

# IMMIGRANTS WORKING FOR US

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## PHARMACEUTICALS

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# Immigrants Working for US

## Pharmaceuticals

*In 2011, immigrants composed 16.8% of the pharmaceutical industry, despite comprising only 12.8% of the U.S. population.*

*20% of all pharmacists and 14% of all pharmaceutical retail employees are immigrants.*

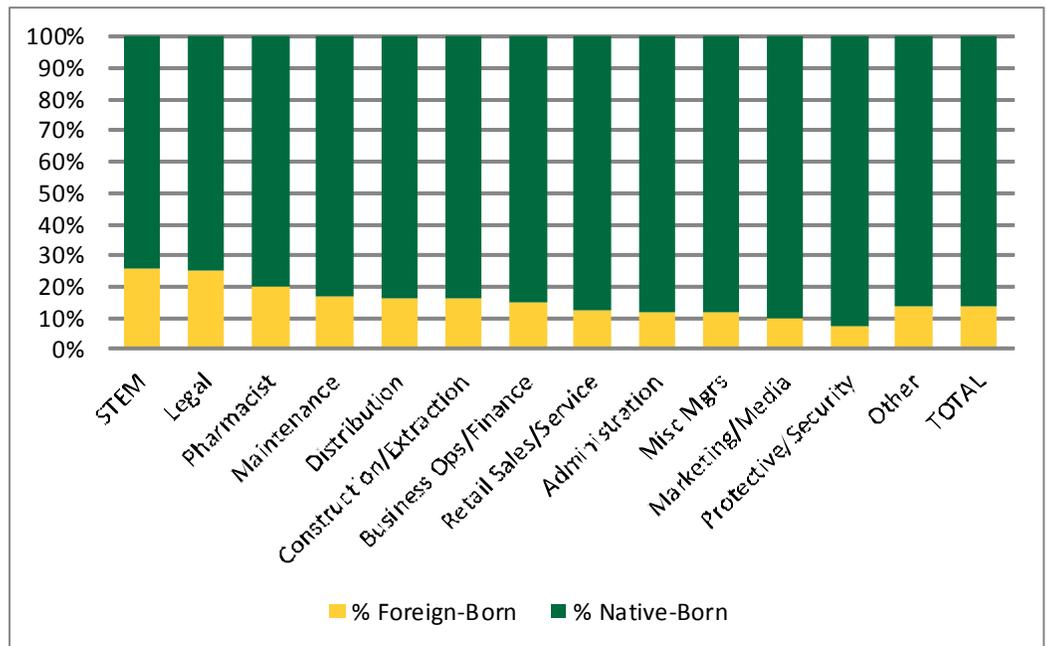
### Overview

In 2011, 40.4 million immigrants represented 13% of the United States' population, yet 17% of the employed labor force in the pharmaceutical industry. The disproportionate ratio of immigrants in the industry suggests an important economic contribution from the labor and services they provide. Although the U.S. currently has the world's *largest* pharmaceutical market, we find that most immigrants contributing to the pharmaceutical workforce are from the countries with the world's *fastest growing* pharmaceutical markets. This research explores the work immigrants do in the U.S. pharmaceutical industry and makes the case that the U.S. should preserve the participation of such immigrants or risk losing significant labor support to foreign markets already in rapid development.

### Pharmaceutical Retail

If we split the pharmaceutical industry into manufacturing and retail components, approximately 70% (over 1 million) of all pharmaceutical employees work in retail services of various roles and responsibilities. Figure 1 shows the variety of occupational categories found within retail work, although the majority of employees fit into two primary categories: pharmacists (16% of retail employment) and retail sales/service (70% of retail employment), together

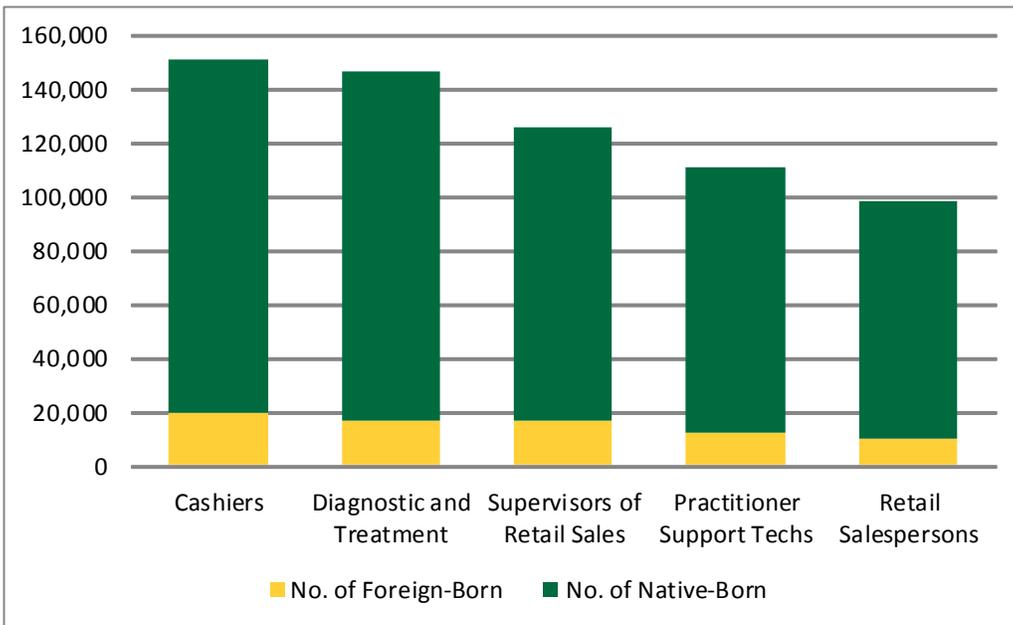
**Figure 1: Immigrant Occupations in Pharmaceutical Retail**



totaling 86% of all workers in pharmaceutical retail. Other employment categories contributing greater than 1% of retail employment are administrative occupations (6% of retail employment) and distribution occupations (4% of retail employment). Pharmacists total approximately 180,000 employees in the pharmaceutical retail industry. Of those, 1-in-5 are immigrants. In other words, the pharmaceutical retail industry is particularly dependent on immigrant workers in this key occupation.

Within sales and service positions, nearly 770,000 employees earn wages. The specific occupations with the largest number of employees are shown in Figure 2, beginning with cashiers. Together, these five positions compose 82% of the pharmaceutical retail sales and service employment and 58% of the entire pharmaceutical retail industry. If we include pharmacists, these six positions total 74% of the pharmaceutical retail industry.

**Figure 2: Top Occupations in Sales and Service**



In many of the pharmaceutical retail sales and service positions, at least 1-in-10 of the workers are immigrants. Among the occupations displayed in Figure 2, immigrants compose 13% of the cashier workforce, 11% of diagnostic and treatment roles, 13% of retail supervisors, 11% of practitioner support technicians, and 9% of retail salespersons. The remaining retail sales and service occupations not discussed here are significantly smaller in employment size than those discussed.

Immigrants compose 12% of the jobs in the sales and service category. Throughout all of pharmaceutical retail, immigrants compose 14% of the total employment.

*The retail component of the pharmaceutical industry is responsible for 70% of pharmaceutical employment.*

*Cashiers are the second-largest employment category in retail pharmaceuticals. However, 1-in-10 cashiers is an immigrant.*

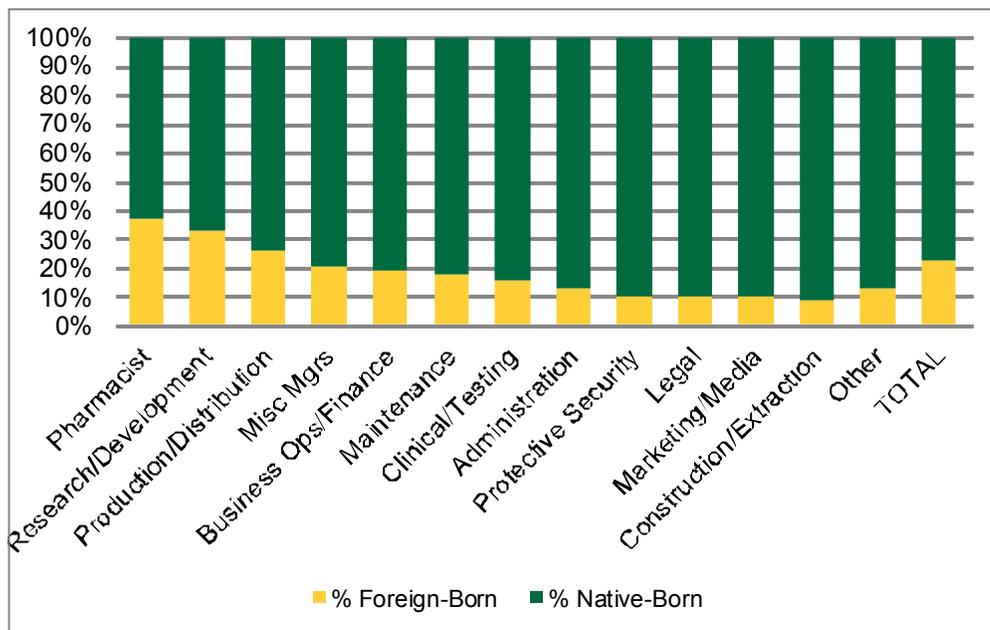
*1-in-5 of all pharmaceutical manufacturing occupations are held by immigrants.*

*1-in-3 pharmaceutical R&D workers are immigrants.*

## Pharmaceutical Manufacturing

The pharmaceutical manufacturing industry is smaller than the retail, responsible for 30% (just over 500,000) of the industry's total employment. However, the impact of immigrant workers is greater than on the retail side of the industry. Figure 3 shows the variety of occupational categories that together make pharmaceutical manufacturing possible. Employees in pharmaceutical manufacturing can be found in a large variety of occupational categories.

**Figure 3: Immigrant Occupations in Pharmaceutical Manufacturing**

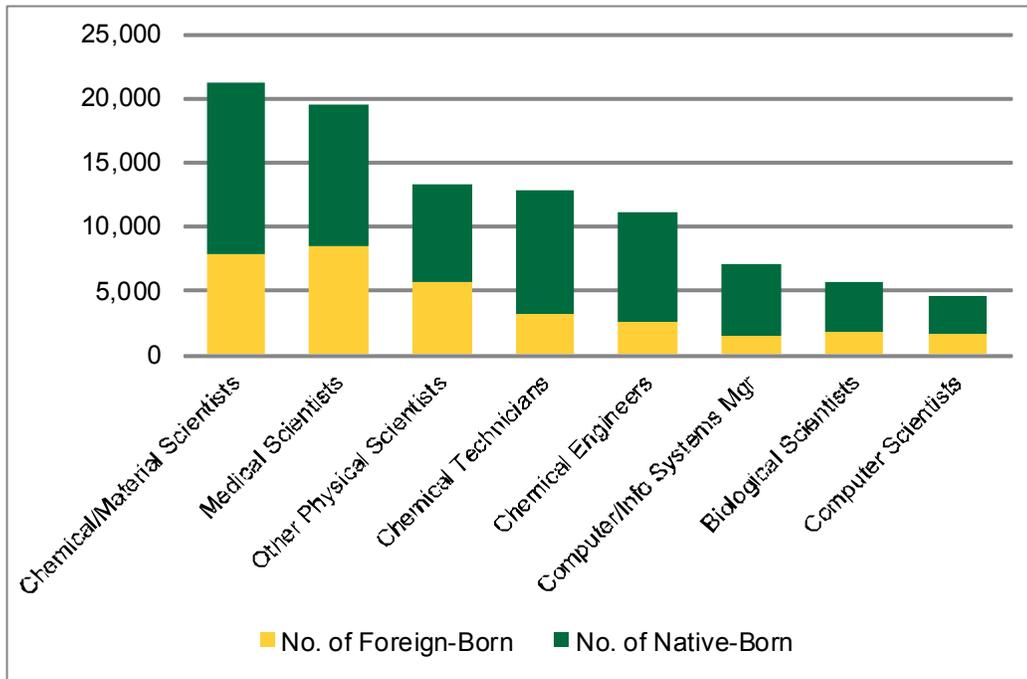


The largest occupational category in pharmaceutical manufacturing is Research and Development (R&D), contributing 137,000 jobs (27% of the pharmaceutical manufacturing industry). The eight occupations shown in Figure 4 (next page) represent 70% of the employment in R&D.

On average, immigrants compose 33% of the total R&D workforce, including 37% of chemical/material scientists, 43% of medical/life scientists, 43% of other physical scientists, 25% of chemical technicians and 23% of chemical engineers.

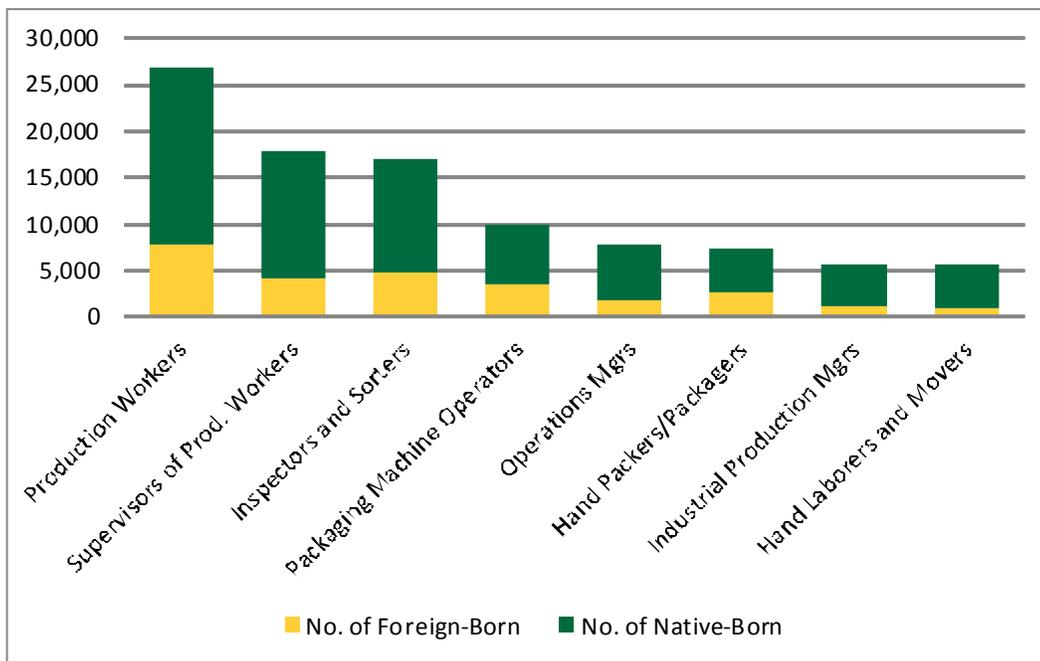
The second largest broad occupational category is Production and Distribution, which is responsible for 120,000 jobs (23% of the pharmaceutical manufacturing industry). Specific occupations within this category are shown in Figure 5 (next page). Employment in production worker occupations varies, ranging from line workers to sanitation workers. Immigrants occupy 28% of

**Figure 4: Top Occupations in Manufacturing Research and Development**



production worker positions, 23% of front-line supervisors for such production work, 28% of inspectors and testers, and 33% of packaging and filling machine operators. Overall, immigrants contribute 26% of the required workforce for production and distribution labor in the pharmaceutical manufacturing industry.

**Figure 5: Top Occupations in Production and Distribution**



*Individual scientific occupations, such as medical or other physical scientists, have as many as 43% immigrants.*

*Immigrants account for large portions of the US pharmaceutical industry in research, production and customer-oriented retail: often 20% or more in key areas.*

*Emergent pharmaceutical markets with average annual growth of US \$250M or more\*:*

- Argentina*
- Brazil*
- China*
- Egypt*
- India*
- Indonesia*
- Mexico*
- Pakistan*
- Poland*
- Romania*
- Russia*
- South Africa*
- Thailand*
- Turkey*
- Ukraine*
- Venezuela*
- Vietnam*

*\*Many of these markets are also among the top 10 birthplaces for immigrants in the US pharmaceutical industry.*

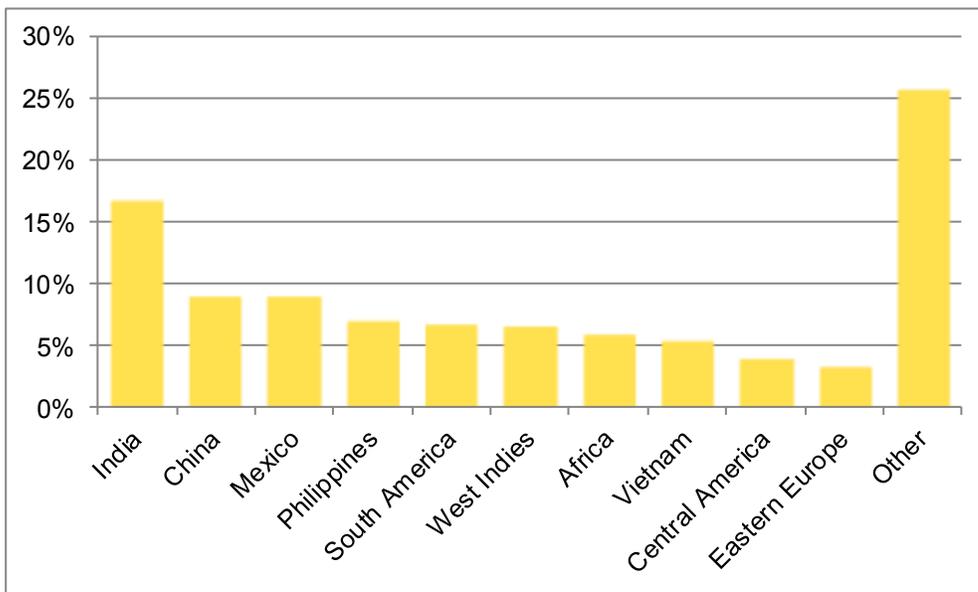
## Research and Development (R&D): Making the Global Case

Emerging pharmaceutical markets abroad continue to grow and produce generic versions of many drugs originating in developed nations.<sup>2</sup> Meanwhile, the U.S. pharmaceutical industry continues to develop many of the world’s new pharmaceutical drugs at an average cost of \$1.2Bn and 10 to 15 years from discovery to market.<sup>3</sup> To be successful, it is necessary for a U.S.-based pharmaceutical company to maintain a long-term perspective on its investments.

The U.S. pharmaceutical industry is also the world’s leader in pharmaceutical market sales. However, as developing nations increasingly gain access to new technologies and expiring drug patents, the global market share held by the U.S. is quickly declining. In 2006, the U.S. claimed 41% of all pharmaceutical market revenue, with the European Union 5 (EU5; France, Germany, Italy, Spain, and United Kingdom) collectively bringing in 19% of the global share as the second largest market. By 2011, the U.S. share had dropped to 34% while emergent pharmaceutical markets collectively rose from 14% to 20% in that same time, surpassing the declining EU5, which shifted from 19% to 17%.<sup>2</sup>

We have found that the 17 emerging pharmaceutical economies—defined by a minimum U.S. \$250M in annual growth<sup>2</sup>—are also heavily represented groups across the population of immigrants in the pharmaceutical industry. Figure 6 displays the ten largest sources of immigrants in the pharmaceutical industry, ranked by place of birth. These 10 countries (or regions, where necessary due to data availability) compose 74% of the immigrant population in the U.S. pharmaceutical industry.

**Figure 6: Top 10 Birthplaces of Immigrants in Pharmaceutical Industry**



## Conclusion

The number of immigrants in the pharmaceutical industry is considerable. This research shows that a large number of key occupations are held by immigrants—often 20% or more in high-skilled occupations such as pharmacists and scientists. Immigrants also occupy large numbers of production, distribution, and stocking jobs that are important to the creation of pharmaceutical drugs and the distribution of those products to consumers nationwide. In customer-based services, immigrants contribute an average 14% of the workforce, a proportion approximately equal to the overall proportion of immigrants in the total population.

Given that the majority of immigrants within the pharmaceutical industry are from the world's fastest growing pharmaceutical markets, the U.S. may benefit from the continued encouragement of immigration from those regions. Failing to do so carries the risk that those individuals will use their skills and talents to build the pharmaceutical industries in the very countries that are emerging as the leading competitors to the U.S. pharmaceutical industry.

## Notes

Except where specified, data comes from the 2011, 5-year, American Community Survey, provided by IPUMS-USA (see first citation) for research by the Institute for Immigration Research, George Mason University, Fairfax, VA.

1. Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis, MN: Minnesota Population Center [producer and distributor], 2010.
2. IMS Institute. July 2012. "The Global Use of Medicines: Outlook Through 2016."
3. Pharmaceutical Research and Manufacturers of America. July 2013. "2013 Profile: Biopharmaceutical Research Industry."
4. Bureau of Labor Statistics. "What Pharmacists Do." Accessed Nov. 26, 2013: <http://www.bls.gov/ooh/Healthcare/Pharmacists.htm#tab-2>

*From 2006-2011, of all the countries in the world, the United States claimed the largest share of all global revenue in the pharmaceutical industry by a very large margin, maintaining a high demand for high- and low-skilled labor.*

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## About IIR

The mission of the IIR is to refocus the immigration conversation among academics, policy-makers and the public, including the business community and media, by producing and disseminating unbiased and objective, interdisciplinary academic research related to immigrants and immigration to the United States. The Institute for Immigration Research is a joint venture between George Mason University and The Immigrant Learning Center, Inc. (ILC) of Massachusetts.

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