

The Size of the Illinois Human Service Workforce

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Introduction

Human services cover a broad range of programs, services, and facilities provided to the public that are designed to enhance the quality of life and well-being of people and communities. In most cases, human services are provided by agencies at the community level and include programs and services such as affordable housing, child care, mental health and substance use treatment, and job training, as well as those targeting specific populations such as immigrants, seniors, or people experiencing homelessness.

This paper outlines an approach to estimating the size of the human service workforce in Illinois. Quantifying the size of Illinois' human service workforce fills a knowledge gap; with such diversity among human service organizations, a total figure for the entire sector has not before been estimated. An estimate of workers employed in human service organizations gives a sense of how much of the workforce is dependent on human service jobs. Additionally, it gives context and illustrates the relative size of this portion of the workforce to examine cross state comparisons in terms of the number of human service workers to residents in each state.

Key Findings

- An estimated 407,828 Illinoisans work in human services.
- 6.1 percent of Illinois' workforce is employed by human services organizations.
- There is one human service worker for every 32 Illinoisans.
- 13 states have ratios of human service workers to the total population that are more favorable than Illinois'.
- Among Midwest states, Illinois' ratio of human service workers to the total population is more favorable than the ratios in Indiana and Michigan, less favorable than Iowa and Minnesota, and similar to Ohio and Wisconsin.

Methodology

Classifying Human Service Organizations and Occupations

The National Taxonomy of Exempt Entities (NTEE), a classificatory system that was developed by National Center on Charitable Statistics and used by the Internal Revenue Service, was used in order to define which Illinois organizations are engaged specifically in human service work. In this analysis, human service organizations are identified as any organization with one of the following NTEE codes:

- F20-99 (mental health & crisis intervention)
- I20-99 (crime & legal-related)
- J20-33, 99 (employment)
- K30 (food programs)

- L20-25, L40-41, L80-99 (housing & shelter)
- O20-99 (youth development)
- P20-99 (human services)

No data are directly available on how many people work within each NTEE human services-related category; however, the North American Industry Classification System or NAICS, a system of industry codes that federal agencies use to classify business organizations, does provide a count of people employed in each industry. The National Center for Charitable Statistics has produced a “crosswalk” in which every NTEE code is assigned a NAICS code. Below is a complete listing of human service-related NTEE codes with their corresponding NAICS codes:

NTEE F20-99 (mental health & crisis intervention)

- **F20-30, F32, F40-42:** NAICS 621420 (outpatient mental health and substance abuse centers)
- **F31:** NAICS 622210 (psychiatric and substance abuse hospitals)
- **F33:** NAICS 623220 (residential mental health and substance abuse facilities)
- **F50-70, F99:** NAICS 621498 (all other outpatient care centers)
- **F80** (mental health associations): NAICS 813920 (professional organizations)

NTEE I20-99 (crime & legal-related)

- **I20-21, I30, I40-50, I60, I80-99:** NAICS 541199 (all other legal services)
- **I23, I70-3:** NAICS 813319 (other social advocacy organizations)
- **I31** (half-way houses for ex-offenders): NAICS 623990 (other residential care facilities)
- **I51:** NAICS 624190 (other individual and family services)

NTEE J20-33, 99 (employment)

- **J20, J99:** NAICS 56131 (employment placement agencies and executive search services)
- **J21-J33:** NAICS 6243 (vocational rehabilitation services)

NTEE K30 (food programs)

- **K30:** NAICS 624210 (community food services)

NTEE L20-25, 40-41, 80-99 (housing & shelter)

- **L20-21, L25, L80-82:** NAICS 624229 (other community housing services)
- **L22:** NAICS 623312 (homes for the elderly)
- **L40** (low-cost temporary housing): NAICS 721199 (all other traveler accommodation)
- **L41:** NAICS 624221 (temporary shelters)
- **L99:** NAICS 62422 (community housing services)

NTEE O20-99 (youth development)

- **O20-31, O99:** NAICS 624110 (child and youth services)
- **O40-55:** NAICS 813410 (civic and social organizations)

NTEE P20-99 (human services)

- **P20-27, P99:** NAICS 624 (social assistance)
- **P28-29, P44-58, P61-62:** NAICS 624190 (other individual and family services)
- **P30-33:** NAICS 624410 (child day care services)
- **P40-42:** NAICS 6241 (individual and family services)
- **P43:** NAICS 624221 (temporary shelters)
- **P60:** NAICS 624230 (emergency and other relief services)
- **P70-3:** NAICS 623990 (other residential care facilities)
- **P74:** NAICS 623110 (nursing care facilities)
- **P75:** NAICS 623311 (continuing care retirement communities)
- **P80-87:** NAICS 624120 (services for the elderly and disabilities)

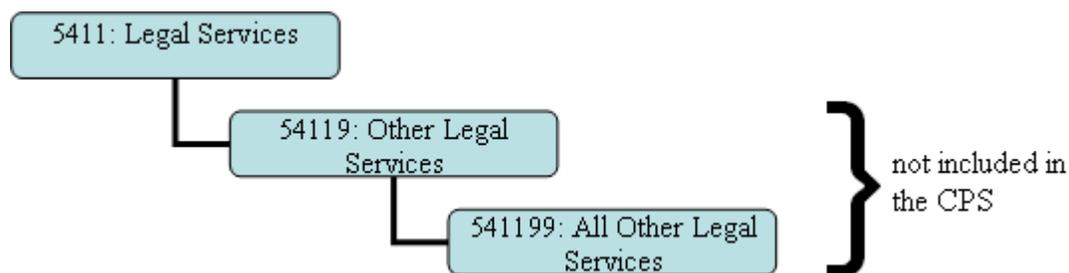
Treatment of Sub Industries

We used the U.S. Census Bureau's Current Population Survey Basic Survey Public Use Microdata Sample (CPS) to derive estimates of people working in organizations that fall under each of the above NAICS codes. The CPS is an ongoing survey that reports data monthly at the national and state levels. At the time of this analysis, data were available from October 2009 and earlier. Using the CPS for this analysis is useful in two key ways: first it allows estimates at a state level by specific industry, and second, it is very timely with only a month or two lag time for data release.

However, the CPS is not without its limitations. First, the survey's sample size is small, about 60,000 households on a monthly basis. Given this relatively small sample size, data for a six month period were averaged to smooth out any sampling variability.

Second, the coding of respondents' industries is not sufficiently detailed in the CPS for the purposes of this analysis (Figure 1); it is possible to estimate the number of Illinoisans employed in, for instance, legal services (NAICS code 5411) but *not* the number employed in all other legal services (NAICS code 541199) which is a subset of the larger industry and the only portion of the industry that contains human service jobs.

Figure 1. Sub Industries Not Included in the Current Population Survey (CPS)



We used the 2002 Economic Census (EC) to further refine the CPS data so that only the sub industries that directly apply to human service work are included. EC industry data are sufficiently detailed to pull out sub industries, but are only available at the national level. So for each industry that needed refinement, we calculated what percent of the larger industries (e.g., legal services) were comprised of the sub industries (e.g., all other legal services) of interest and applied the resulting percentage to the state-level data.

For example, the CPS shows that 66,659 Illinoisans are employed in Legal Services; however, we are only interested in NAICS code 54199: All Other Legal Services, which is not pulled out as a separate sub industry in the CPS. In order to refine the legal services field to only those working in the sub industry associated with human service workers, we used the Economic Census to calculate the percent of workers in Legal Services employed in the sub industry of All Other Legal Services (1.2%) for the United States. We then applied this percent to the number of total Legal Services workers to arrive at an estimate of 800 Illinoisans working in All Other Legal Services.

Treatment of Second Jobs in Human Services

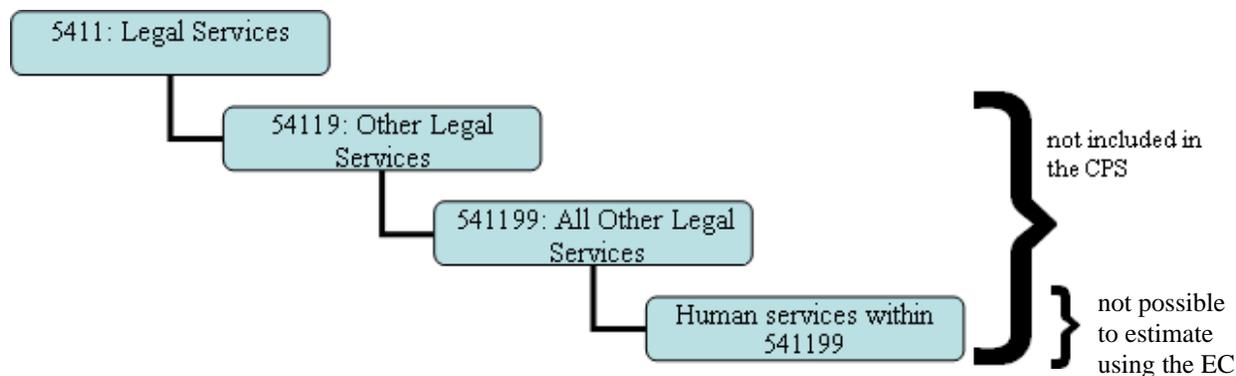
There are only about 192,000 Americans and 7,600 Illinoisans who work a second job in human services, so the inclusion or exclusion of these data should not significantly change the total estimate of human service workers. However, for the sake of completeness, these numbers were incorporated into the analyses. When computing the total number of human service workers, duplication was accounted for by adding the number of people with main jobs and the number of people with second jobs, and subtracting the number of people with both main and second jobs in human services.

Treatment of Mixed Industries

Even after accounting for sub industries and second jobs in human services, there is still an issue with mixed industries – industries (or sub industries) for which not all occupations are human services related. Put another way, even if all the industries corresponding to a NAICS code contain some occupations related to human services, this does not mean that these industries are wholly comprised of human service work (Figure 2). For example, occupations with a NTEE

code of I20 are associated with NAICS code 541199, but this does not mean that all occupations with a NAICS code of 541199 are associated with a NTEE code of I20.

Figure 2. Human Service Occupations Within Industries Not Included in the CPS



Thus, all industries must be individually examined to see if they include occupations outside of human services. After inspection, it appears that the following NAICS codes correspond to industries that are “mixed;” that is, they contained both occupations related to and occupations not related to human services:

- 541199 (all other legal services)
- 56131 (employment placement agencies and executive search services)
- 621498 (all other outpatient care centers)
- 721199 (all other traveler accommodation)
- 813319 (other social advocacy organizations)
- 813410 (civic and social organizations)
- 813920 (professional organizations)

These identified industries must then go through one additional layer of refinement to ensure that we do not over count human service workers. Since CPS and Economic Census data are not sufficiently detailed to do this, we made lower and upper bounds to create ranges of possible numbers. The lower bound represents the estimate of human service workers if none of the workers in the mixed industries end up being human service workers, and the upper bound represents the estimate of human service workers if *all* in the mixed industries end up being human service workers. Ultimately, the difference between excluding (the lower bound) and including (the upper bound) workers in mixed industries is relatively small – just 7.5%.

Results of Analysis

The Size of the Illinois Human Service Workforce

Table 1 lists the upper and lower bounds, the mean of the two, and the discrepancy between them for the six months preceding November 2009. The monthly data vary from a low mean of 374,787 in September to a high of 437,270 in July – 16.7 percent greater than the September figures. While these monthly fluctuations may be due in part to actual employment changes, they may also be due to sampling variability and they underscore the decision to use a 6-month average; doing so helps smooth out sampling variability thereby producing a more reliable estimate.

Table 1: Estimate of Human Service Workers in Illinois

	<i>Lower Bound</i>	<i>Upper Bound</i>	<i>Discrepancy</i>	<i>Mean</i>
May 2009	410,870	442,860	31,990 (7.8%)	426,865
June 2009	380,448	421,238	40,790 (10.7%)	400,843
July 2009	421,864	452,676	30,812 (7.3%)	437,270
August 2009	393,179	417,851	24,672 (6.3%)	405,515
September 2009	360,883	388,691	27,808 (7.7%)	374,787
October 2009	388,144	411,370	23,226 (6.0%)	399,757
6-Month Average	393,022	422,634	29,612 (7.5%)	407,828

The mean 6-month average of 407,828 represents the best estimate of the number of human service workers in Illinois.

According to the Bureau of Labor Statistics Local Area Unemployment Statistics, there was an average of 6,635,977 Illinoisans in the labor force from May to October 2009. Using the 6-month average of lower and upper bounds for the number of human service workers to create cut-offs for our estimate of the ratio, the ratio of human service workers to the Illinois workforce is likely between 1:16.9 and 1:15.7, with a mean of 1:16.3; that is, 6.1 percent of Illinois' workforce is employed in human services.

Likewise, in 2009 Illinois had a total population of 12,910,409 people according to the U.S. Census Bureau's Population Estimate Program. The ratio of human service workers to the entire population of the state is likely between 1:32.9 and 1:30.5, with an average ratio of 1:31.7. This means that for every 32 Illinoisans, there is one human service worker.

Ranking the Relative Size of the Human Service Workforce Against Other States

Ranking states (the District of Columbia is included as a state) by their ratios of human service workers to the total population is important to put Illinois’ ratio in context. There are, however, challenges to doing so. Since lower and upper bounds were used to estimate the size of the human services workforce, the lower bound of the ratio (of human services workers to state population) of one state may fall below the upper bound but above the lower bound of the ratio of another. In addition, the upper bound of one state may be greater than the lower bound but less than the upper bound of another. This makes ranking even two states much more challenging, and extending this possibility to all fifty states will reduce the confidence of Illinois’ rank.

In order to overcome this challenge, we developed a computer program to determine state rankings. Some percentage of workers employed in each mixed industry are occupied in human services, so the program determined what Illinois’ rank would be for a number of different percentages, and output its lowest rank, its highest rank, its mean rank, and the standard deviation of its ranks.

The program ran CPS data in order to determine how Illinois compared to other states with regard to its ratio of human service workers to total population. Table 2 shows the results of randomly selecting 10,000 possible percentages for each of the seven mixed industries for each of the six months. Note that a rank of 1 means that a state had the lowest (best) ratio of workers to total population. Additionally, the mean rank is not the average of the lowest and highest ranks but of the 10,000 ranks associated with the possible percentages.

Table 2: Illinois’ Ranking of Ratio of Human Service Workers to Total Population

	<i>Lowest Rank</i>	<i>Highest Rank</i>	<i>Mean Rank</i>	<i>Standard Deviation</i>
May 2009	6	10	7.43	0.69
June 2009	13	14	13.81	0.40
July 2009	8	11	8.35	0.65
August 2009	15	17	15.62	0.48
September 2009	22	26	23.47	0.53
October 2009	18	19	18.64	0.48
6-Month Average	13	15	14.41	0.50

Illinois’ 6-month average mean rank is 14.41, and when rounded to the nearest whole number is 14. This means that Illinois’ ratio of human services workers to the entire state population is 14th best in the nation; 13 states have better ratios.

Table 3 below shows the Illinois’ ranking when compared only to other Midwest states: Iowa, Indiana, Michigan, Minnesota, Ohio, and Wisconsin. A state is described as having a lower rank

(< IL) if its highest rank is less than Illinois' lowest rank; as having a higher rank (> IL) if its lowest rank is greater than Illinois' highest rank; and as the same (= IL) if it does not clearly have a lower or higher rank.

Table 3: Illinois' Rank Compared With Other Midwest States

	Iowa	Indiana	Michigan	Minnesota	Ohio	Wisconsin
May 2009	IA=IL	IN>IL	MI>IL	MN=IL	OH=IL	WI=IL
June 2009	IA<IL	IN>IL	MI>IL	MN<IL	OH>IL	WI=IL
July 2009	IA=IL	IN>IL	MI>IL	MN<IL	OH>IL	WI=IL
August 2009	IA<IL	IN>IL	MI>IL	MN<IL	OH>IL	WI<IL
September 2009	IA<IL	IN>IL	MI>IL	MN<IL	OH<IL	WI=IL
October 2009	IA<IL	IN>IL	MI>IL	MN<IL	OH<IL	WI=IL
6-Month Average	IA<IL	IN>IL	MI>IL	MN<IL	OH=IL	WI=IL

When comparing each state's ratio across the individual months in this analysis, Illinois was consistently more favorable than Indiana and Michigan. It also tended to be less favorable or probably less favorable than Iowa and Minnesota. Illinois' ratio in relation to Ohio and Wisconsin is less clear cut across the individual months in this analysis. Across all 6 months, Illinois' ratio of human service workers to total population is more favorable than Indiana and Michigan, less favorable than Iowa and Minnesota, and similar to Ohio and Wisconsin.