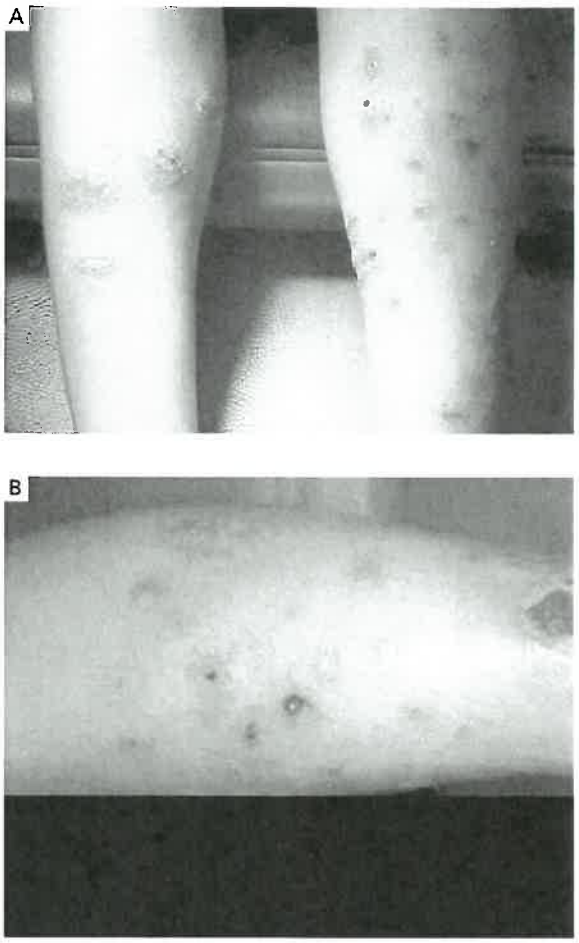

Figure 1. Lesions of Furunculosis.
Panel A shows the legs of a 14-year-old girl with typical disease presentation. Panel B shows lesion ulceration and scarring.

questionnaire was administered. Data collected included age, sex, clinical information, and pertinent details of the pedicure procedure.

We defined a patient as any person who had had a pedicure at the salon between April and October 2000 and who had a skin infection below the knee lasting at least two weeks with at least one of the following features: a negative routine bacterial culture, a failure to respond to routine antibiotic therapy, and a treating physician's clinical suspicion of mycobacterial furunculosis.

Case–Control Study

We enrolled the first 48 patients in a case–control study to identify potential risk factors for infection. Because no salon records or sales receipts were available for identifying possible control subjects, we asked the patients to refer unaffected acquaintances, friends, or family members who had had pedicures at the salon in the previous six months to serve as controls. All identified control subjects were included. We used a detailed questionnaire to interview patients and controls. Information collected included sex, age, date of last pedicure, and details of the last pedicure procedure (e.g., leg shaving before pedicure and the use of lotion or oil during leg massage).

For statistical analysis, patients and controls underwent unmatched and matched comparisons. Because these analyses produced similar results, only the unmatched results are presented here. Mantel–Haenszel odds ratios, 95 percent confidence intervals, and Fisher's exact P values (with the use of two-sided tests) were calculated with Epi Info 2000 software (version 1.0.4).

Environmental Investigation

We obtained multiple environmental samples from the salon for mycobacterial culture, including any substance that came in contact with the patrons' lower legs, specifically massage oils, lotions, bubble soap for the whirlpool bath, tub cleaner, cuticle oil, and exfoliating scrub. Using cotton-tipped swabs, we cultured behind the inlet suction screen of each of the 10 whirlpool-footbath basins in the salon. We obtained tap-water specimens from the salon's sink four and eight weeks after the salon was closed on October 6, 2000.

Laboratory Methods

Physicians were encouraged to obtain punch-biopsy specimens from suspect lesions for routine bacterial and mycobacterial cultures. We requested that all positive mycobacterial cultures be sent to the California Microbial Diseases Laboratory for identification and confirmation of species.

Biopsy specimens submitted to local public health laboratories were decontaminated and digested with *N*-acetyl-L-cysteine (NALC) sodium hydroxide. All environmental culturette specimens were processed in similar fashion.[10] These digests were inoculated onto Lowenstein–Jensen slants, Middlebrook 7H10 plates, and MB/BacT process bottle broth medium (Organon Teknika, Durham, N.C.).

Water samples were concentrated and decontaminated with cetylpyridium chloride, as previously described,[11] and inoculated onto Lowenstein–Jensen slants. Lotions, oils, and other cosmetic samples were prepared for processing by mixing 10 ml of sample with 10 ml of sterile Tween 80. This mixture was swirled to make a suspension and mixed with 80 ml of trypticase soy broth at 44°C. Ten milliliters of this prepared sample was then decontaminated with NALC sodium hydroxide, concentrated by centrifugation, and inoculated onto Lowenstein–Jensen and Middlebrook 7H10 culture medium. The remaining 90 ml of sample was filtered through a 0.45-μm membrane filter, and the filter was placed in 50 ml of Middlebrook 7H9 broth (with MB/BacT antibiotic supplement).

All inoculated mediums and broths were incubated at 35°C. Broth cultures with growth were plated on Middlebrook 7H10. Smears were made from colonies appearing on the medium and were stained with Ziehl–Neelsen stain.[12] Acid-fast colonies were subcultured to Lowenstein–Jensen medium and submitted for high-performance liquid chromatography.[13] These isolates were identified to the species level with the use of high-performance liquid chromatography and biochemical methods.[14]

Molecular Comparison

Selected *M. fortuitum* isolates from patients and from the environment were forwarded to the Tuberculosis/Mycobacteriology Branch of the Centers for Disease Control and Prevention for molecular subtyping by pulsed-field gel electrophoresis and multilocus enzyme electrophoresis. Pulsed-field gel electrophoresis of large restriction fragments of genomic DNA was performed with a restriction enzyme (*Xba*I) according to methods described elsewhere.[15] Gels were interpreted with the use of previously described criteria.[16] For analysis by multilocus enzyme electrophoresis, the mobility of 10 enzymes from each isolate was compared on starch gels with the use of previously described methods.[17] Both molecular subtyping techniques used *M. fortuitum* reference strain American Type Culture Collection 23031.

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RESULTS

Identification of Patients

We identified 110 patients in whom furunculosis had developed between April and October 2000 (Fig. 2). Thirty-four (31 percent) had cultures positive for rapidly growing mycobacteria, with 32 identified as *M. fortuitum* and 2 not identified. All patients except one were female, with a median age of 36 years (range, 10 to 65). Most patients had more than 1 boil (median, 2; range, 1 to 37). Because most patients had been to the salon more than once before the onset of disease, we calculated the incubation time for the 13 patients who reported only one visit to the salon, 6 of whom had culture-confirmed disease. The median interval from exposure to clinically apparent infection was 23 days (range, 10 to 128) for these 13 patients; the results from the 6 of these 13 patients with culture-confirmed infection were similar (median, 27 days; range, 12 to 69). No patients were hospitalized, and there were no deaths.

Preliminary information on clinical outcome was reported for 60 patients. Forty-eight patients received oral antibiotics for a median of four months (range, one to seven), and all had resolution of boils. No patients underwent surgical excision of the lesions or received intravenous antibiotics. Clinicians prescribed single- or dual-agent therapy guided by susceptibility testing of early isolates that showed susceptibility to ciprofloxacin, clarithromycin, and doxycycline or minocycline. In 11 of the 12 untreated patients, the boils eventually resolved; 1 patient required treatment after a distal-calf boil led to an abscess deep within the proximal thigh, from which a culture confirmed the presence of *M. fortuitum*.

Case–Control Study

Forty-eight patients were enrolled in the case–control study, of whom 14 had culture-confirmed mycobacterial infection. Twenty-seven patients identified between 1 and 3 control subjects each, for a total of 56 controls enrolled in the study. Patients and controls did not differ with respect to age (median, 39 years for both) or sex (99 percent of patients and 100 percent of controls were female). No patients or controls reported immunocompromising conditions. More patients than controls had shaved their legs with a razor before the pedicure or had had oil massage during the pedicure (Table 1). All persons who had shaved before the pedicure had done so either the night before or the morning of the pedicure. In a stratified analysis, only leg shaving was significantly associated with infection (adjusted odds ratio, 4.8; 95 percent confidence interval, 2.1 to 11.1).

Environmental Factors

We found large amounts of hair and skin debris behind the inlet suction screen of every whirlpool footbath examined during our initial visit to the salon. The salon owner reported that the areas behind these screens were never cleaned, and cultures from these areas of all 10 footbaths yielded *M. fortuitum*. We found other acid-fast organisms in at least five of the footbaths, including *M. mucogenicum, M. smegmatis,* unidentified mycobacteria, and nocardia organisms. All cultures of oils, lotions, whirlpool disinfectant, and whirlpool bubble soap were negative. Salon tap water yielded rapidly growing mycobacteria in the *M. chelonae* (or *M. abscessus*) group.

Molecular Comparison

We compared *M. fortuitum* isolates from six different footbaths and 14 patients using pulsed-field gel electrophoresis. The isolates from all 14 patients and from three footbaths were indistinguishable (represen-

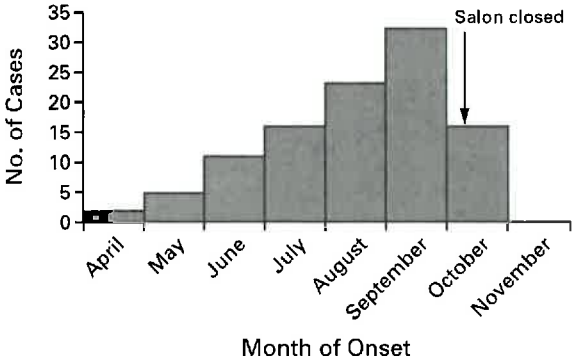

Figure 2. Onset of Infections during the Epidemic.

TABLE 1. RISK FACTORS FOR FURUNCULOSIS ASSOCIATED WITH THE NAIL SALON IDENTIFIED AS THE SOURCE OF THE OUTBREAK.

FACTOR	PATIENTS (N=48)	CONTROLS (N=56)	ODDS RATIO (95% CI)*
	no. (%)		
Whirlpool footbath	48 (100)	56 (100)	Undefined
Leg massage	48 (100)	50 (89)	Undefined
Leg shaving†	31 (70)	17 (31)	4.8 (2.1–11.1)
Oil massage‡	35 (78)	31 (56)	2.0 (0.8–4.9)

*Odds ratios were adjusted after stratified analysis. CI denotes confidence interval.

†Percentages are based on 44 patients and 54 controls for whom data were available.

‡Percentages are based on 45 patients and 55 controls for whom data were available.

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tative isolates shown in Fig. 3). The three other footbath isolates were distinct from the outbreak strain. Multilocus enzyme electrophoresis was also performed on the six footbath isolates and a subgroup of the isolates from 6 of the 14 patients. These results corroborated our findings: all isolates that matched on pulsed-field gel electrophoresis shared the same electrophoretic type (ET-4).

DISCUSSION

This investigation identified a large community outbreak of *M. fortuitum* furunculosis after the use of contaminated whirlpool footbaths in a northern California nail salon. A single strain of *M. fortuitum* was responsible for the follicular infections, and the same strain was recovered from the footbaths that were used in pedicures. Outbreaks of follicular disease from whirlpools and baths caused by pseudomonas and staphylococcus bacteria have been documented, but only a few sporadic cases of cutaneous infection with rapidly growing mycobacteria have been reported in this setting.[18,19] In contrast to the quickly healing and nonscarring lesions of typical folliculitis, this outbreak produced severe, protracted, scarring furunculosis.

Despite the severity of the disease, this large outbreak escaped detection for nearly six months. The patients often delayed seeking medical attention because of the benign nodular appearance and indolent course of early lesions. However, once the lesions worsened and the patients consulted their physicians, the physicians typically cultured and treated for nonmycobacterial skin infection, with no resulting clinical improvement.

Patients who were treated with oral antibiotics with activity against *M. fortuitum* had eventual resolution of boils, and no patient required intravenous therapy or surgical excision of lesions. Although the disease resolved in some untreated patients, one initially untreated patient did have disease dissemination.

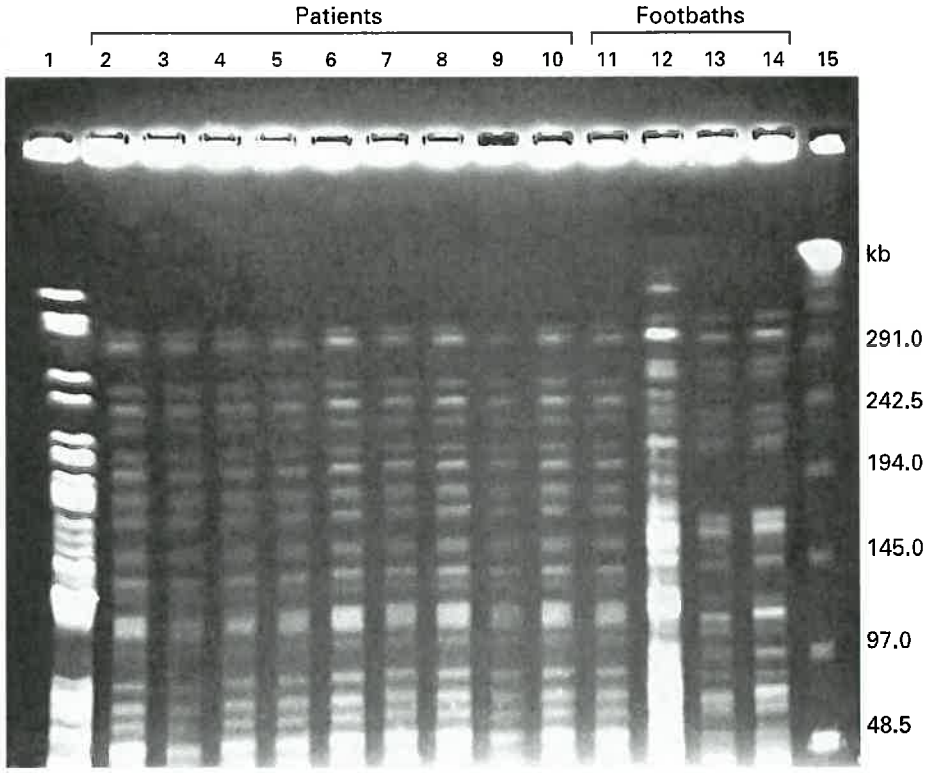

Figure 3. Pulsed-Field Gel Electrophoresis of Representative Isolates from Patients and Whirlpools Obtained with Restriction Enzyme *Xba*I.

Lane 1 shows the reference strain of *Mycobacterium fortuitum* (American Type Culture Collection 23031); lanes 2 through 10 show *M. fortuitum* isolates from nine patients; lanes 11, 12, 13, and 14 show *M. fortuitum* isolates from four whirlpool footbaths; and lane 15 shows a molecular-weight marker (a 48.5-kb lambda ladder).

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In this outbreak, it appears that rapidly growing mycobacteria, which commonly inhabit municipal water systems,[1-3] entered the salon in the tap water, seeded the accumulated organic debris behind the footbath inlet screens, and then multiplied in this warm, nutritive environment. These organisms recirculated within the footbath basin as pedicure customers received footbaths. Because all of the salon's footbaths harbored one or more rapidly growing mycobacterial species, and in some cases even multiple strains of *M. fortuitum,* it is unlikely that the footbaths were contaminated by a patron.

The case–control study identified shaving the legs with a razor as a risk factor for disease in this outbreak. Razor-induced microtrauma of skin epithelium or hair follicles could serve as a portal of infection for these organisms, although one third of the patients did not shave their legs before their pedicure. These were healthy persons with no other identifiable risk factors for disease, and it is unclear why they became infected. One possibility is that the outbreak strain of *M. fortuitum* was highly virulent. Our finding of a single disease-causing strain among several other *M. fortuitum* strains in the salon's footbaths raises this possibility and might explain why outbreaks have not occurred previously in similar settings.

Will similar outbreaks occur in the future? We performed a bacteriologic survey of California nail salons and found rapidly growing mycobacteria to be highly prevalent in whirlpool footbaths. More than one species (*M. fortuitum* and other known pathogens) was found in most machines, even when little debris was present (California Department of Health Services: unpublished data). The nail-care industry is large and growing. In California there are more than 7500 nail salons, and the number of licensed nail technicians has doubled from 40,000 to 80,000 in the past 10 years.[20] There may be similar outbreaks in the future. Salon-associated infections may also occur sporadically and not be recognized. After notifying local health departments in California of this outbreak, we were informed of at least six sporadic cases of rapidly growing mycobacterial furunculosis of the lower extremities in pedicure customers at other salons. We helped investigate one such case and documented a molecularly indistinguishable isolate from both the patient and her salon's footbath (unpublished data).

The California Bureau of Barbering and Cosmetology, with our assistance, has developed new state regulations for the nail-care industry. The proposed regulations emphasize frequent cleaning behind the inlet suction screen, but further study is necessary to determine the optimal cleaning and disinfection procedures for these machines. These organisms can be resistant to a variety of disinfectants,[8,21] and it is unknown whether there is a level of footbath contamination that may be acceptable in terms of infectious risk.

The large and unprecedented *M. fortuitum* outbreak we identified affected healthy persons who took whirlpool footbaths as part of pedicures. We believe that these rapidly growing mycobacterial infections associated with nail salons are underrecognized and may increase in prevalence. Clinicians should consider rapidly growing mycobacteria in the differential diagnosis of hard-to-treat furunculosis or other soft-tissue infections of the lower extremity, particularly if the patient has used a footbath at a nail salon.

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