

Pharmacists Re-Licensure Survey Report 2004 & 2008

Produced by:

The Indiana Center for Health Workforce Studies

Bowen Research Center, Department of Family Medicine
Indiana University School of Medicine

In collaboration with the:

Indiana Area Health Education Centers Program

August 2010

Authors:

Terrell W. Zollinger, DrPH

Komal Kochhar, MBBS, MHA

Jessica M. West, MPH

Ram A. Varma, BSc



Bowen Research Center
Where research efforts join with real-world experience



Pharmacists
Re-Licensure Survey Report
2004 & 2008

Produced by

The Indiana Center for Health Workforce Studies
Bowen Research Center, Department of Family Medicine
Indiana University School of Medicine

In collaboration with
Indiana Area Health Education Centers Program

August 2010

Terrell W. Zollinger, DrPH
Komal Kochhar, MBBS, MHA
Jessica M. West, MPH
Ram A. Varma, BSc

Acknowledgements

We would like to extend our gratitude to all the talented and dedicated individuals who provided valuable and timely assistance to us during the project. Preparing this report required the assistance, cooperation, and effort of many individuals and agency staff. The survey data and additional data elements were provided by the Indiana Professional Licensing Agency and the Indiana State Department of Health.

An advisory committee provided direction and insight to the data analysis and report generation:

- Carriann Richey-Smith, PharmD, Director of Outreach, Butler University, College of Pharmacy and Health Sciences
- Jennifer Bruner, JD, Staff Attorney, Indiana State Department of Health
- Philipp Wickizer, Director, Indiana Board of Pharmacy
- Priscilla Ryder, MPH, PhD, Assistant Professor of Pharmacy Practice, Butler University, College of Pharmacy and Health Sciences
- Steven Abel, PharmD, FASHP, Assistant Dean for Clinical Programs, College of Pharmacy Head, Department of Pharmacy Practice, Bucke Professor of Pharmacy Practice, Purdue University
- Suellyn Sorensen, PharmD, BCPS, Clinical Pharmacist, Infectious Diseases and Clinical Pharmacy Manager; Director, Midwest AIDS Training and Education Center-Indiana, President, Indiana Pharmacists Alliance

The cooperation and support of the Indiana State Department of Health was instrumental in obtaining the survey data and interpreting it. The authors are grateful for the financial support received from the Indiana Area Health Education Centers Program to produce this report.

Terrell W. Zollinger, DrPH
Komal Kochhar, MBBS, MHA
Jessica M. West, MPH
Ram A. Varma, BSc

Table of Contents

Acknowledgements	2
Table of Contents	3
Executive Summary	4
Chapter 1: Introduction	5
Chapter 2: Responses to the 2004 and 2008 Pharmacist Surveys	9
Chapter 3: Location of Pharmacists by County in Indiana	15
Chapter 4: Conclusions	21
Appendix 1: Survey Instruments	
Appendix 1A: 2004 Pharmacist Survey Instrument	22
Appendix 1B: 2008 Pharmacist Survey Instrument	25
Appendix 2: Comparison Chart of Variable Availability in Each Dataset	28
Appendix 3: Proposed Changes to the 2012 Pharmacist Survey	29

Executive Summary

Introduction

The 2004 and 2008 Indiana pharmacist re-licensure survey was implemented through a collaborative partnership with the Indiana State Department of Health (ISDH) and the Indiana Professional Licensing Agency (IPLA). All pharmacists who renewed their license electronically during the 2004 and 2008 re-licensure periods were asked to complete an electronic survey. This report summarizes the responses to the survey items to provide a detailed description of the pharmacist workforce in the state of Indiana.

Methods

The Indiana State Department of Health provided the Indiana University Bowen Research Center two data files that contained responses to the 2004 and 2008 Indiana pharmacist surveys and corresponding data dictionaries to describe the data in each of those datasets. PASW (Predictive Analytics Software) statistical program, version 17.0 and SAS version 9.13, were used to perform the data analyses.

A total of 8,249 (in 2004) and 8,153 (in 2008) pharmacists renewed their licenses in Indiana. Only those who renewed electronically were given the opportunity to complete the survey, since it was an on-line survey. In 2008, the response rate for the pharmacists who renewed electronically and responded to at least one question on the e-survey was 86.7%. Almost all (95.2% in 2004 and 93.5% in 2008) of the respondents were actively working as pharmacists in Indiana. Only those respondents who were actively working and not federally employed were included in this report.

Results

2004 and 2008 Pharmacists Re-licensure Survey

Of the pharmacists who were actively working in Indiana and responded to the survey, one-third (30.5% in 2004 and 28.9% in 2008) were in the 25-34 age group. One-half of the respondents (53.5% in 2004 and 51.4% in 2008) were in the 35-54 age groups. One-tenth (15.8% in 2004 and 18.5% in 2008) of the respondents were 55 or older. One-half of the respondents in 2004 (52.4%) and 2008 (55.0%) were female. Almost all of the respondents were white (92.4% in 2004 and 91.9% in 2008) and non-Hispanic (98.9% in 2004; 98.5% in 2008). Those who received a bachelor's degree dropped from 77.4% in 2004 to 67.7% in 2008. However, there was an increase noted in those who obtained a doctor of pharmacy degree from 20.0% in 2004 to 29.4% in 2008. Over one-half (53.5% in 2004; and 52.6% in 2008) of the respondents received their highest degree in pharmacy from Purdue University and one-fourth (26.4% in 2004 and 27.2% in 2008) from Butler University. In 2004, a majority (83.5%) spent most of their professional time in "pharmaceutical care" activities. The most common work setting was "pharmacy chain" (36.4% in 2004 and 35.1% in 2008) followed by "hospital-based pharmacy" (24.5% in 2004 and 25.7% in 2008). Two-thirds of the respondents worked 40 or more hours a week (70.5% in 2004 and 69.2% in 2008). One-tenth of the respondents (7.8% in 2004 and 7.5% in 2008) worked less than 20 hours per week. In 2008, one-tenth (10.1%) had been trained to administer immunizations.

Location of Pharmacist in Indiana

Counties with the largest populations tended to have the most pharmacists and the highest ratios per 100,000 population. All, but one county (Switzerland), had at least one pharmacist.

Conclusions

Of those who were actively working in Indiana over one-half were female, almost all were white and one-third were in the 25-34 age group. One-tenth of the respondents spent most of their professional time in administration, teaching, or research. Counties with the largest populations tended to have the most pharmacists and the highest ratios per 100,000 population. All, but one county (Switzerland), had at least one pharmacist.

Chapter 1: Introduction

The use of prescription medication and other pharmaceutical services is a significant part of health care. Pharmacists represent the health professional specifically trained to provide these services. Therefore, having information on the demographic and professional characteristics of pharmacists licensed in Indiana is critical to develop and manage effective programs to recruit and retain these professionals where they are most needed in the state. Data on the supply of pharmacists being trained and currently working in Indiana provide decision makers with information needed for appropriate and effective health policy planning.

The data for this report was obtained from responses to the 2004 and 2008 Indiana pharmacist re-licensure surveys provide by the Indiana State Department of Health (ISDH) and the Indiana Professional Licensing Agency (IPLA). All pharmacists who renewed their license electronically during the 2004 and 2008 re-licensure periods were asked to complete an electronic survey.

The 2004 and 2008 Indiana pharmacist re-licensure survey instruments provide data on the following items: current work status, principal practice location and activities, average hours worked, education level, location of educational training, fluency in other languages and demographic information. This report summarized the responses to these survey items.

Inclusion criteria

The major focus of this report includes only those pharmacists who renewed their licenses electronically and responded to at least one question on the survey; whose licenses were active or on probation; who identified themselves as actively working in a paid position; and who held non-federal principal employment positions in Indiana. All others were excluded from the results shown in this report.

Response rates

Table 1.1 License renewal

Electronic survey	2004		2008	
	Number	Percent	Number	Percent
Renewed license electronically and respond to at least one question	6,836	82.9	7,071	86.7
Renewed electronically but did not respond to any survey questions	1,413	17.1	1,082	13.3
Total	8,249	100.0	8,153	100.0

Table 1.1 shows the license renewal for pharmacists in Indiana in 2004 and 2008. A total of 8,249 (in 2004) and 8,153 (in 2008) pharmacists renewed their licenses in Indiana. Only those who renewed electronically were given the opportunity to complete the survey, since it was an on-line survey. In 2008, 7,071 pharmacists renewed electronically and responded to at least one question on the e-survey, yielding an 86.7% response rate compared to 82.9% in 2004.

License status

Table 1.2 License status of pharmacists in Indiana

License Status	2004		2008	
	Number	Percent	Number	Percent
Active	4,608	99.2	5,527	97.4
Expired	0	0.0	78	1.4
Inactive	8	0.2	36	0.6
Probation	25	0.5	33	0.6
Emergency suspension	2	0.0	n/a	n/a
Total	4,643	100.0	5,674	100.0
Missing	0		1	

Table 1.2 shows the license status for pharmacists in Indiana in 2004 and 2008. Almost all of the pharmacists had an active license status in 2004 (99.2%) and 2008 (97.4%) in Indiana.

Current work status

Table 1.3 Current work status of pharmacists in Indiana*

Work status	2004		2008	
	Number	Percent	Number	Percent
Actively working as a pharmacist	4,403	95.2	5,011	93.5
Retired as a pharmacist	85	1.8	124	2.3
Temporarily inactive as a pharmacist	136	2.9	223	4.2
Total	4,624	100.0	5,358	100.0
No response	9		202	

**These numbers represent survey respondents only.*

Table 1.3 presents the current work status of pharmacists who were either active or on probation in Indiana in 2004 and 2008. Almost all of the pharmacists had an active license status in 2004 (95.2%) and 2008 (93.5%). Less than one-tenth of the pharmacists in Indiana (4.7% in 2004 and 6.5% in 2008) identified themselves as being either temporarily inactive or retired. Only the 4,403 respondents in 2004 and the 5,011 respondents in 2008 who were actively working were included in this report.

Data analysis

The Indiana State Department of Health (ISDH) provided Indiana University Bowen Research Center two data files that contained responses to the 2004 and 2008 Indiana pharmacist re-licensure surveys and corresponding data dictionaries to describe the data in each of those datasets. PASW (Predictive Analytics Software) statistical program, version 17.0 and SAS version 9.13, were used to perform the data analyses.

Limitations

A limitation to the survey data was a possible non-response bias, as only those who renewed electronically and chose to participate in the re-licensure survey were available for data analysis. In the maps showing the number of pharmacists, the actual count of respondents was weighted for the non-response proportion to provide more accurate estimates of the number of these professionals in Indiana. The locations of non-respondents and respondents were assumed to be similar.

Organization of this report

The first chapter of this report provides an overview of the document. Chapter 2 presents a comparison of responses from 2004 and 2008 pharmacist re-licensure surveys. Chapter 3 includes maps

of Indiana showing the *estimated* number and ratios of pharmacists in each county. Chapter 4 summarizes the findings of the data analysis.

Appendices

Appendix 1 contains the survey instruments used to collect data for this report.

Appendix 2 provides a comparison chart to show the specific survey items used the 2004 and 2008 Indiana pharmacist re-licensure surveys.

Appendix 3 describes the proposed changes to the 2012 Indiana pharmacist re-licensure survey instrument.

Chapter 2: Responses to the 2004 and 2008 Pharmacist Re-licensure Surveys

This chapter summarizes the findings of the 2004 and 2008 Indiana Pharmacist re-licensure surveys. Unless otherwise stated, the *numbers* are representative only of those who responded to the survey and have not been adjusted to account for those who did not respond. However, the *percentages* shown are believed to be representative of all pharmacists actively practicing in Indiana. Missing responses have been noted and only valid response percentages are presented in this report.

Age of survey respondents

Table 2.1 Age groups of survey respondents*

Age	2004		2008	
	Number	Percent	Number	Percent
Less than 25	7	0.2	66	1.3
25-34	1,330	30.5	1,431	28.9
35-44	1,219	28.0	1,368	27.6
45-54	1,113	25.5	1,180	23.8
55-64	534	12.2	698	14.1
65 and over	158	3.6	216	4.4
Total	4,361	100.0	4,959	100.0
No Response	42		52	

* *These numbers represent survey respondents only.*

Table 2.1 displays the age distribution of the pharmacy survey respondents active in Indiana in 2004 and 2008 re-licensure periods. One-third of the respondents (30.5% in 2004 and 28.9% in 2008) were in the 25-34 age group. Over one-half of the respondents (53.5% in 2004 and 51.4% in 2008) were in the 35-54 age groups. Over one-tenth of the respondents (15.8% in 2004 and 18.5% in 2008) were 55 or older.

Gender

Table 2.2 Gender of survey respondents*

Gender	2004		2008	
	Number	Percent	Number	Percent
Female	2,290	52.4	2,728	55.0
Male	2,079	47.6	2,233	45.0
Total	4,369	100.0	4,961	100.0
No Response	34		50	

**These numbers represent survey respondents only.*

Table 2.2 presents the gender distribution for the pharmacy survey respondents in 2004 and 2008. Over one-half of the respondents in 2004 (52.4%) and 2008 (55.0%) were female.

Race

Table 2.3 Race of survey respondents*

Race	2004		2008	
	Number	Percent	Number	Percent
White	4,034	92.4	4,564	91.9
Black/African American	116	2.7	134	2.7
Asian/Pacific Islander	137	3.1	169	3.4
American Indian/Native Alaskan	2	0.0	2	0.0
Multi-racial	20	0.5	26	0.5
Other	58	1.3	72	1.4
Total	4,367	100.0	4,967	100.0
No response	36		44	

** These numbers represent survey respondents only.*

Table 2.3 displays the racial distribution of pharmacy survey respondents in 2004 and 2008. A majority of the respondents (92.4% in 2004 and 91.9% in 2008) were white. Overall, the proportion of Asian/Pacific Islanders increased slightly over the time period.

Ethnicity

Table 2.4 Ethnicity of survey respondents*

Hispanic	2004		2008	
	Number	Percent	Number	Percent
Yes	47	1.1	72	1.5
No	4,320	98.9	4,883	98.5
Total	4,367	100.0	4,955	100.0
No response	36		56	

** These numbers represent survey respondents only.*

Table 2.4 presents the ethnicity of the pharmacy survey respondents in 2004 and 2008. A majority of the respondents (98.9% in 2004 and 98.5% in 2008) were non-Hispanic.

Highest Degree

Table 2.5 Highest degree in pharmacy of survey respondents*

Pharmacy Degree	2004		2008	
	Number	Percent	Number	Percent
Bachelors	3,383	77.4	3,382	67.7
Master's	90	2.1	112	2.2
Doctor of Pharmacy	874	20.0	1,470	29.4
PhD	24	0.5	29	0.6
Total	4,371	100.0	4,993	100.0
No response	32		18	

** These numbers represent survey respondents only*

Table 2.5 shows the highest degree among the pharmacy survey respondents. The number of survey respondents who received a bachelor's degree dropped from 77.4% in 2004 to 67.7% in 2008. However, the number of respondents who had obtained a doctor of pharmacy degree showed an increase from 20.0% in 2004 to 29.4% in 2008. This could be due to the accrediting body approving transition from bachelors to doctor of pharmacy as the entry level degree.

Academic institution

Table 2.6 Location of pharmacists academic institutions attended by survey respondents*

Academic Institution	2004		2008	
	Number	Percent	Number	Percent
Butler University	1157	26.4	1358	27.2
Purdue University	2348	53.5	2623	52.6
Other university	883	20.1	1003	20.1
Total	4388	100.0	4984	100.0
No response	15		27	

* These numbers represent survey respondents only

Table 2.6 shows the location of pharmacists' academic institutions attended by survey respondents. Over one-half of the respondents (53.5% in 2004 and 52.6% in 2008) received their highest degree in pharmacy from Purdue University. One-fourth of the respondents (26.4% in 2004 and 27.2% in 2008) attended Butler University to receive their highest degree in pharmacy.

Professional activities

Table 2.7 Activity in which most professional time was spent by survey respondents*

Activity	2004	
	Number	Percent
Pharmaceutical care	3655	83.5
Administration	287	6.6
Teaching	47	1.1
Research	127	2.9
Other	259	5.9
Total	4375	100.0
No response	28	

* These numbers represent survey respondents only.

Table 2.7 displays the activity in which the pharmacy survey respondents spent most of their professional time. This question was not asked on the 2008 survey. In 2004, 83.5% of the respondents spent most of their professional time in "pharmaceutical care" activities.

Work setting

Table 2.8 Principal work setting of the survey respondents*

Setting	2004		2008	
	Number	Percent	Number	Percent
Assisted living facility pharmacy	N/A	N/A	3	0.1
Community health center	45	1.0	33	0.7
Hospital-based pharmacy	1069	24.5	1283	25.7
Hospital-based education department	N/A	N/A	8	0.2
Independent community pharmacy	386	8.9	369	7.4
Industry	252	5.8	198	4.0
Internet pharmacy	N/A	N/A	4	0.1
Long term care acute care facility pharmacy			38	0.8
Long term care extended care facility pharmacy	201	4.6	177	3.5
Managed care pharmacy	42	1.0	51	1.0
Pharmacy chain	1586	36.4	1753	35.1
Pharmacy within a retail setting (e.g. grocery store)	510	11.7	726	14.5
University or community college	56	1.9	62	1.2
Federal government	42	1.0	48	1.0
State government	6	0.1	10	0.2
Local government	3	0.1	1	0.0
Other setting	158	3.	226	4.5
Total	4356	100.0	4990	100.0
No Response	47		21	

* These numbers represent survey respondents only.

The principal work settings for pharmacists are shown in Table 2.8. The most common work setting was “pharmacy chain” in 2004 (36.4%) and 2008 (35.1%). One-fourth of the survey respondents selected “hospital-based pharmacy” in 2004 (24.5%) and 2008 (25.7%).

Average number of hours worked per week

Table 2.9 Average hours worked per week in all activities by survey respondents*

Hours	2004		2008	
	Number	Percent	Number	Percent
1-9	153	3.5	158	3.2
10-19	187	4.3	215	4.3
20-29	353	8.0	425	8.5
30-39	600	13.7	740	14.8
40 or more	3097	70.5	3456	69.2
Total	4390	100.0	4994	100.0
No response	13		17	

* These numbers represent survey respondents only.

Table 2.9 presents the average number of hours worked by the pharmacy survey respondents in Indiana for 2004 and 2008. Over two-thirds of the respondents (70.5% in 2004 and 69.2% in 2008) worked 40 or more hours a week. Less than one-tenth of the respondents (7.8% in 2004 and 7.5% in 2008) worked less than 20 hours per week.

Immunization trained

Table 2.10 Trained to administer immunizations by survey respondents*

Immunization Trained	2008	
	Number	Percent
No	4024	81.0
Yes	501	10.1
No, but I intend to become trained	442	8.9
Total	4967	100.0
No Response	44	

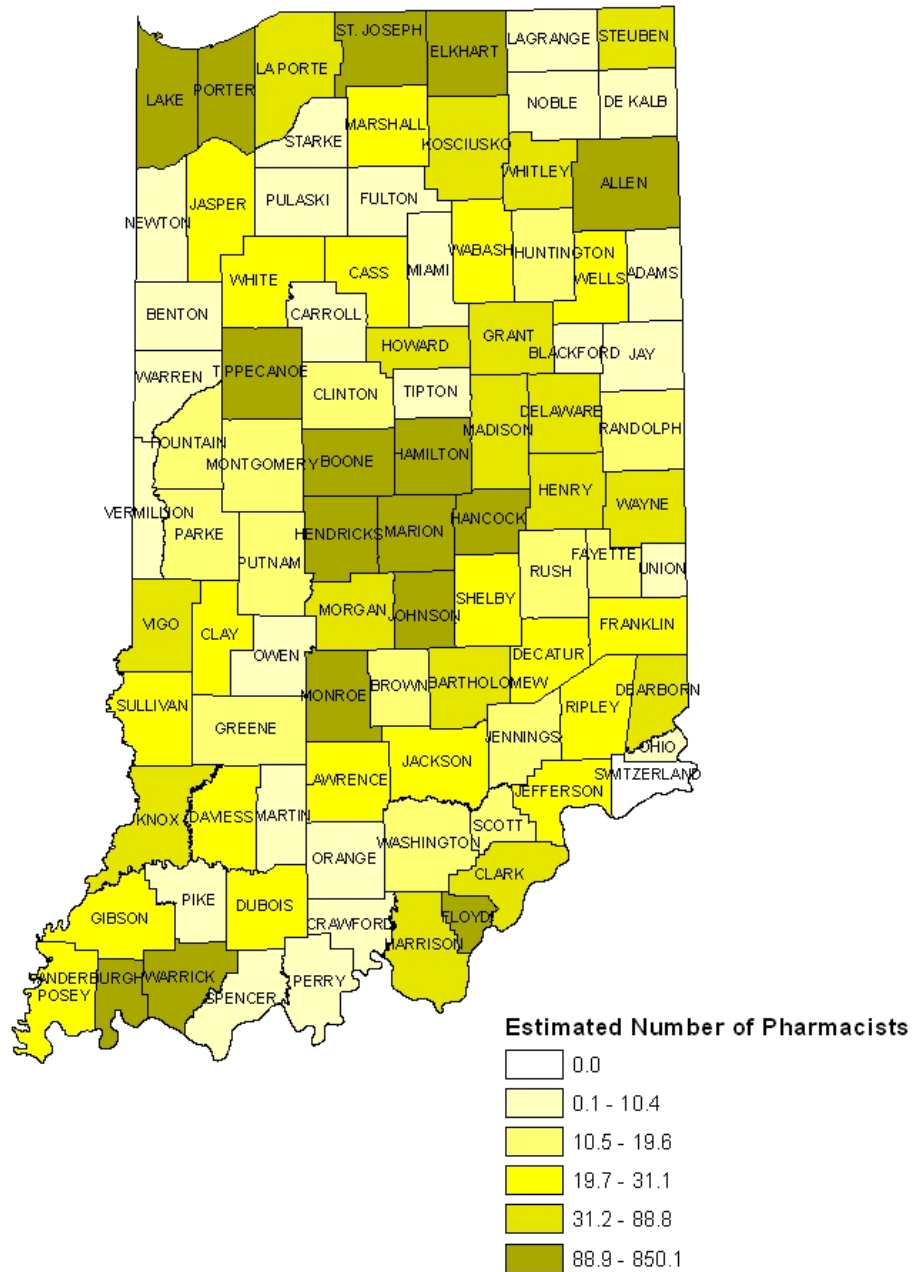
* These numbers represent survey respondents only.

Table 2.10 shows the number of pharmacists survey respondents who have been trained to administer immunizations. This question was not asked on the 2004 survey. In 2008, only one-tenth of the survey respondents (10.1%) had been trained to administer immunizations.

Chapter 3: Location of Pharmacists by County in Indiana

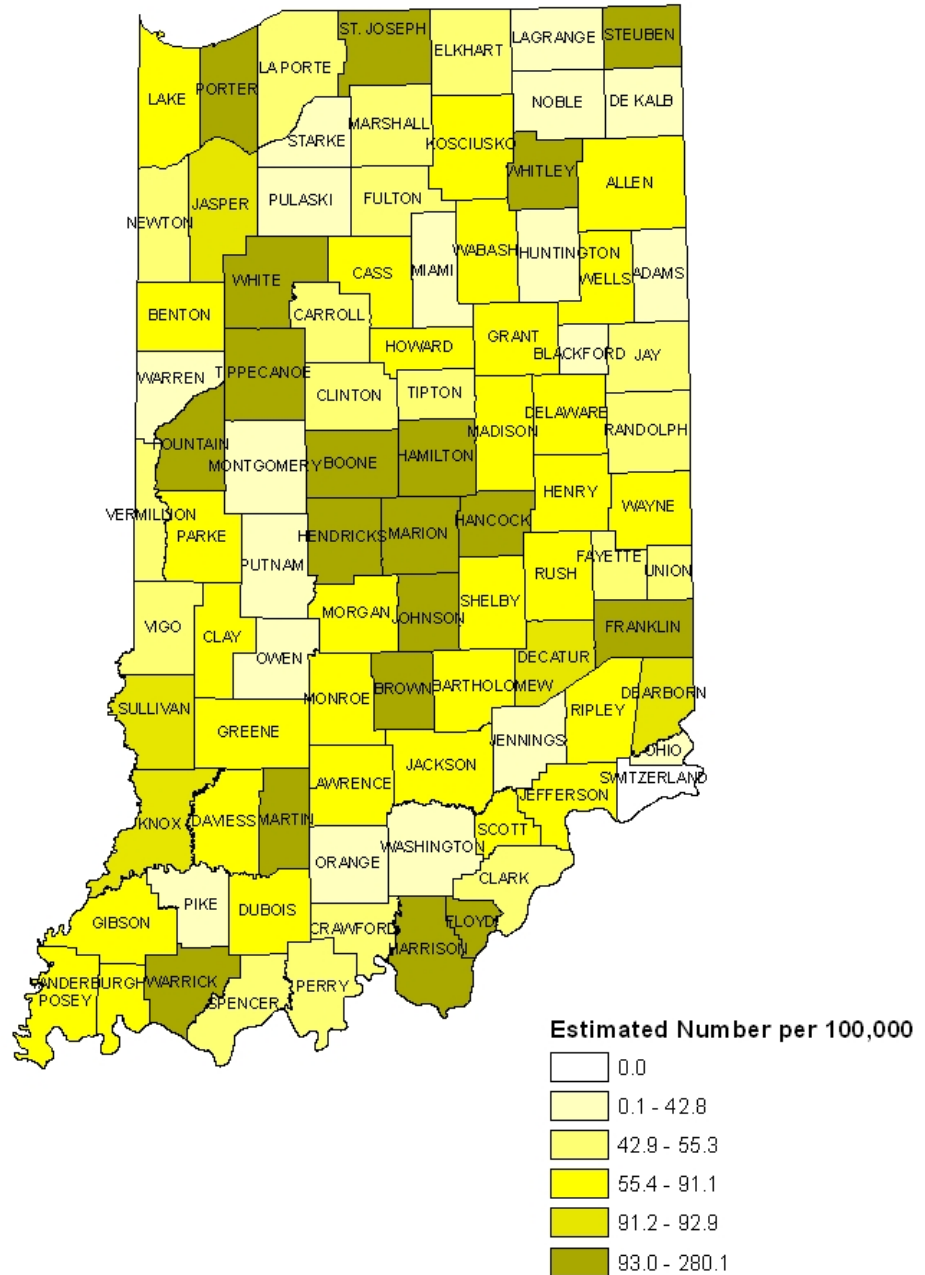
The following two maps display the estimated number of pharmacists in each county within the state of Indiana in 2008. The number of pharmacists in each county was adjusted (weighted) for the response rate of the 2008 survey (86.7%). Thus, the counts of pharmacists used in these maps are *estimates* of the actual number of pharmacists in each county, and not the number of survey respondents in each county.

Map 3.1 Number of Pharmacists by County, 2008



Map 3.1 shows the *estimated* number of pharmacists in Indiana counties. Counties with the largest populations tended to have the most pharmacists. These included Allen, Boone, Elkhart, Floyd, Hamilton, Hancock, Hendricks, Johnson, Lake, Marion, Monroe, Porter, St. Joseph, Tippecanoe, Warrick and Vanderburgh counties. All, but one county (Switzerland), had at least one pharmacist.

Map 3.2 Number of Pharmacists per 100,000 Population, 2008



Map 3.2 presents the estimated number of pharmacists per 100,000 by county. Counties with the highest ratios per 100,000 included Boone, Brown, Floyd, Fountain, Franklin, Hancock, Hamilton, Harrison, Hendricks, Johnson, Marion, Martin, Porter, Steuben, St. Joseph, Tippecanoe, Warrick, White and Whitley counties. All, but one county (Switzerland), had at least one pharmacist.

Table 3.1 Estimated number of pharmacists by county and per 100,000 population, 2008

County	Frequency	Weighted	Population	Ratio/100,000
ADAMS	9	10.4	34,105	30.4
ALLEN	276	318.3	351,148	90.7
BARTHOLOMEW	55	63.4	75,494	84.0
BENTON	5	5.8	8,692	66.3
BLACKFORD	3	3.5	13,165	26.3
BOONE	106	122.3	54,964	222.4
BROWN	14	16.1	14,633	110.4
CARROLL	8	9.2	19,777	46.7
CASS	19	21.9	39,144	56.0
CLARK	45	51.9	107,040	48.5
CLAY	18	20.8	26,665	77.9
CLINTON	16	18.5	34,271	53.8
CRAWFORD	4	4.6	10,705	43.1
DAVISS	22	25.4	30318	83.7
DEKALB	9	10.4	42,023	24.7
DEARBORN	40	46.1	50,087	92.1
DECATUR	20	23.1	25,117	91.8
DELAWARE	60	69.2	114,897	60.2
DUBOIS	24	27.7	41,442	66.8
ELKHART	95	109.6	200,125	54.8
FAYETTE	10	11.5	24,236	47.6
FLOYD	81	93.4	73,777	126.6
FOUNTAIN	14	16.1	17,030	94.8
FRANKLIN	21	24.2	23,199	104.4
FULTON	9	10.4	20,261	51.2
GIBSON	23	26.5	32,757	81.0
GRANT	39	45.0	68,965	65.2
GREENE	16	18.5	32,551	56.7
HAMILTON	658	758.9	270,936	280.1
HANCOCK	110	126.9	67,265	188.6
HARRISON	32	36.9	37,236	99.1
HENDRICKS	189	218.0	137,828	158.2
HENRY	27	31.1	48,057	64.8
HOWARD	51	58.8	83,517	70.4
HUNTINGTON	13	15.0	37,777	39.7
JACKSON	26	30.0	42,199	71.1
JASPER	26	30.0	32,668	91.8
JAY	9	10.4	21,193	49.0
JEFFERSON	25	28.8	32,926	87.6
JENNINGS	10	11.5	28,045	41.1
JOHNSON	153	176.5	139,722	126.3

Table 3.1 Estimated number of pharmacists by county and per 100,000 population, 2008 (contd.)

County	Frequency	Weighted	Population	Ratio/100,000
KNOX	30	34.6	37,948	91.2
KOSCIUSKO	38	43.8	76,444	57.3
LAPORTE	50	57.7	110,754	52.1
LAGRANGE	9	10.4	37,203	27.9
LAKE	320	369.1	493,443	74.8
LAWRENCE	22	25.4	45,856	55.3
MADISON	68	78.4	131,253	59.8
MARION	737	850.1	883,107	96.3
MARSHALL	21	24.2	46,687	51.9
MARTIN	9	10.4	10,014	103.7
MIAMI	9	10.4	36,214	28.7
MONROE	83	95.7	129,239	74.1
MONTGOMERY	14	16.1	37,857	42.7
MORGAN	46	53.1	70,980	74.7
NEWTON	6	6.9	13,920	49.7
NOBLE	8	9.2	47,886	19.3
OHIO	1	1.2	5,886	19.6
ORANGE	7	8.1	19,535	41.3
OWEN	7	8.1	22,375	36.1
PARKE	10	11.5	17,117	67.4
PERRY	7	8.1	18,862	42.8
PIKE	4	4.6	12,523	36.8
PORTER	133	153.4	162,300	94.5
POSEY	19	21.9	26,125	83.9
PULASKI	5	5.8	13,724	42.0
PUTNAM	12	13.8	37,138	37.3
RANDOLPH	10	11.5	25,821	44.7
RIPLEY	17	19.6	27,432	71.5
RUSH	10	11.5	17,266	66.8
SCOTT	14	16.1	23,624	68.4
SHELBY	26	30.0	44,223	67.8
SPENCER	8	9.2	20,048	46.0
ST. JOSEPH	219	252.6	267,707	94.4
STARKE	6	6.9	23,430	29.5
STEUBEN	27	31.1	33,513	92.9
SULLIVAN	17	19.6	21,279	92.1
SWITZERLAND	0	0.0	9,623	0.0
TIPPECANOE	174	200.7	165,284	121.4
TIPTON	6	6.9	15,933	43.4
UNION	3	3.5	7,037	49.2
VANDERBURGH	138	159.2	174,786	91.1

Table 3.1 Estimated number of pharmacists by county and per 100,000 population, 2008 (contd.)

County	Frequency	Weighted	Population	Ratio/100,000
VERMILLION	7	8.1	16,165	49.9
VIGO	49	56.5	105,703	53.5
WABASH	18	20.8	32,781	63.3
WARREN	2	2.3	8,595	26.8
WARRICK	77	88.8	57,814	153.6
WASHINGTON	10	11.5	27,883	41.4
WAYNE	41	47.3	67,727	69.8
WELLS	17	19.6	27,729	70.7
WHITE	21	24.2	23,811	101.7
WHITLEY	29	33.4	32,748	102.1

Chapter 4: Conclusions

Of those who are actively working in Indiana over one-half are female, almost all are white, non-Hispanic and one-third are within the age group of 25-34 and one-half are in the 35-54 age group.

In 2004, less than one-tenth of the respondents spent most of their professional time in administration (6.6%), teaching (1.1%), research (2.9%), or other (5.9%) professional activities.

The most common work setting was “pharmacy chain” followed by “hospital-based pharmacy.” One-tenth had been trained to administer immunizations.

Counties with the largest populations tended to have the most pharmacists and the highest ratios per 100,000 population. All but one county (Switzerland) had at least one pharmacist.

Appendix 1: Pharmacist Survey Instruments

Appendix 1A: 2004 Indiana Pharmacist Survey

Your answers to these questions will help the Indiana State Department of Health to respond to emergencies and to identify health professional shortages and geographic shortage areas. The survey is voluntary and will not affect the status of your license.

Thanks for your help.

1. What is your current work status? **Please choose only one.**
DROP-DOWN LIST
Actively working as a pharmacist (including pharmaceutical care, administration, teaching, or research)
Retired as a pharmacist
Temporarily inactive as a pharmacist
2. If you are actively working as a pharmacist in pharmaceutical care, administration, teaching or research, please type the 5-digit zip code where you work in the box below and then continue to questions 3-15. If you are retired or temporarily inactive, please type the zip code of your mailing address in the box below and then proceed to questions 6-15.
Text box.
3. How many hours per week on average do you spend in ALL activities as a pharmacist? **Please choose only one.**
DROP-DOWN LIST

1-9
10-19
20-29
30-39
40 or more
4. In which activity do you spend most of your time? **Please choose only one.**
DROP-DOWN LIST
Pharmaceutical care
Administration
Teaching
Research
Other
5. What type of setting do you work in? **Please choose only one.**
DROP-DOWN LIST
Community health center
Hospital-based pharmacy
Independent community pharmacy
Industry
Long-term care facility pharmacy
Managed care pharmacy

Pharmacy chain community pharmacy
Pharmacy within another type of retail setting (e.g. grocery store)
University
Federal government
State government
Local government
Other setting

6. Would you like to receive information on the Indiana Medical Reserve Corps? MRCs will coordinate the skills of practicing and retired physicians, nurses, and other health professionals who volunteer during emergency situations. If you answer “Yes,” we may contact you using your HPB address information.

Yes No

7. Would you be willing to provide volunteer services in case of a bio-terrorism event or other public health emergency? If you answer “Yes,” we may contact you using your HPB address information.

Yes No

8. Are you currently a member of a National Pharmacist Response Team?

Yes No

9. Are you fluent in Spanish?

Yes No

10. Are you fluent in any Asian languages?

Yes No

11. What is your highest degree in pharmacy? **Please choose only one.**

DROP-DOWN LIST

Bachelor’s

Master’s

Doctor of Pharmacy

PhD

12. Where did you receive your highest degree in pharmacy? **Please choose only one.**

DROP-DOWN LIST

Butler University—Indiana

Purdue University—Indiana

Other university

13. What is your sex?

Female

Male

14. Which of the following best describes your race? **Please choose only one.**
DROP-DOWN LIST

White
Black/African American
Asian/Pacific Islander
American Indian/Alaska Native
Multi-racial
Other

15. Are you of Hispanic origin?

Yes No

Appendix 1B: 2008 Indiana Pharmacist Survey

Your answers to these questions will help the Indiana State Department of Health to respond to emergencies and to identify health professional shortages and geographic shortage areas. The survey is voluntary and will not affect the status of your license or your renewal.

Thanks for your help.

1. What is your current professional work status? **Please choose only one.**

DROP-DOWN LIST

Actively working as a pharmacist

Retired as a pharmacist

Temporarily inactive as a pharmacist

2. If you are actively working in your profession, please type the 5-digit zip code for your work location in the box next to this question. If you are retired or temporarily inactive, please type the zip code of your mailing address in the box.

TEXT BOX

3. Would you be willing to provide services in case of a bio-terrorism event or other public health emergency? If you answer “Yes”, we may contact you using your PLA contact information.

DROP-DOWN LIST

Yes

No

4. Are you trained to administer immunizations?

DROP-DOWN LIST

Yes

No

No, but I intend to become trained within the next 12 months

5. Are you currently a member of a National Pharmacist Response Team?

DROP-DOWN LIST

Yes

No

6. Are you fluent in any of the following languages? **Please select all that apply.**

DROP-DOWN LIST

African languages

Arabic

Burmese

Cambodian

Chinese

Filipino

French

German
Greek
Hindi
Italian
Japanese
Korean
Pennsylvania Dutch
Polish
Portuguese
Russian
Sign language
Spanish
Tagalog
Thai
Turkish

7. If you are actively employed in your profession, please select the type of setting you work in from the list. **Please choose only one.** If you are retired or inactive in your profession, please do not answer this question and skip to Question 9.

DROP-DOWN LIST

Assisted living facility pharmacy
Community health center
Hospital-based pharmacy
Hospital-based education department
Independent community pharmacy
Industry
Internet pharmacy
Long term care acute care facility pharmacy
Long term care extended care facility pharmacy
Managed care pharmacy
Pharmacy chain
Pharmacy within a retail setting (e.g. grocery store)
University or community college
Federal government
State government
Local government
Other setting

8. How many hours per week on average do you spend in ALL activities in your profession?
Please choose only one.

DROP-DOWN LIST

1-9
10-19
20-29
30-39
40 or more

9. What is your highest degree in pharmacy? **Please choose only one.**

DROP-DOWN LIST

Bachelor's

Master's

Doctor of Pharmacy

PhD

10. Where did you receive your highest degree in pharmacy? **Please choose only one.**

DROP-DOWN LIST

Butler University – Indiana

Purdue University – Indiana

Other university

11. What is your sex?

DROP-DOWN LIST

Female

Male

12. Which of the following best describes your race?

DROP-DOWN LIST

White

Black/African American

Asian/Pacific Islander

American Indian/Native Alaskan

Multi-racial

Other

13. Are you of Hispanic origin?

DROP-DOWN LIST

Yes

No

Appendix 2: Comparison Chart of Variable Availability in Each Dataset

Variable Availability in 2004 and 2008		
Variable	2004	2008
E-survey response	√	
Current Work Status	√	√
Age of Respondents	√	√
Sex of Respondents	√	√
Race of Respondents	√	√
Hispanic Origin	√	√
Languages	√	
Hours a Week in ALL activities	√	√
Work Setting	√	√
Immunization		√
Highest Degree	√	√
University attended	√	√
County	√	√

Appendix 3: Proposed Changes to the 2012 Indiana Pharmacists Re-Licensure Survey

1. Changed work setting options
2. Expanded categories on:
 - a. number of hours worked
 - b. type of work setting
 - c. major specialty
 - d. time spent on professional activities
3. Added questions on:
 - a. immunization training
 - b. principal practice location