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Urban Oklahoma Health Industry and All Industry Employment and Earnings: A Trend Analysis Comparison of Change by Age and Gender 2001 to 2017



**Oklahoma Employment Security Commission
Economic Research and Analysis Division**

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by Age and Gender, 2001 to 2017**

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I. Introduction

This report on urban Oklahoma health industry is the third in the series and covers two of Oklahoma's urban areas, specifically a combination of Oklahoma City and Tulsa Oklahoma Metropolitan Statistical Areas (MSA). The first covering all of Oklahoma was published on our OESC website in January 2019¹. The second covering rural Oklahoma, the Nonmetropolitan and Nonmicropolitan Areas of Oklahoma was published on our OESC website in April 2019².

The following analysis uses data from the Longitudinal Employer-Household Dynamics (LEHD) program, which is part of the Center for Economic Studies at the U.S. Census Bureau. The data refers to the first three subsectors of the healthcare and social assistance sector as defined by the North American Industry Classification System (NAICS). Due to the fact that this sector consists of ambulatory healthcare services (NAICS 621), hospitals (NAICS 622), nursing and residential care facilities (NAICS 623), and social assistance (NAICS 624), and that the latter is excluded from our analysis, we do not use the term 'health care sector' in this report of our findings. Our analysis of health care employment and earnings refers to NAICS 621, 622, and 623 in these two MSAs in a comparison with those of an aggregate of Oklahoma industries, the former three are referred to as industry groups, and the latter is referenced as 'all industry' in this report.

This analysis and report covers a 17-year interval, beginning in 1st quarter 2001 through 4th quarter 2017. This is reported in 32 tables and 88 charts in eight appendices. These appendices can be viewed while reading the report, by clicking on the link in the text where cited. They may additionally be viewed and printed by clicking on the line of its listing in the Table of Contents. A selected number of the tables and charts may be viewed in this report, along with descriptions and discussion of the data they display. When they are referenced in the text, tables and charts from our two previous (all) Oklahoma and rural Oklahoma health industry reports are also linked for comparisons.

II. Employment and Employment Change by Age Group

On the next page, Table 1e shows the urban Oklahoma all industry average annual employment by eight age groups and a ninth aggregate of all ages (ages 14 to 99) for the 17 years, 2001 through 2017. For 'all ages' (14 to 99) the average annual employment increased more than 79,000, from 942,036 in 2001 to 1,021,339 in 2017. During this time, five of the eight age groups decreased in employment, while the middle age group, ages 25 to 34 and the oldest age groups of ages 55 to 64 and ages 65 to 99, increased in employment during the 17 years. Age group ages 55 to 64 increased the most and age group 65 to 99 increasing the second in size. In our previous report on rural Oklahoma health industry, [Table 1c³](#) displays that all industry in the same two age older groups also had the highest amount of total change.

Additionally on the next page, Chart 2e shows the employment for all industries for the four oldest age groups, as indexed to 1st quarter 2001 as being equal to 100, with all ages, years 14 to 99, as a comparison. Indexed data are handy because they allow an observer to quickly determine rates of growth by looking at a chart's vertical axis. They also allow for comparison of variables with different magnitudes.

**Table 1e. Urban Oklahoma: All Industries
Annual Average Employment by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	942,036	39,009	59,748	62,960	213,420	237,581	205,227	96,500	27,589
2002	924,058	35,077	58,024	62,456	208,290	227,147	203,112	101,320	28,629
2003	898,158	31,039	54,757	61,630	201,170	215,213	201,000	103,958	29,390
2004	910,941	29,913	53,857	63,097	202,118	213,116	207,189	110,461	31,188
2005	931,568	30,201	54,768	65,113	206,065	212,668	213,079	116,310	33,361
2006	951,201	31,933	55,084	65,858	209,295	212,944	217,744	122,398	35,942
2007	968,810	32,332	54,376	66,037	215,327	212,265	221,050	128,942	38,479
2008	988,437	32,570	53,465	65,844	222,418	211,892	225,236	135,746	41,264
2009	957,150	27,278	49,295	61,512	217,445	202,935	218,597	137,807	42,279
2010	939,382	22,446	47,625	58,898	215,437	198,764	213,092	140,204	42,912
2011	956,996	22,184	49,062	59,052	221,487	201,670	212,271	146,190	45,077
2012	981,565	23,125	49,971	61,909	227,986	206,518	211,060	151,538	49,456
2013	998,781	23,621	50,984	64,543	234,073	209,376	208,139	155,841	52,201
2014	1,017,433	25,092	51,275	66,504	238,411	212,924	207,455	160,456	55,314
2015	1,033,207	27,339	51,670	66,580	241,561	216,491	206,785	164,800	57,977
2016	1,020,559	27,304	49,740	63,482	236,569	215,238	203,102	165,523	59,597
2017	1,021,339	26,805	50,533	61,541	234,411	217,988	200,461	167,733	61,864
2001 - 2017	79,303	-12,204	-9,215	-1,419	20,991	-19,593	-4,766	71,233	34,275

Note: Using Beginning of Quarter Employment Counts.

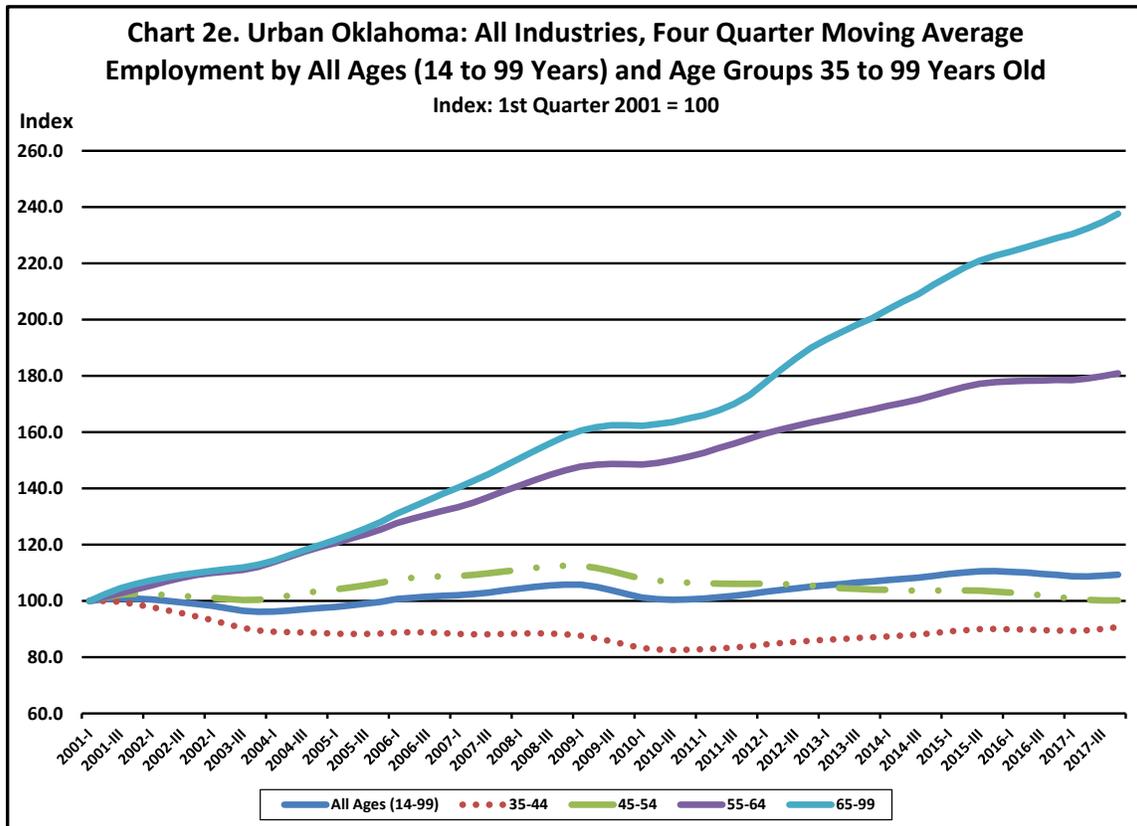


Chart 2e shows that urban Oklahoma’s all industry employment for the two oldest age groups of 55 to 64 years and 65 to 99 years, grew rapidly over the 17 years. The other four younger age groups ages 14 to 34 are not shown but may be seen in [Chart 1e in Appendix E](#). The latter chart shows that the other four

age groups either increased by a smaller amount, or in the case of the youngest three age groups, actually experienced decreasing employment in most quarters over the 17 years studied. In our previous health report for rural Oklahoma all industry, [Chart 1c⁴](#) shows a similar finding, only with the two younger age groups displaying a decline.

**Table 2e. Urban Oklahoma: Ambulatory Health Care Services
Annual Average Employment by Age Group**

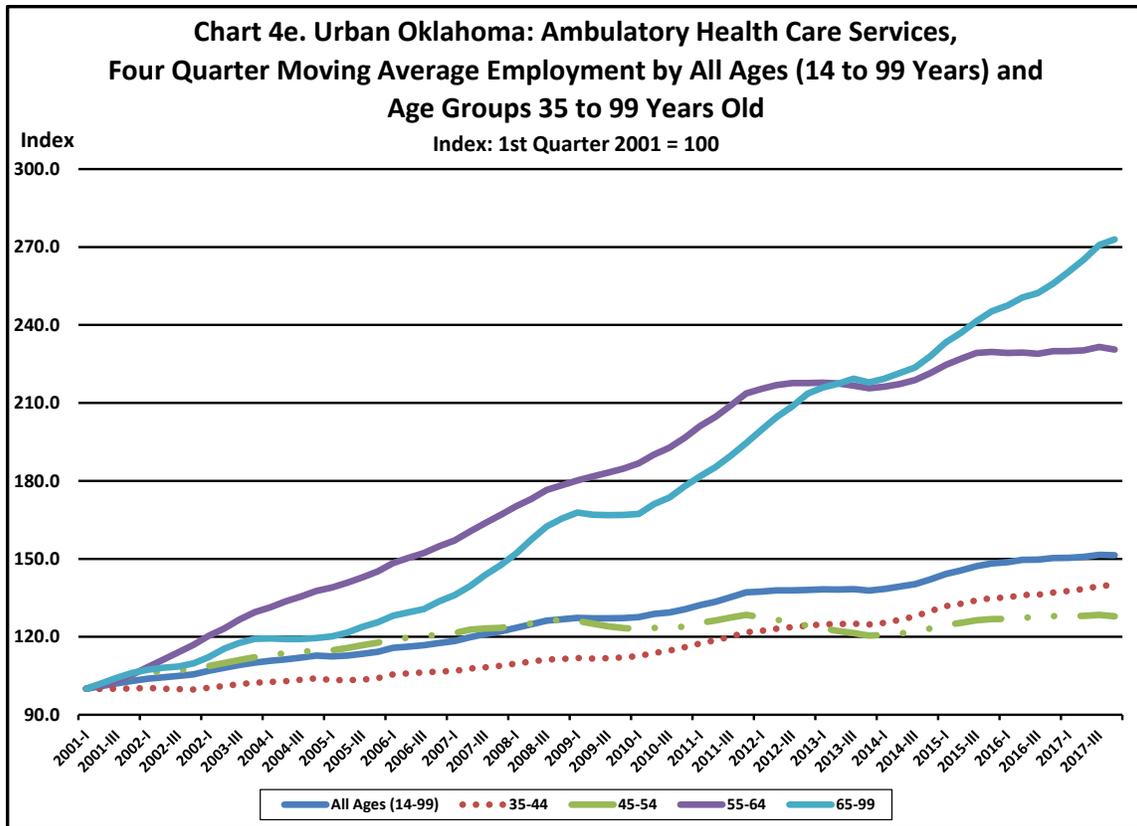
Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	37,206	473	1,417	2,149	8,986	9,874	9,115	3,940	1,249
2002	38,106	438	1,457	2,194	9,184	9,837	9,329	4,370	1,293
2003	39,751	399	1,404	2,328	9,557	10,089	9,729	4,839	1,404
2004	40,722	341	1,296	2,361	9,951	10,260	9,959	5,143	1,408
2005	41,239	325	1,258	2,390	9,886	10,264	10,209	5,425	1,479
2006	42,477	322	1,247	2,477	10,049	10,519	10,498	5,789	1,575
2007	44,086	312	1,302	2,524	10,531	10,735	10,703	6,238	1,738
2008	45,763	313	1,292	2,468	11,124	10,989	10,957	6,667	1,950
2009	45,924	269	1,257	2,404	11,373	11,052	10,696	6,905	1,966
2010	47,137	233	1,153	2,417	11,693	11,442	10,751	7,347	2,097
2011	49,516	217	1,135	2,393	12,352	12,005	11,136	7,984	2,292
2012	49,846	222	1,095	2,476	12,365	12,256	10,776	8,136	2,517
2013	49,768	213	1,108	2,501	12,569	12,303	10,444	8,060	2,567
2014	51,305	189	1,100	2,545	13,013	12,806	10,685	8,279	2,686
2015	53,540	188	1,268	2,668	13,640	13,301	10,997	8,583	2,890
2016	54,278	181	1,260	2,660	13,953	13,512	11,100	8,594	3,015
2017	54,661	184	1,257	2,623	13,862	13,806	11,093	8,617	3,215
2001 - 2017	17,455	-289	-160	474	4,876	3,932	1,978	4,677	1,966

Note: Using Beginning of Quarter Employment Counts.

Above Table 2e displays the average annual employment for urban Oklahoma ambulatory health care, with the largest employment in the middle age groups, 25 to 34 years old and 35 to 44 years old. Considering employment change, in Table 2e the largest employment increase is in the middle age group of ages 25 to 34 and the second largest amount of employment increase is in next to the oldest age group of 55 to 64, over the 17 years. The employment of the three youngest age groups either decreased or in the case of ages 22 to 24, increase a smaller amount. In the previous rural Oklahoma report, younger and older age groups displayed similar patterns of increases and decreases, with the same two age groups reporting the largest employment increases, as reported in [Table 2c⁵](#).

On the next page, Chart 4e of urban Oklahoma ambulatory health care services shows that the employment in the two oldest age groups, ages 55 to 64 and ages 65 to 99, grew at a faster rate than the employment for the same two older age groups of all industry, as shown on the previous page in Chart 2e. Comparing the above chart to [Chart 4c⁶](#) of the same industry in our pervious rural Oklahoma report, the oldest two age groups also grew faster than the younger two of the four oldest age groups.

Chart 3e urban Oklahoma ambulatory health care services for these four younger age groups employment, may be viewed in [Appendix E](#). Compared to the employment in these same four younger age groups in this industry, as analyzed in our previous rural Oklahoma report in [Chart 3c⁷](#), to urban Oklahoma in Chart 3e, the two age groups of ages 22 to 24 and 25 to 34 showed similar patterns of large increase. However in rural Oklahoma employment decreased in the youngest age groups only, while in urban Oklahoma employment in age group 4 to 18 and age group 19 to 21 both decreased.



**Table 3e. Urban Oklahoma: Hospitals
Annual Average Employment by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	37,986	238	1,222	2,126	9,205	10,695	9,808	4,006	682
2002	39,875	230	1,374	2,339	9,625	10,734	10,359	4,465	746
2003	38,882	176	1,234	2,347	9,372	10,113	10,245	4,628	765
2004	40,057	129	1,069	2,336	9,512	10,191	10,809	5,150	859
2005	41,225	109	1,053	2,464	9,760	10,321	11,146	5,469	902
2006	42,751	121	1,095	2,574	10,143	10,551	11,383	5,925	956
2007	44,666	120	1,133	2,719	10,764	10,753	11,656	6,451	1,067
2008	46,164	122	1,155	2,793	11,334	10,806	11,714	6,996	1,243
2009	46,423	88	981	2,683	11,531	10,759	11,625	7,347	1,405
2010	47,164	70	868	2,546	12,152	10,867	11,449	7,701	1,511
2011	47,113	55	851	2,340	12,405	10,883	11,024	7,952	1,600
2012	47,712	54	875	2,352	12,655	11,169	10,696	8,130	1,781
2013	48,518	49	844	2,434	13,037	11,401	10,441	8,404	1,906
2014	47,000	46	767	2,356	12,761	11,033	9,921	8,253	1,860
2015	48,137	50	771	2,409	12,982	11,356	10,127	8,505	1,934
2016	48,187	46	847	2,408	12,946	11,352	10,086	8,503	1,997
2017	48,130	46	854	2,387	12,882	11,452	9,981	8,406	2,122
2001 - 2017	10,144	-192	-368	261	3,677	757	173	4,400	1,440

Note: Using Beginning of Quarter Employment Counts.

Table 3e reveals annual average hospital employment from 2001 through 2017. Note that the pink shaded cells indicate aggregated data, some of which are significantly distorted to protect employers' identities. The table shows that the employment of the six older age groups grew with ages 25 to 34 and ages 55 to

64 growing the larger amounts, while the employment in younger two age groups ages 14 to 18 and 19 to 21 decreased. In our previous rural Oklahoma report, the two oldest age groups of the eight age groups grew the larger amount, with all other age groups decreasing, as shown in [Table 3c⁸](#).

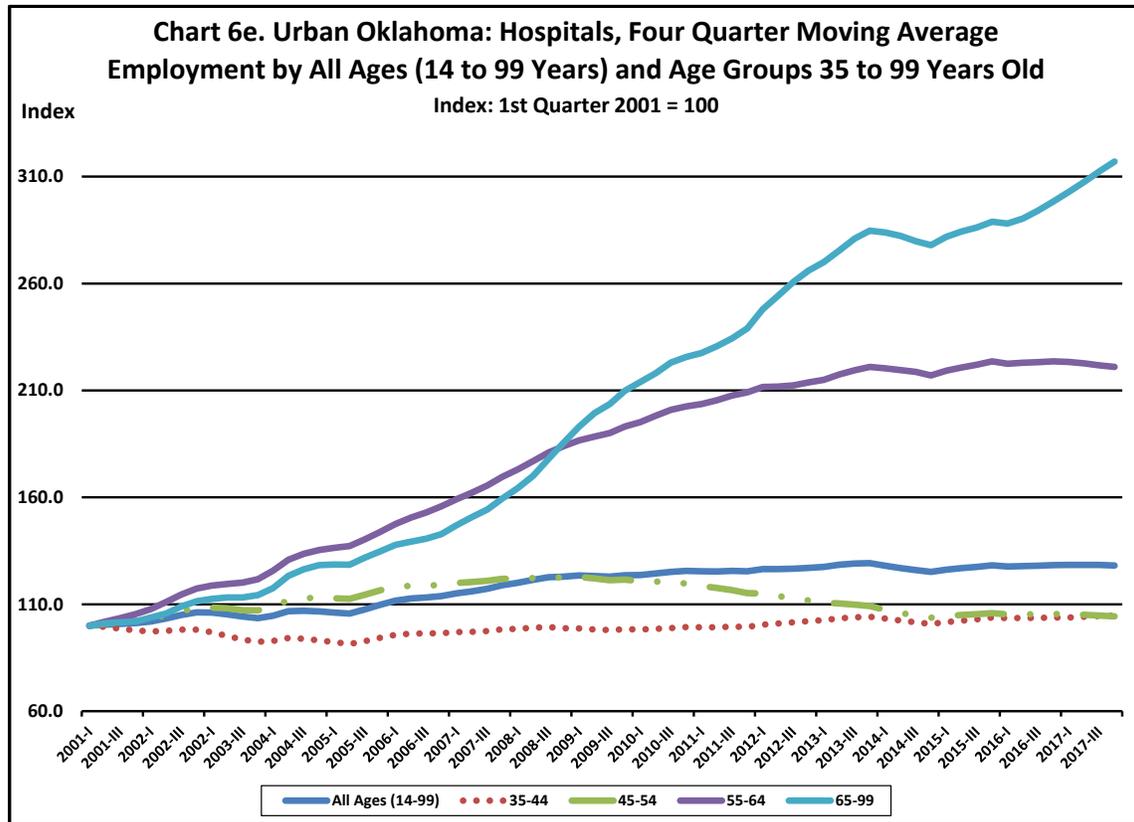


Chart 6e displays the hospital employment for the four oldest age groups, ages 35 to 99, during the 17 years of examination. This chart shows those ages 65 to 99 and ages 55 to 64, display a dramatic increase over the 17 years of observation of over 217 and 121 percent, respectively. The employment for the other two age groups shown in this chart both show a slight increase in the same 17 year time period. The employment for the four younger age groups in urban Oklahoma is not shown, but may be viewed in [Chart 5e, by scrolling down in Appendix E](#). Two of these four age groups decreased and two increased at smaller rates in hospital employment. In our previous rural Oklahoma health report, hospital employment for the older two age groups increased at a much lower rates as shown in [Chart 6c⁹](#), than it did in urban Oklahoma, with the other two age groups in this chart of rural Oklahoma, decreasing in hospital employment.

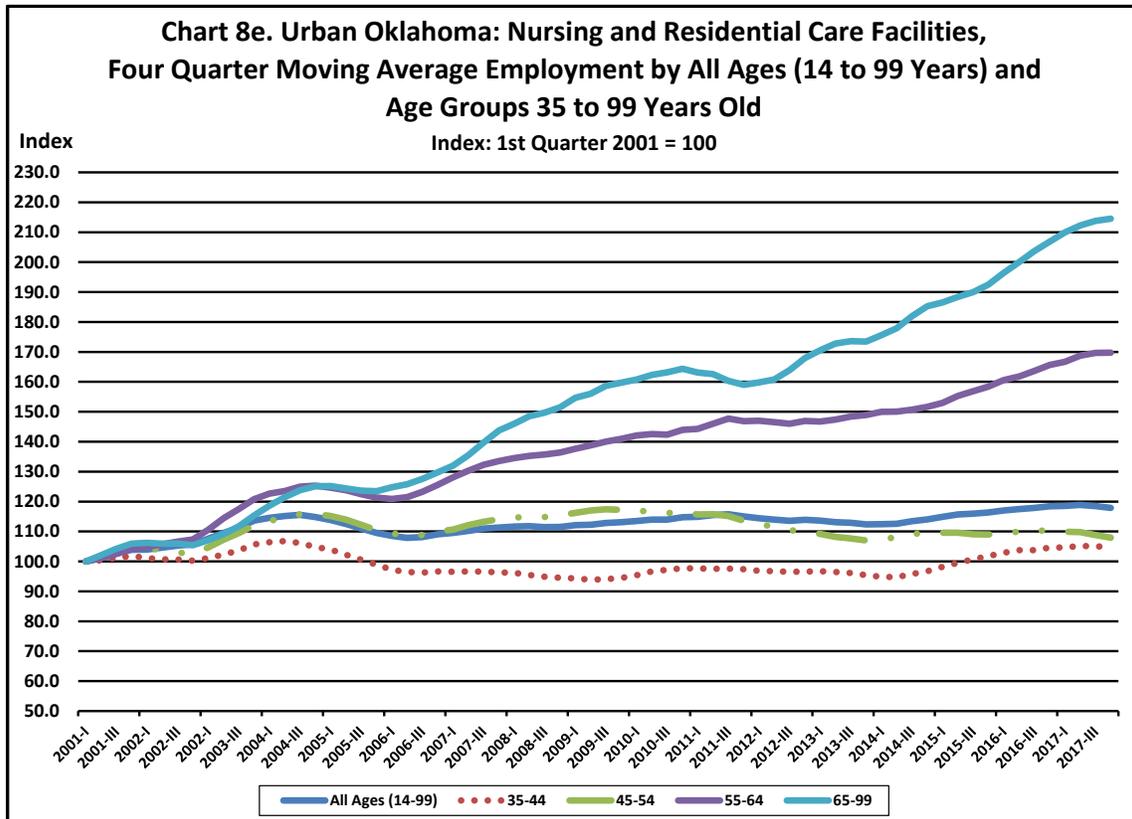
On the next page, Table 4e shows the average annual employment for urban Oklahoma nursing and residential care facilities for eight age groups and an aggregate of all ages (ages 14 to 99) for the years 2001 to 2017. The table shows that in 2017 ages 25 to 34 had the largest employment and ages 35 to 44 had the second largest employment. The table also shows that the next to the oldest age group of ages 55 to 64 had the largest increase in employment and ages 65 to 99 had the second largest increase in employment. This table also shows that the two youngest age groups employment actually decreased in nursing and residential care facilities, over the 17 years of observation.

Comparing the results discussed in the previous paragraph to rural Oklahoma nursing and residential care facilities revealed in [Table 4c¹⁰](#) in our previous rural Oklahoma report, the rural two oldest age groups had the largest increase in employment, with the remaining six age groups decreasing in employment.

**Table 4e. Urban Oklahoma: Nursing and Residential Care Facilities
Annual Average Employment by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	18,245	612	1,151	1,328	4,177	4,530	3,852	1,982	613
2002	18,564	570	1,278	1,427	4,425	4,456	3,755	2,041	609
2003	19,961	519	1,354	1,557	4,759	4,699	4,105	2,297	667
2004	20,171	469	1,277	1,593	4,817	4,661	4,245	2,383	723
2005	19,237	409	1,158	1,529	4,674	4,398	4,047	2,307	714
2006	19,157	432	1,126	1,505	4,630	4,298	4,026	2,388	750
2007	19,552	435	1,155	1,471	4,657	4,283	4,179	2,539	831
2008	19,595	440	1,101	1,422	4,727	4,204	4,228	2,594	876
2009	19,871	409	1,070	1,382	4,909	4,200	4,294	2,680	924
2010	20,157	309	1,111	1,450	4,989	4,344	4,264	2,737	950
2011	20,209	278	1,097	1,471	5,158	4,330	4,161	2,793	919
2012	20,013	272	1,139	1,530	4,972	4,296	4,037	2,793	971
2013	19,743	275	1,089	1,494	4,885	4,243	3,920	2,832	1,003
2014	20,037	267	992	1,527	4,974	4,301	4,019	2,883	1,071
2015	20,446	267	957	1,480	5,095	4,524	3,993	3,012	1,113
2016	20,803	257	918	1,440	5,146	4,652	4,042	3,150	1,196
2017	20,710	250	986	1,357	5,036	4,656	3,954	3,227	1,241
2001 - 2017	2,465	-362	-165	29	859	126	102	1,245	628

Note: Using Beginning of Quarter Employment Counts.



On the previous page Chart 8e illustrates urban Oklahoma nursing and residential care facilities employment for the four older groups, from 2001 to 2017. The two oldest groups, ages 55 to 64 and ages 65 to 99, grew rapidly over the 17-year time period. The other two age groups in this chart as well as the four other age groups in this industry are shown in [Chart 7e by scrolling down in Appendix E](#), grew at much slower rates or decreased in employment in the same interval.

As reported in our previous rural Oklahoma report for this same industry, the two older age groups, ages 55 to 64 and ages 65 to 99, also grew, but at much slower rates and with the remaining six age groups decreasing in employment, as shown in [Chart 7c¹¹](#) and [Chart 8c¹²](#).

In summary of Section II, urban Oklahoma all industry had its largest 2017 employment in ages 25 to 34 and its second largest employment in ages 35 to 44. Ambulatory health care services, hospitals, and nursing and residential care facilities had the same two age groups with their largest employment.

Employment change amount was examined for the four industry groups by comparing the eight age groups employment change for the 17 years, 2001 to 2017. All industry groups and nursing and residential care facilities had their largest amount change in employment in ages 55 to 64 and their second largest in ages 65 to 99. Ambulatory health care services had their largest amount of employment change in ages 25 to 34 and their second largest amount change in ages 55 to 64; while hospitals had their largest two employment amount increases in the same two age groups, only with the rank reversed.

Employment change was evaluated by calculating and charting the indexed four industry groups' four quarter moving average employment over the 17 years, 2001 to 2017. For all four urban Oklahoma industry groups, the highest rate of employment increase is in ages 65 to 99 and the second highest rate of employment increase is in ages 55 to 64. In the three health industry groups of in ambulatory health care services, hospitals and nursing and residential care facilities the two age groups of 14 to 18 and 19 to 21 employment decreased from 2001 to 2017.

The largest difference in the change of employment in the six younger age groups in urban Oklahoma and rural Oklahoma is that age group employment decreases were more frequent in rural Oklahoma.

III. Earnings and Earnings Change by Age Group

Of particular interest to employers, policy makers, career advisors, students and other health industry stakeholders is the amount of earnings and earnings change that has occurred in the industry over time. This section explores these two topics for health industry groups by age group, beginning with an aggregate of Oklahoma all industry for comparative purposes.

On the next page, Table 1f reveals urban Oklahoma all industry average monthly earnings by eight age groups, and an aggregate of all age groups (ages 14 to 99), from 2001 to 2017. The table confirms that the larger earnings are in ages 55 to 64 and ages 45 to 54. Ages 55 to 64 had the largest amount of earnings change and ages 65 to 99 had slightly less and second largest earnings increase over the 17 years of analysis. The younger three age groups only display average monthly earnings increase amounts in the hundreds of dollars, during this period of time.

Not shown but in our previous report, [Table 1d¹³](#) for rural Oklahoma and all industry for these eight age groups displays a similar distribution pattern of earnings and earnings amount change; however with the ranking of the two highest 2017 earnings age groups reversed.

**Table 1f. Urban Oklahoma: All Industries
Average Monthly Earnings by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	\$2,420	\$471	\$869	\$1,346	\$2,147	\$2,819	\$3,189	\$3,025	\$1,884
2002	\$2,461	\$483	\$876	\$1,341	\$2,181	\$2,859	\$3,212	\$3,080	\$1,936
2003	\$2,536	\$497	\$878	\$1,339	\$2,208	\$2,928	\$3,310	\$3,196	\$2,068
2004	\$2,644	\$507	\$890	\$1,366	\$2,265	\$3,030	\$3,465	\$3,361	\$2,170
2005	\$2,696	\$515	\$905	\$1,397	\$2,295	\$3,075	\$3,540	\$3,448	\$2,255
2006	\$2,884	\$530	\$965	\$1,495	\$2,412	\$3,232	\$3,812	\$3,791	\$2,493
2007	\$3,018	\$533	\$1,015	\$1,578	\$2,543	\$3,390	\$3,949	\$3,938	\$2,650
2008	\$3,157	\$549	\$1,049	\$1,656	\$2,654	\$3,527	\$4,107	\$4,130	\$2,840
2009	\$3,142	\$551	\$1,021	\$1,627	\$2,639	\$3,526	\$4,013	\$4,055	\$2,817
2010	\$3,228	\$562	\$1,020	\$1,621	\$2,688	\$3,601	\$4,095	\$4,170	\$2,933
2011	\$3,386	\$555	\$1,038	\$1,662	\$2,797	\$3,775	\$4,298	\$4,434	\$3,116
2012	\$3,505	\$566	\$1,087	\$1,751	\$2,900	\$3,902	\$4,427	\$4,617	\$3,402
2013	\$3,553	\$562	\$1,114	\$1,783	\$2,967	\$3,991	\$4,463	\$4,681	\$3,419
2014	\$3,661	\$575	\$1,143	\$1,821	\$3,084	\$4,115	\$4,596	\$4,826	\$3,526
2015	\$3,718	\$580	\$1,155	\$1,864	\$3,137	\$4,189	\$4,644	\$4,908	\$3,645
2016	\$3,668	\$582	\$1,150	\$1,857	\$3,081	\$4,146	\$4,579	\$4,773	\$3,599
2017	\$3,768	\$593	\$1,175	\$1,916	\$3,158	\$4,269	\$4,701	\$4,865	\$3,713
2017 - 2001	\$1,348	\$122	\$306	\$570	\$1,011	\$1,450	\$1,512	\$1,840	\$1,829

Note: Using Beginning of Quarter Employment Counts.

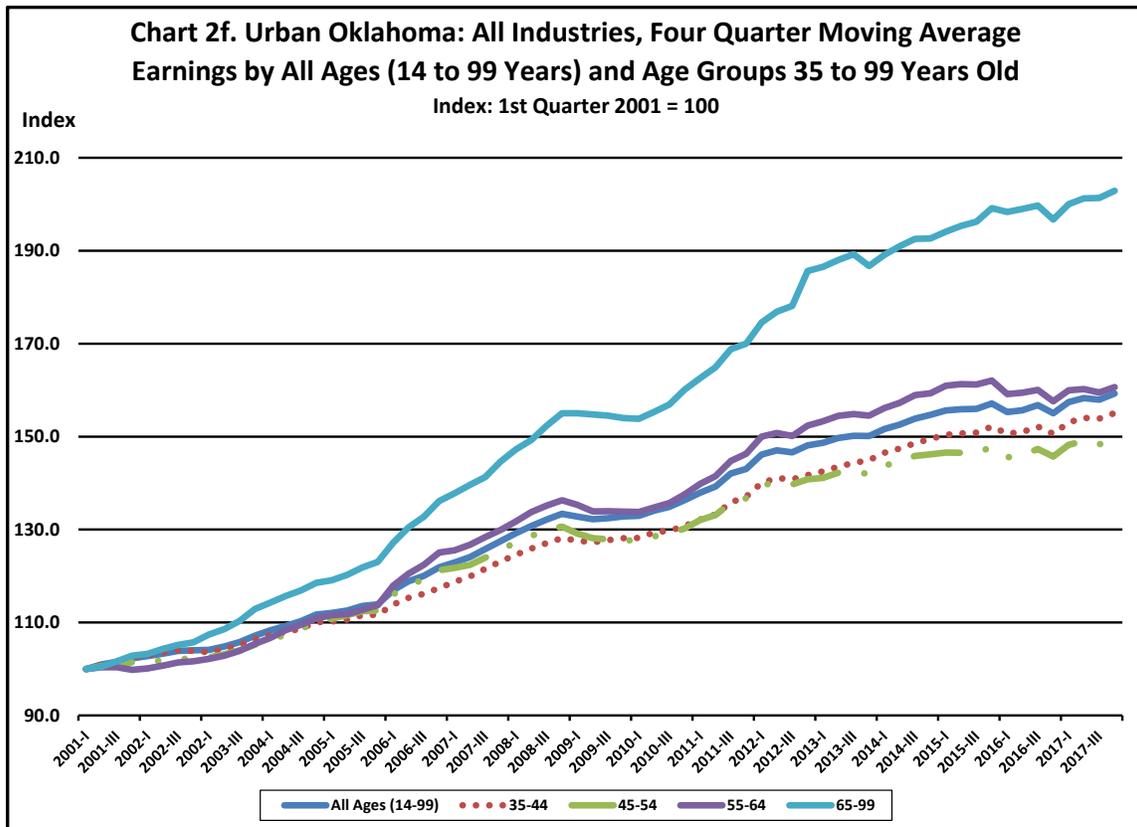


Chart 2f displays the earnings change for urban Oklahoma all industries, the older four age groups and all ages (age 14 to 99). The oldest age group, ages 65 to 99, had the largest rates of earnings change, with

over a 100 percent increase. The next oldest age group, ages 55 to 64 had the second highest earnings increase of above 60 percent increase. Not shown here, but available in [Appendix F, Chart 1f](#) for the youngest four age groups, shows that four younger out of eight age groups all had earnings increases of less than 55 percent. In our previous rural Oklahoma report, [Chart 1d¹⁴](#) shows these same four younger age groups earnings increase rates is slightly higher than their urban Oklahoma counterparts.

**Table 2f. Urban Oklahoma: Ambulatory Health Care Services
Average Monthly Earnings by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	\$3,363	\$520	\$966	\$1,334	\$2,151	\$3,912	\$4,604	\$4,313	\$2,953
2002	\$3,436	\$584	\$988	\$1,353	\$2,222	\$3,999	\$4,633	\$4,392	\$3,144
2003	\$3,473	\$665	\$1,018	\$1,402	\$2,319	\$3,934	\$4,636	\$4,446	\$3,244
2004	\$3,661	\$689	\$1,061	\$1,436	\$2,406	\$4,132	\$4,800	\$4,835	\$3,533
2005	\$3,762	\$634	\$1,045	\$1,477	\$2,464	\$4,297	\$4,867	\$4,888	\$3,625
2006	\$3,808	\$655	\$1,054	\$1,508	\$2,532	\$4,303	\$4,882	\$4,967	\$3,649
2007	\$3,920	\$690	\$1,058	\$1,536	\$2,610	\$4,476	\$5,017	\$5,108	\$3,599
2008	\$4,030	\$747	\$1,104	\$1,574	\$2,703	\$4,582	\$5,171	\$5,191	\$3,714
2009	\$4,174	\$709	\$1,138	\$1,585	\$2,821	\$4,735	\$5,284	\$5,423	\$4,024
2010	\$4,187	\$614	\$1,168	\$1,605	\$2,845	\$4,772	\$5,185	\$5,415	\$4,075
2011	\$4,249	\$683	\$1,155	\$1,607	\$2,870	\$4,882	\$5,165	\$5,515	\$4,090
2012	\$4,332	\$692	\$1,168	\$1,653	\$2,937	\$4,954	\$5,300	\$5,600	\$4,227
2013	\$4,474	\$708	\$1,238	\$1,743	\$3,095	\$5,099	\$5,489	\$5,706	\$4,570
2014	\$4,723	\$754	\$1,246	\$1,789	\$3,264	\$5,363	\$5,772	\$6,032	\$4,970
2015	\$4,898	\$705	\$1,333	\$1,892	\$3,401	\$5,575	\$5,994	\$6,209	\$5,368
2016	\$5,037	\$636	\$1,361	\$1,888	\$3,506	\$5,783	\$6,156	\$6,289	\$5,645
2017	\$5,160	\$699	\$1,355	\$1,881	\$3,615	\$5,918	\$6,296	\$6,391	\$5,750
2017 - 2001	\$1,797	\$179	\$389	\$547	\$1,464	\$2,006	\$1,692	\$2,078	\$2,797

Note: Using Beginning of Quarter Employment Counts.

Table 2f, provides urban Oklahoma ambulatory health care services average monthly earnings by eight age groups, compared to all age groups (ages 14 to 99). The table shows that in 2017 ages 55 to 64 had the largest earnings of \$6,391 and ages 45 to 54 had the second largest average monthly earnings of \$6,296. The table also shows that oldest ages 65 to 99 had the largest amount of earnings change and the next oldest age group of ages 55 to 64 had the second largest earnings change, over the 17 years. In the previous rural Oklahoma report, in [Table 2d¹⁵](#) the older four age groups average monthly earnings for this industry group earned over \$2,000 less, than their urban Oklahoma counterparts.

On the top of the next page, Chart 4f illustrates the urban Oklahoma ambulatory health care services earnings change for the older four age groups, as compared to all ages (14 to 99 years). The chart shows that ages 65 to 99 have the highest rate of earnings change of these four older age groups. In the previous rural Oklahoma report in [Chart 4d¹⁶](#), ages 65 to 99 in this same industry group also increased at the highest rate.

At the bottom of the next page, Chart 3f displays urban ambulatory health care services earnings change for ages 25 to 34 as the second highest earningsrate change, with of nearly 75 percent over the 17 years. Not shown in this report, a comparison of earnings change rate in the four younger age groups in urban and rural Oklahoma [Chart 3d¹⁷](#) reveals that each area had large rates of earnings gain in the oldest age group, with urban earnings rate of change greater than their rural counterparts in all but the youngest age group of ages 14 to 18.

Chart 4f. Urban Oklahoma: Ambulatory Health Care Services, Four Quarter Moving Average Earnings by All Ages (14 to 99 Years) and Age Groups 35 to 99 Years Old

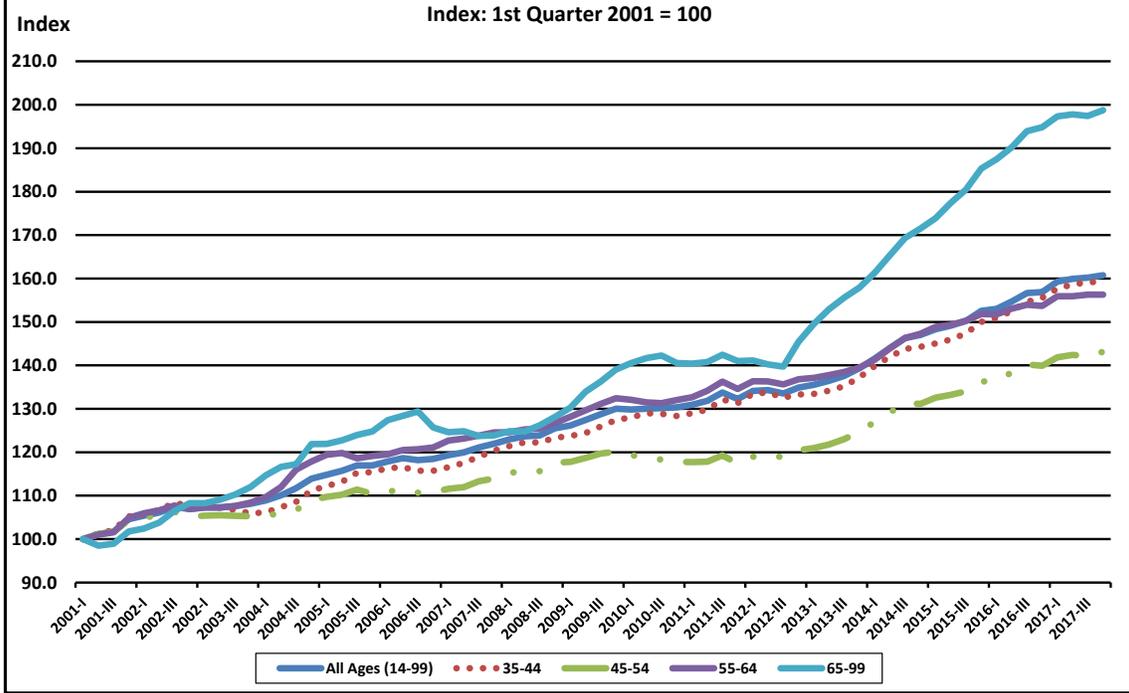
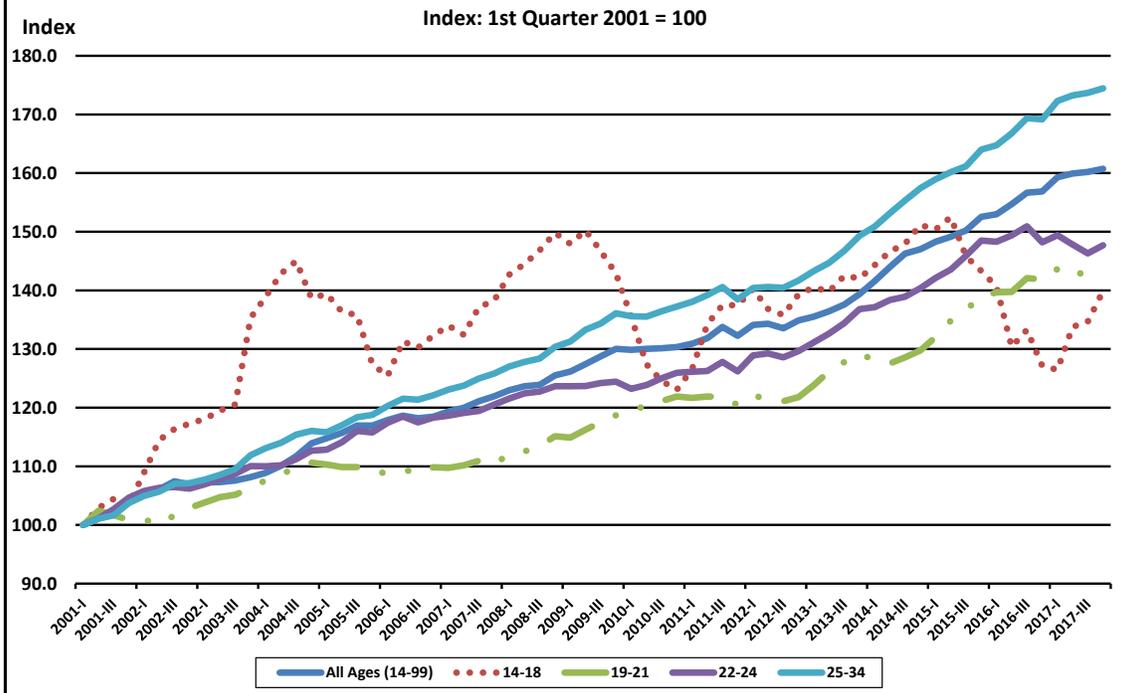


Chart 3f. Urban Oklahoma: Ambulatory Health Care Services, Four Quarter Moving Average Earnings by All Ages (14 to 99 Years) and Age Groups 14 to 34 Years Old



**Table 3f. Urban Oklahoma: Hospitals
Average Monthly Earnings by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	\$2,661	\$759	\$1,078	\$1,601	\$2,262	\$2,799	\$3,206	\$3,095	\$2,168
2002	\$2,744	\$821	\$1,117	\$1,634	\$2,357	\$2,867	\$3,322	\$3,172	\$2,307
2003	\$2,870	\$802	\$1,154	\$1,646	\$2,432	\$2,982	\$3,448	\$3,436	\$2,434
2004	\$3,055	\$820	\$1,203	\$1,782	\$2,560	\$3,152	\$3,638	\$3,642	\$2,528
2005	\$3,020	\$942	\$1,200	\$1,776	\$2,553	\$3,143	\$3,549	\$3,559	\$2,533
2006	\$3,161	\$920	\$1,207	\$1,841	\$2,638	\$3,307	\$3,718	\$3,752	\$2,812
2007	\$3,384	\$898	\$1,270	\$1,921	\$2,813	\$3,609	\$3,934	\$4,059	\$2,969
2008	\$3,528	\$933	\$1,314	\$1,977	\$2,918	\$3,767	\$4,062	\$4,306	\$3,350
2009	\$3,680	\$906	\$1,332	\$2,056	\$3,050	\$3,895	\$4,216	\$4,439	\$3,652
2010	\$3,793	\$943	\$1,345	\$2,126	\$3,126	\$4,037	\$4,300	\$4,583	\$3,855
2011	\$3,937	\$967	\$1,391	\$2,231	\$3,221	\$4,184	\$4,442	\$4,779	\$4,085
2012	\$4,071	\$993	\$1,416	\$2,285	\$3,266	\$4,364	\$4,585	\$4,954	\$4,563
2013	\$4,205	\$904	\$1,429	\$2,295	\$3,378	\$4,531	\$4,755	\$5,081	\$4,744
2014	\$4,340	\$949	\$1,462	\$2,401	\$3,481	\$4,661	\$4,911	\$5,229	\$5,036
2015	\$4,579	\$985	\$1,554	\$2,576	\$3,695	\$4,884	\$5,195	\$5,539	\$5,056
2016	\$4,435	\$1,038	\$1,557	\$2,553	\$3,669	\$4,700	\$5,030	\$5,289	\$4,810
2017	\$4,515	\$1,161	\$1,554	\$2,535	\$3,705	\$4,815	\$5,136	\$5,359	\$5,038
2017 - 2001	\$1,854	\$402	\$476	\$934	\$1,443	\$2,016	\$1,930	\$2,264	\$2,870

Note: Using Beginning of Quarter Employment Counts.

Table 3f shows the urban Oklahoma hospitals average monthly earnings by eight age groups and by all ages (14 to 99 years). Note that the pink cells in the table are significantly distorted, in order to avoid identifying employees with these earnings. The table confirms that in 2017 hospital employment in ages 45 to 54 and ages 55 to 64 had the two highest average monthly earnings, of \$5,136 and \$5,359, respectively. In our previous rural Oklahoma report, the same two age groups had the highest earnings. Although not shown, rural Oklahoma [Table 3d¹⁸](#) reveals that in ‘all ages’ (14 to 99) earnings were more than \$1,000 less than their urban counterparts. Rural age group 55 to 64 years had the largest earnings amount of change and rural age group 65 to 65 years had the second largest earnings amount change 2001 to 2017; the same two groups as urban Oklahoma, but with the ranking reversed.

At the top of the next page, Chart 6f displays urban Oklahoma hospitals earnings change for the oldest four of eight age groups, ages 35 to 99. The earnings for ages 65 to 99 grew an astounding 136 percent. The second highest earnings change rate for the four groups is ages 55 to 64 with almost 80 percent increase. Not shown in this report, but in [Chart 5f. \(scroll down in Appendix F\)](#), hospital earnings change rates for the youngest four age groups are displayed. Ages 22 to 24 display a 67 percent increase in ages 25 to 34 almost a 70 percent increase, 2001 to 2017. Also not shown, but revealed in our previous rural Oklahoma report [Chart 5d¹⁹](#) and [Chart 6d²⁰](#) display that rural hospital age groups grew faster than urban.

At the bottom of the next page, Table 4f exhibits the average monthly earnings of urban Oklahoma nursing and residential care facilities, as shown by eight age groups and as compared to an aggregate of all ages, ages 14 to 99. The table shows that ages 55 to 64 and 45 to 54, had the largest and second largest 2017 average monthly earnings, respectively; of \$2,648 for the former and \$2613 for the latter. On the other hand, it is ages 55 to 64 and ages 65 to 99 that had the largest and second largest average monthly earnings amount change, respectively; over the 17 years of observance.

Not shown but provided in our previous rural Oklahoma report, [Table 4d²¹](#) displayed the same two age groups with highest and second highest earnings and the two age groups with the highest and second highest amount of earnings change, over the 17 years of observance. However, age groups ages 55 to 64 and ages 45 to 54 had approximately \$500 less earnings in rural than urban Oklahoma.

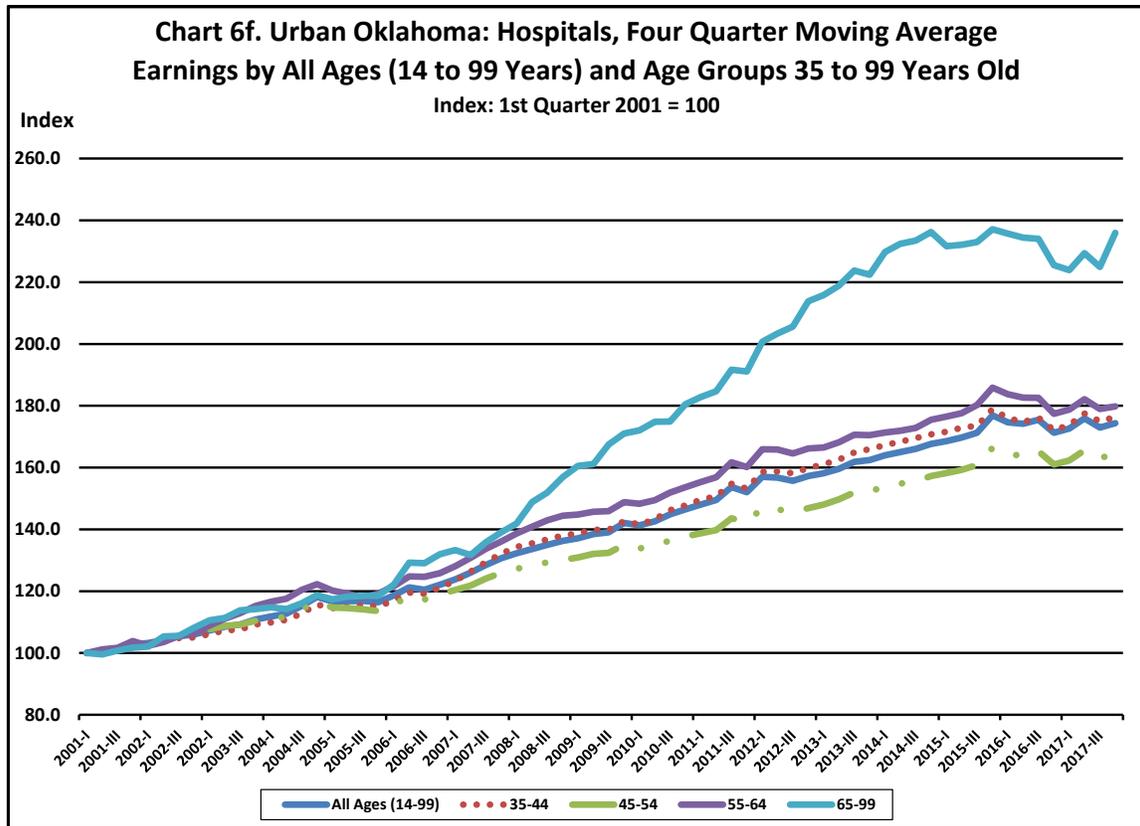


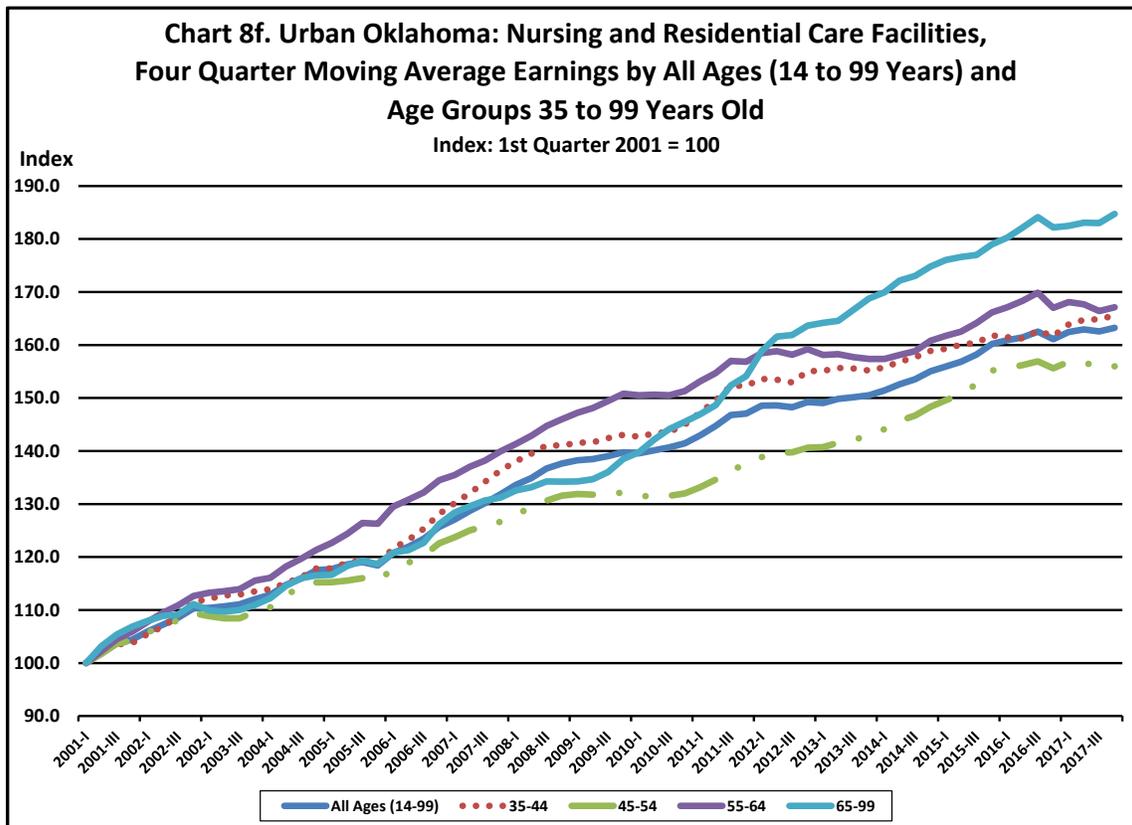
Table 4f. Urban Oklahoma: Nursing and Residential Care Facilities Average Monthly Earnings by Age Group

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	\$1,428	\$572	\$784	\$1,000	\$1,362	\$1,529	\$1,747	\$1,678	\$1,303
2002	\$1,510	\$619	\$882	\$1,057	\$1,437	\$1,643	\$1,833	\$1,785	\$1,355
2003	\$1,534	\$640	\$900	\$1,078	\$1,441	\$1,673	\$1,838	\$1,831	\$1,355
2004	\$1,607	\$672	\$938	\$1,128	\$1,495	\$1,735	\$1,929	\$1,923	\$1,422
2005	\$1,619	\$657	\$920	\$1,119	\$1,484	\$1,747	\$1,934	\$2,001	\$1,448
2006	\$1,720	\$661	\$969	\$1,204	\$1,540	\$1,888	\$2,054	\$2,132	\$1,541
2007	\$1,804	\$671	\$1,005	\$1,224	\$1,626	\$2,009	\$2,122	\$2,218	\$1,601
2008	\$1,883	\$699	\$1,031	\$1,300	\$1,712	\$2,078	\$2,205	\$2,314	\$1,637
2009	\$1,912	\$696	\$1,058	\$1,326	\$1,714	\$2,109	\$2,213	\$2,390	\$1,690
2010	\$1,935	\$726	\$1,059	\$1,325	\$1,748	\$2,136	\$2,211	\$2,398	\$1,776
2011	\$2,011	\$716	\$1,063	\$1,365	\$1,809	\$2,244	\$2,298	\$2,485	\$1,880
2012	\$2,042	\$731	\$1,067	\$1,390	\$1,813	\$2,286	\$2,355	\$2,523	\$1,997
2013	\$2,059	\$753	\$1,087	\$1,370	\$1,844	\$2,287	\$2,393	\$2,493	\$2,059
2014	\$2,121	\$743	\$1,114	\$1,383	\$1,890	\$2,341	\$2,485	\$2,549	\$2,133
2015	\$2,192	\$741	\$1,125	\$1,386	\$1,951	\$2,385	\$2,600	\$2,633	\$2,185
2016	\$2,204	\$796	\$1,186	\$1,382	\$1,931	\$2,383	\$2,607	\$2,646	\$2,222
2017	\$2,233	\$779	\$1,204	\$1,451	\$1,956	\$2,440	\$2,613	\$2,648	\$2,254
2017 - 2001	\$805	\$207	\$420	\$451	\$594	\$911	\$866	\$970	\$951

Note: Using Beginning of Quarter Employment Counts.

At the top of the next page, Chart 8f displays urban Oklahoma nursing and residential care facilities earnings change rates for the oldest four of eight age groups, ages 35 to 99. The earnings for ages 65 to 99 grew at

nearly 85 percent. Ages 55 to 64 grew at the second highest earnings change rate for the four age groups, with a little over 67 percent increase. Not shown, but displayed in [Chart 7f, viewed by scrolling down in Appendix F](#), the younger four of the eight age groups most often had slightly lower, but similar rates of increase, over the 17 years of observation.



Also not shown, but revealed in our prior rural Oklahoma report on nursing and residential care facilities, [Chart 7d²²](#) and [Chart 8d²³](#) show that the eight age groups in this health group experienced similar earnings rates of change, as compared to their counterparts in urban Oklahoma.

In summary of Section III, the analysis of urban Oklahoma health average earnings by industry groups and age groups in year 2017 determined that of the eight age groups, 55 to 64 had the largest earnings and ages 45 to 55 had the second largest earnings in the four industry groups all industries, ambulatory health care services and hospitals and nursing and residential care.

Average monthly earnings change amounts for years 2001 to 2017 was also calculated for all four industry groups by eight age groups and the aggregate of all ages. It was found that for all four industry groups, the two age groups with the largest amount of earnings change was the two oldest age groups, ages 55 to 64 and ages 65 to 99, over the 17 years of observation.

The four quarter moving average earnings change rate was calculated and charted for the four industry groups by eight age groups. In all four industry groups, ages 65 to 99 average earnings grew at the highest rate; in all industries growing at a rate of more than 102 percent, in ambulatory health care services nearly 99 percent, in hospitals 136 percent and nursing and residential care nearly the rate of 85

percent, over the 17 observed years. The second highest rate of growth for all industry, hospitals and nursing and residential care is in ages 55 to 64, growing more than 60 percent, nearly 80 percent and a little over 67 percent, respectively. The second highest rate of growth for ambulatory health care services is in ages 25 to 34, which grew at over 74 percent, from 2001 to 2017.

In a comparison of the urban Oklahoma four health industry groups with the same rural Oklahoma groups determined that while there are individual age groups differences, each of the four health industry groups showed similar patterns of average earnings, with their counter-part in the other geographical area. However, in all four industry groups the urban Oklahoma 2017 earnings tended to be greater than their counterpart age group in rural Oklahoma.

Comparing urban and rural Oklahoma earnings change rates in all ages (14 to 99 years), determines that urban earnings grew at the higher rate in ambulatory health care services, rural Oklahoma grew at the higher rate in all industry and hospitals, while the all ages grew at almost identical rates in both areas in nursing and residential care, as gaged over the 17 years of observation.

IV. Employment and Employment Change by Age Group and Gender Group

Another helpful way of exploring health industry employment is by both age and gender concurrently. Traditionally and historically females have had the larger portion of employment than males in the health industry. Has this larger female than male portion employed in the health industry changed in recent years? Below Table 6e displays urban Oklahoma all industry average annual male employment by age.

**Table 6e. Urban Oklahoma: All Industries
Annual Average Employment for Males by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	487,706	18,817	29,777	32,225	115,000	124,412	102,843	49,821	14,807
2002	474,218	16,812	28,572	31,769	111,141	118,132	100,794	51,644	15,350
2003	460,476	14,621	26,523	31,127	107,298	112,322	100,251	52,589	15,742
2004	464,251	14,032	25,793	31,622	106,964	110,890	103,108	55,302	16,538
2005	475,416	14,218	26,540	32,617	109,010	110,808	106,336	58,133	17,750
2006	487,898	14,954	27,015	33,091	111,009	111,798	109,600	61,277	19,152
2007	496,549	15,221	26,703	33,007	113,897	111,203	111,308	64,639	20,568
2008	507,630	15,265	26,407	33,067	117,688	111,341	113,968	67,927	21,964
2009	485,247	12,609	23,687	30,358	113,251	105,343	109,656	68,153	22,187
2010	475,275	10,152	22,892	28,944	111,790	103,229	106,810	69,024	22,431
2011	490,068	10,083	23,981	29,321	116,277	106,078	108,107	72,603	23,616
2012	506,577	10,658	24,601	30,883	120,550	109,360	108,597	75,952	25,975
2013	517,222	11,106	25,120	32,314	123,766	111,288	107,569	78,773	27,283
2014	527,091	11,724	25,381	33,295	125,701	112,944	107,429	81,713	28,902
2015	532,109	12,764	25,533	33,218	126,060	113,847	106,588	83,850	30,246
2016	520,746	12,695	24,199	31,134	121,607	112,141	104,140	83,823	31,006
2017	521,321	12,383	24,536	30,307	120,427	113,583	102,669	85,240	32,174
2001 - 2017	33,615	-6,434	-5,241	-1,918	5,427	-10,829	-174	35,419	17,367

Note: Using Beginning of Quarter Employment Counts.

Table 6e shows that urban Oklahoma all industries in year 2017 had their largest male employment in ages 25 to 34 and their second largest male employment in ages 35 to 44. On the other hand, all industries had their largest male employment amount increase in ages 55 to 64 and their second largest male amount increase in ages 65 to 99. Five of the other six age groups decreased in male employment.

In our previous report for rural Oklahoma, all industries male employment exhibited the same pattern of the two largest age groups in employment and in age groups with the largest amount of employment change. However beside the two largest in increased employment, only three of the other remaining six age groups increased in employment, as shown in [Table 6c²⁴](#), over the 17 years of observation.

Below, Table 7e displays that in 2017 urban Oklahoma all industries had their largest female employment in ages 25 to 34 and their second largest male employment in ages 35 to 44. All industries had their largest female employment amount increase in ages 55 to 64 and their second largest female employment increase in ages 65 to 99, the same as all industry males. Urban females in all industry also had five of the other six age groups decreased in employment. In our previous report for rural Oklahoma, all industries female employment decreased in employment in only four of the remaining six age groups, as shown in [Table 7c²⁵](#), over the 17 years.

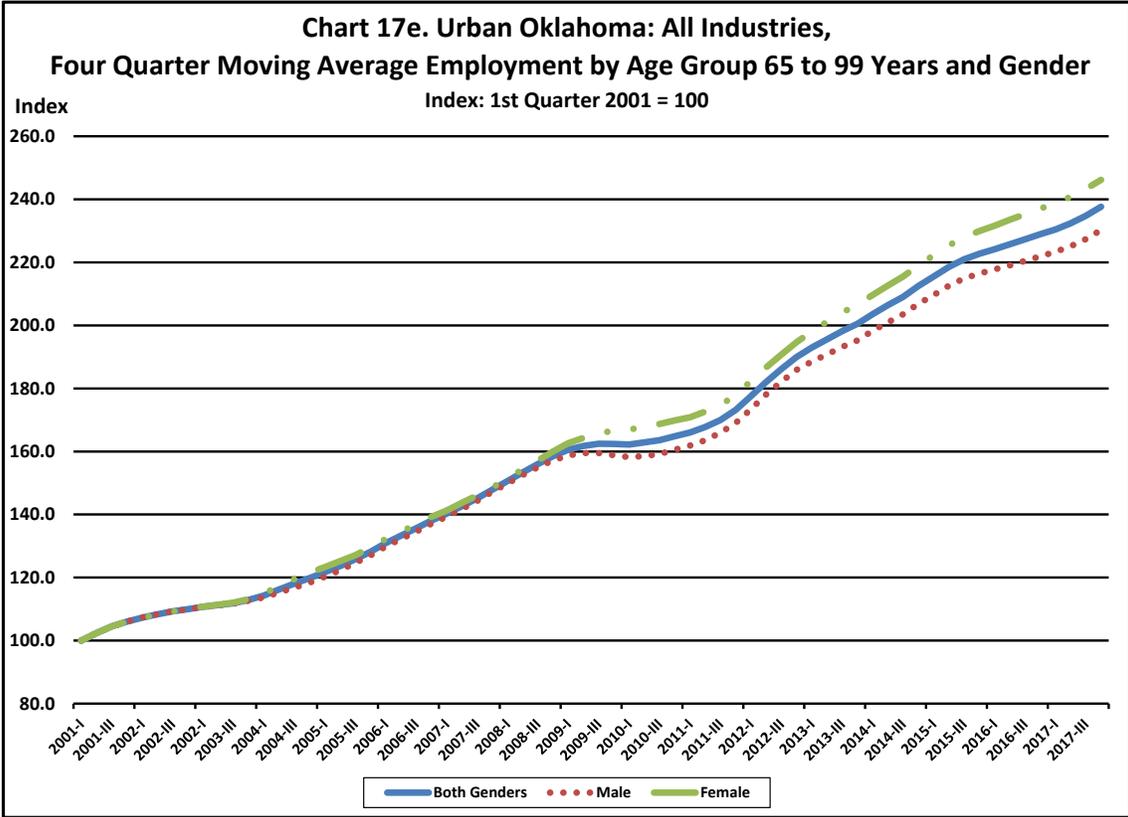
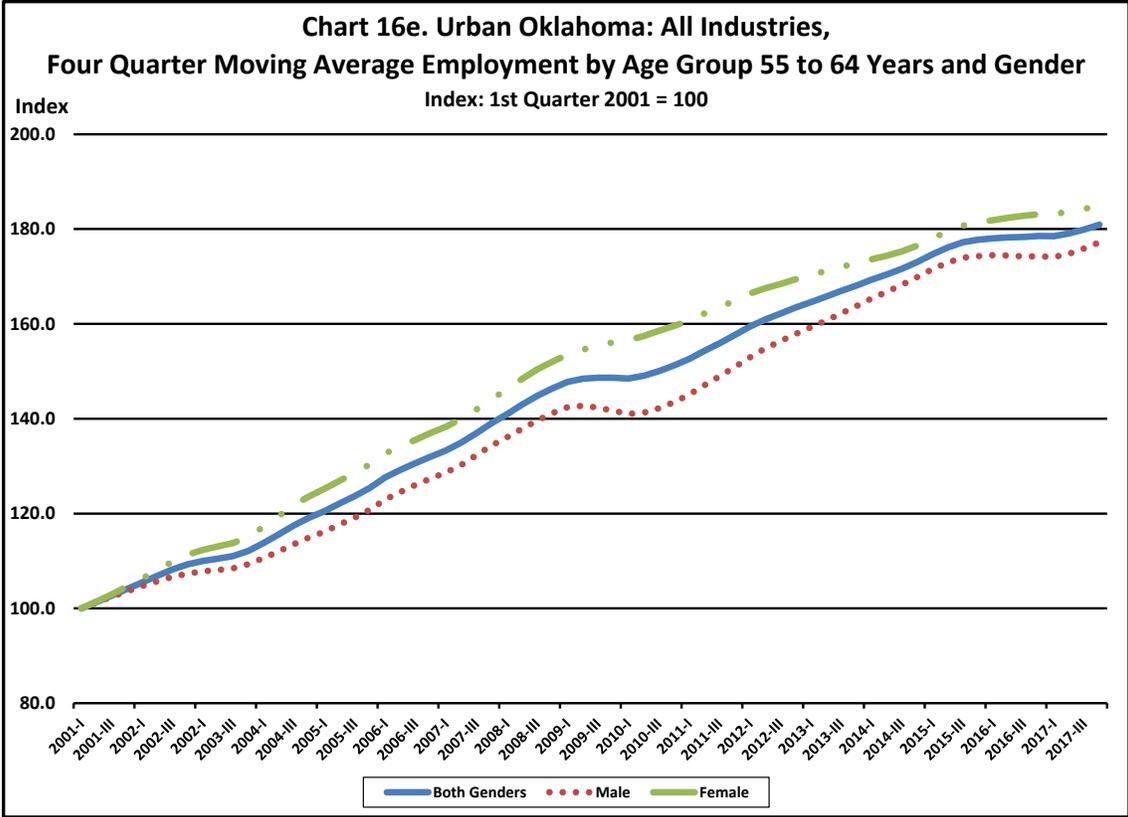
**Table 7e. Urban Oklahoma: All Industries
Annual Average Employment for Females by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	454,330	20,190	29,971	30,734	98,420	113,169	102,383	46,679	12,781
2002	449,840	18,265	29,452	30,687	97,148	109,015	102,317	49,676	13,278
2003	437,681	16,417	28,234	30,502	93,872	102,890	100,748	51,368	13,647
2004	446,691	15,880	28,064	31,476	95,154	102,225	104,080	55,159	14,649
2005	456,151	15,982	28,227	32,496	97,055	101,859	106,743	58,176	15,611
2006	463,302	16,979	28,069	32,766	98,286	101,145	108,144	61,121	16,790
2007	472,261	17,110	27,673	33,029	101,429	101,062	109,742	64,302	17,911
2008	480,808	17,304	27,058	32,777	104,730	100,551	111,267	67,818	19,299
2009	471,902	14,669	25,608	31,154	104,194	97,592	108,940	69,652	20,091
2010	464,106	12,293	24,732	29,954	103,647	95,535	106,282	71,180	20,480
2011	466,928	12,101	25,081	29,731	105,210	95,591	104,164	73,586	21,461
2012	474,988	12,467	25,370	31,026	107,434	97,158	102,463	75,585	23,481
2013	481,559	12,515	25,864	32,228	110,306	98,088	100,570	77,068	24,918
2014	490,342	13,367	25,894	33,209	112,709	99,980	100,026	78,743	26,411
2015	501,098	14,575	26,137	33,362	115,500	102,643	100,197	80,950	27,732
2016	499,813	14,609	25,541	32,349	114,962	103,097	98,963	81,700	28,592
2017	500,018	14,422	25,997	31,234	113,984	104,404	97,792	82,492	29,691
2001 - 2017	45,688	-5,768	-3,974	500	15,564	-8,765	-4,591	35,813	16,910

Note: Using Beginning of Quarter Employment Counts.

At the top of the next page, Chart 16e shows the all industry employment rate of increase in urban Oklahoma for ages 55 to 64 by gender and at the bottom of the same page, Chart 17e show the same for ages 65 to 99; as indexed to 1st quarter 2001 equal to 100. Male employment increased at a rate of about 77 percent in the former and just over 130 percent in the latter, while female employment rate of increase is almost 85 percent in Chart 16e, and a little over 146 percent in Chart 17e, over the 17 years of observation.

Charts for the other urban six age groups in all industries are in [Appendix G](#). Not shown, but in our previous report for rural Oklahoma health groups, employment for all industries age groups and gender groups, [Chart 16c²⁶](#) and [Chart 17c²⁷](#) displayed similar patterns. However their rates of employment increase are most often not as large as their counterparts in urban Oklahoma, from year 2001 to 2017.



**Table 9e. Urban Oklahoma: Ambulatory Health Care Services
Annual Average Employment for Males by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	7,251	134	198	280	1,502	1,878	1,935	941	380
2002	7,497	127	216	285	1,524	1,923	1,959	1,061	400
2003	7,800	123	213	319	1,583	1,942	2,017	1,169	431
2004	8,118	105	194	314	1,675	2,069	2,039	1,290	431
2005	8,400	97	210	337	1,694	2,098	2,134	1,359	466
2006	8,574	86	212	369	1,716	2,154	2,109	1,434	491
2007	8,894	89	203	383	1,772	2,266	2,116	1,532	531
2008	9,251	84	201	368	1,891	2,350	2,156	1,608	590
2009	9,531	79	212	357	1,988	2,422	2,153	1,692	624
2010	9,908	74	200	396	2,095	2,558	2,149	1,775	657
2011	10,376	72	201	384	2,149	2,685	2,261	1,882	739
2012	10,410	71	183	396	2,115	2,721	2,223	1,879	822
2013	10,783	67	187	413	2,255	2,807	2,276	1,904	871
2014	11,314	59	185	405	2,317	2,910	2,469	2,027	938
2015	11,903	49	231	450	2,418	3,014	2,616	2,114	1,007
2016	12,181	45	217	420	2,508	3,141	2,697	2,075	1,076
2017	12,323	54	218	407	2,518	3,213	2,712	2,055	1,143
2001 - 2017	5,072	-80	20	127	1,016	1,335	777	1,114	763

Note: Using Beginning of Quarter Employment Counts.

**Table 10e. Urban Oklahoma: Ambulatory Health Care Services
Annual Average Employment for Females by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	29,954	338	1,218	1,869	7,483	7,995	7,180	2,998	869
2002	30,608	310	1,241	1,908	7,660	7,914	7,370	3,309	893
2003	31,951	275	1,191	2,008	7,973	8,146	7,712	3,670	973
2004	32,603	236	1,102	2,047	8,276	8,190	7,919	3,853	977
2005	32,839	228	1,047	2,053	8,192	8,165	8,074	4,066	1,013
2006	33,902	236	1,035	2,107	8,333	8,364	8,388	4,353	1,083
2007	35,191	223	1,099	2,141	8,758	8,468	8,586	4,705	1,206
2008	36,512	230	1,090	2,100	9,233	8,638	8,800	5,058	1,360
2009	36,392	190	1,044	2,047	9,384	8,630	8,542	5,212	1,341
2010	37,229	159	953	2,021	9,598	8,884	8,602	5,572	1,439
2011	39,139	144	934	2,009	10,203	9,319	8,874	6,102	1,552
2012	39,435	152	911	2,080	10,249	9,534	8,554	6,257	1,695
2013	38,984	145	921	2,087	10,314	9,495	8,167	6,155	1,696
2014	39,991	129	914	2,140	10,695	9,895	8,215	6,251	1,747
2015	41,636	139	1,036	2,218	11,222	10,287	8,379	6,469	1,883
2016	42,096	135	1,043	2,239	11,444	10,371	8,403	6,519	1,939
2017	42,338	130	1,038	2,216	11,343	10,593	8,381	6,561	2,073
2001 - 2017	12,384	-208	-180	347	3,860	2,598	1,201	3,563	1,204

Note: Using Beginning of Quarter Employment Counts.

Table 9e shows urban Oklahoma ambulatory health care services average annual employment for males by age group; below it Table 10e shows the same for females. The ‘all ages’ (14 to 99) age categories in the two tables confirm a 2017 urban Oklahoma ambulatory health care services average annual employment female to male employment ratio of about 3.4 to 1; as opposed to about a 5.6 to 1 female to male ratio reported in this industry in our rural Oklahoma report. The largest employment of urban males in year 2017 is in ages 35 to 44 and the second largest employment of males is in ages 45 to 54. For females, the largest urban employment is in ages 25 to 34 and the second largest employment is ages 35 to 44. The largest urban employment change for males is in ages 35 to 44 and the second largest

change is ages 55 to 64; while in females the largest employment change is in ages 25 to 34 and the second largest employment change is also in ages 55 to 64, over the 17 years of observation.

In our previous report on rural Oklahoma ambulatory health care services, females employment determined similar patterns of largest and second largest employment in year 2017, and largest amount of employment change and second largest employment change, over the 17 years of observation; only with the age groups in each reversed from that of urban Oklahoma females in this industry, as shown in in this link to [Table 10c²⁸](#).

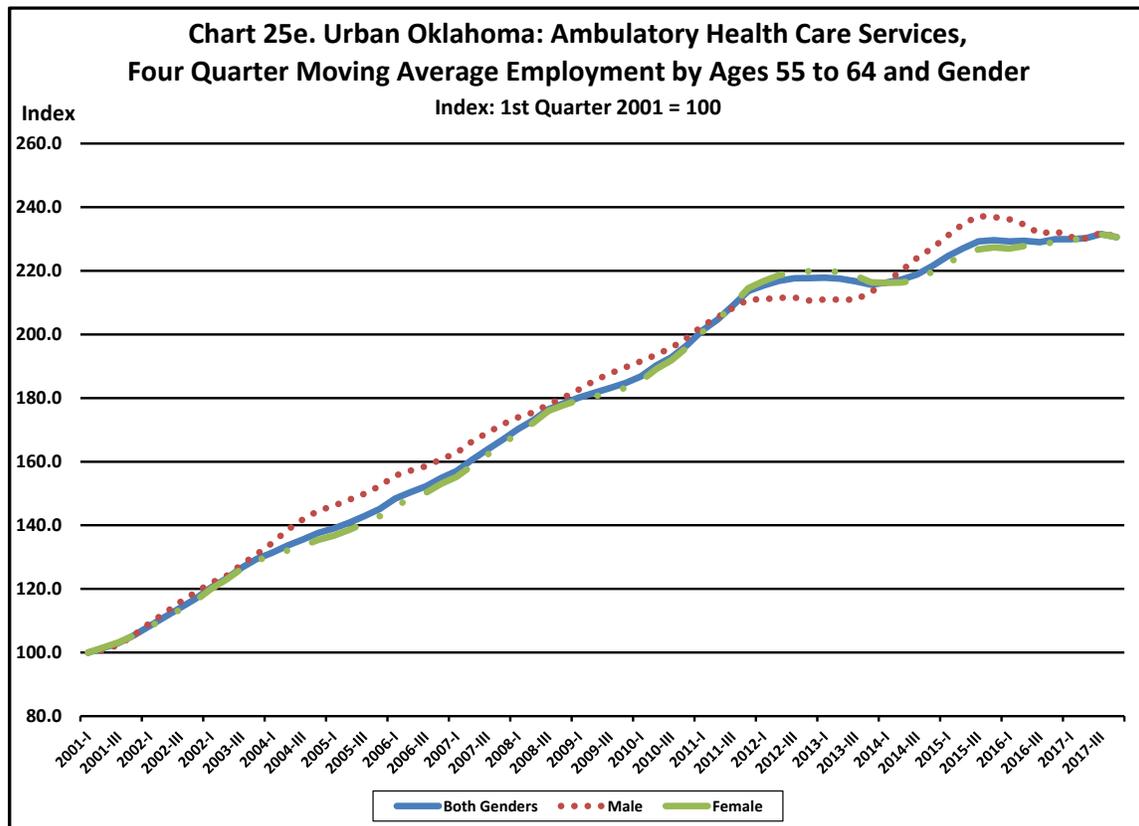
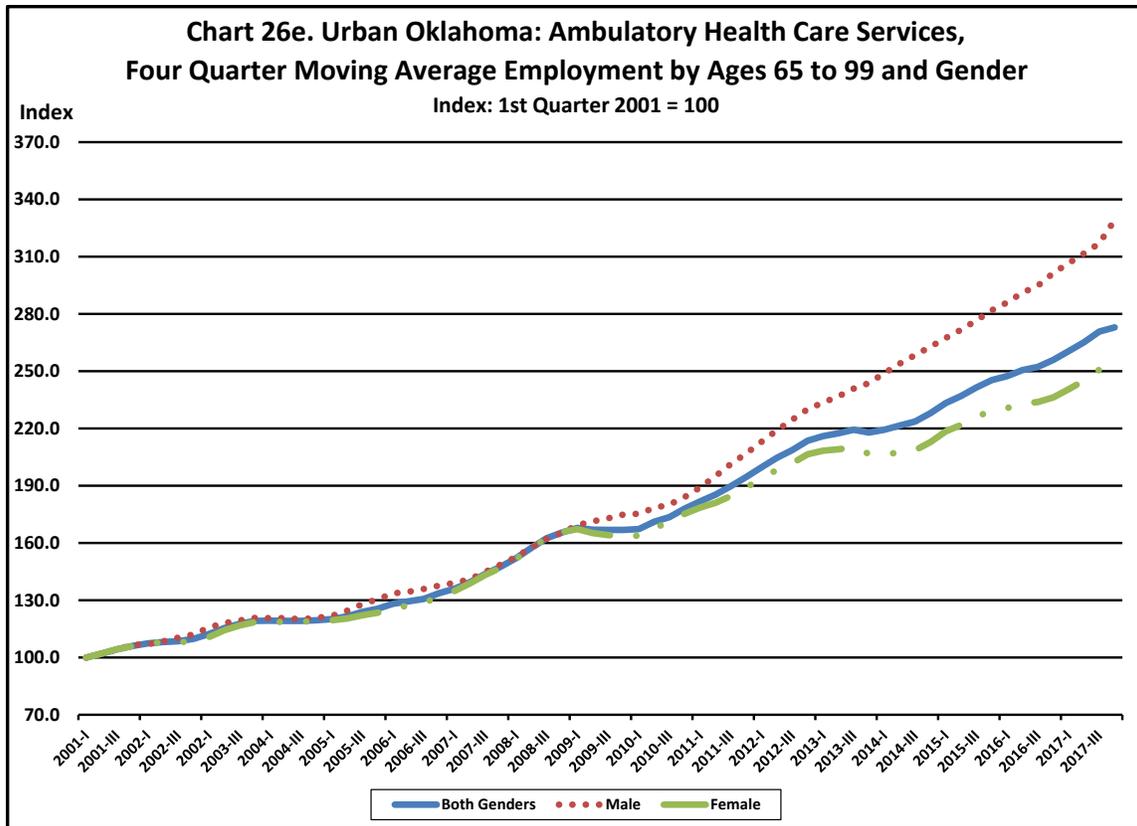


Chart 25e shows urban Oklahoma ambulatory health care services employment change rates for ages 55 to 64, as the second largest in amount of change for males and females, and Chart 26e at the top of the next page shows the change rates for ages 65 to 99 as the largest employment change in the eight age groups for males and females; as indexed to 1st quarter 2001 equal to 100. In ages 55 to 64 female employment changed over 130 percent and male change as almost exactly the same percent, while in ages 65 to 99 female employment changed more than 152 percent and male changed over 229 percent. The charts for the remaining six age groups in ambulatory health care services may be viewed in [Appendix G](#).

Not shown, but in our previous report for rural Oklahoma ambulatory health care services, [Chart 25c²⁹](#) displays ages 55 to 64 also the second largest male and female employment change and in [Chart 26c³⁰](#) shows ages 65 to 99 as the largest in employment change for both genders in the eight age groups. Rural Oklahoma female employment in this industry in both of the two age groups changed more than their male age employment counterparts in both geographical areas.



**Table 12e. Urban Oklahoma: Hospitals
Annual Average Employment for Males by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	8,293	95	309	421	2,252	2,293	2,020	762	139
2002	8,634	90	346	454	2,232	2,353	2,127	874	155
2003	8,346	67	319	463	2,129	2,200	2,071	940	155
2004	8,687	50	275	477	2,166	2,283	2,195	1,059	180
2005	8,942	42	278	528	2,171	2,342	2,269	1,112	196
2006	9,283	42	272	537	2,163	2,484	2,330	1,243	209
2007	9,642	41	262	546	2,245	2,517	2,389	1,411	229
2008	9,906	47	254	537	2,336	2,486	2,421	1,544	277
2009	9,967	33	234	507	2,356	2,478	2,405	1,631	319
2010	10,408	34	222	493	2,584	2,545	2,443	1,722	363
2011	10,555	24	218	476	2,639	2,571	2,423	1,792	409
2012	10,779	20	205	470	2,702	2,652	2,410	1,843	474
2013	10,968	19	197	456	2,784	2,678	2,401	1,909	522
2014	10,589	15	170	420	2,705	2,610	2,288	1,860	517
2015	10,862	13	190	443	2,746	2,641	2,380	1,910	535
2016	10,802	12	200	442	2,708	2,562	2,419	1,910	547
2017	10,560	14	189	421	2,587	2,513	2,383	1,857	594
2001 - 2017	2,267	-81	-120	0	335	220	363	1,095	455

Note: Using Beginning of Quarter Employment Counts.

Table 12e above shows the urban Oklahoma hospitals average annual employment for males by age group, and on the next page, Table 13e shows the same for females. Note that the pink shaded cells indicate aggregated data, some of which are significantly distorted to protect employers' identities.

Both males and females had the highest 2017 employment in ages 25 to 34 and their second highest hospital employment in ages 35 to 44. In 2017, female hospital employment in ‘all ages’ (14 to 99) is over three and a half times that of males in that age group.

These two tables display that the amount of male hospital employment change from 2001 to 2017 is highest in ages 55 to 64 and second highest in ages 65 to 99; while female hospital employment amount of change is highest in ages 25 to 34 and second highest in ages 55 to 64. The urban Oklahoma male hospital employment declined in two of the six remaining age groups and the female hospital employment declined in three of the six or the remaining age groups, over the 17 years of observation.

Not shown, but a comparison of these two urban Oklahoma tables of male and female hospital employment with their counterparts in our previous reported rural Oklahoma hospital in [Tables 12c³¹](#) and [Table 13c³²](#) determines that the ratio of females to males is larger in the rural areas (4.1 to 1) than urban (over 3.5 to 1); also for males six youngest of the eight rural ages groups declined, verses two of the eight age groups declined in urban hospitals.

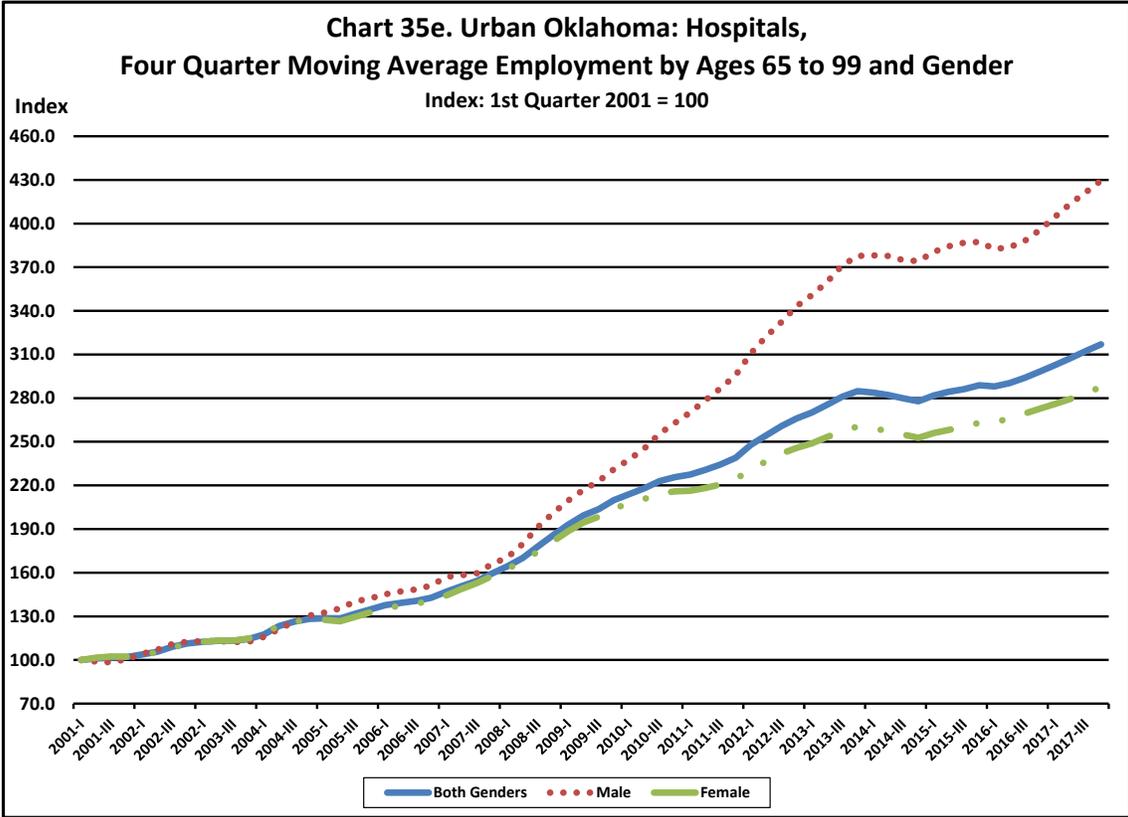
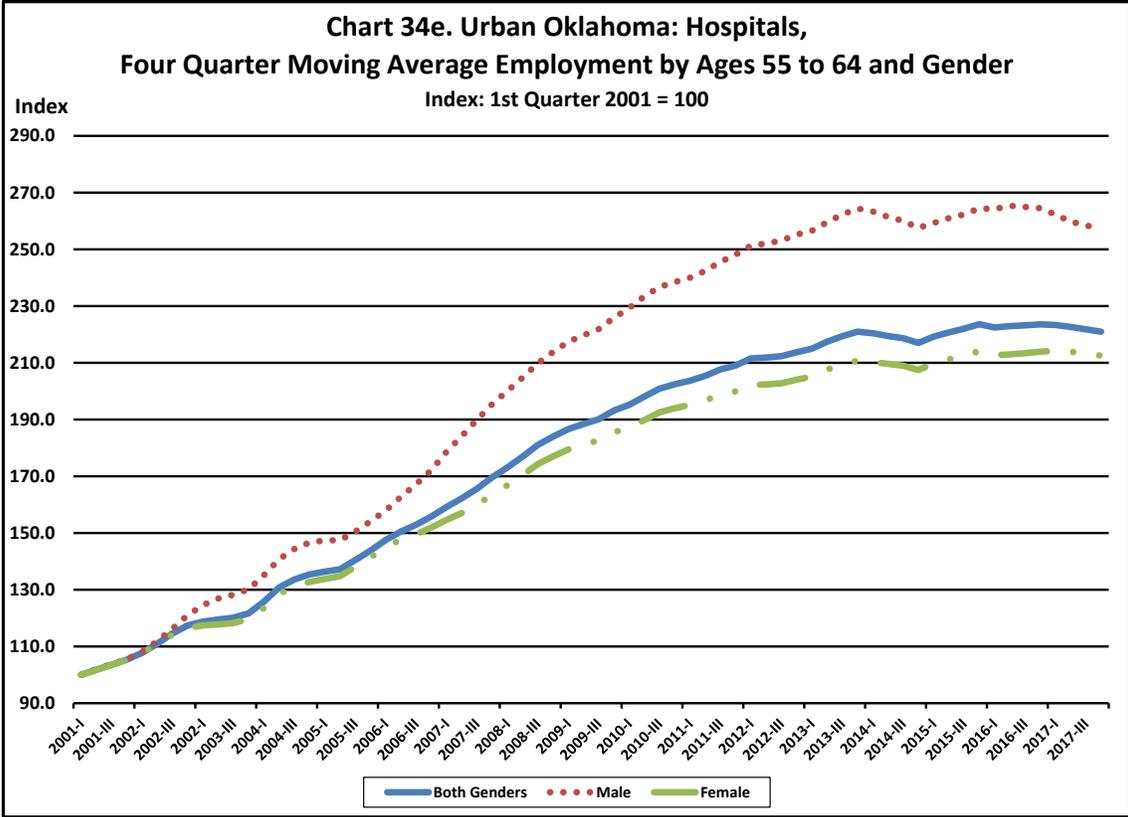
**Table 13e. Urban Oklahoma: Hospitals
Annual Average Employment for Females by AgeGroup**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	29,693	142	913	1,706	6,953	8,402	7,787	3,244	543
2002	31,240	140	1,028	1,885	7,392	8,381	8,232	3,591	591
2003	30,536	109	914	1,883	7,242	7,913	8,175	3,688	610
2004	31,369	79	794	1,858	7,346	7,908	8,614	4,091	678
2005	32,284	67	774	1,935	7,588	7,979	8,876	4,356	705
2006	33,468	78	822	2,037	7,979	8,067	9,052	4,681	747
2007	35,023	78	871	2,173	8,518	8,235	9,266	5,040	838
2008	36,258	75	900	2,255	8,996	8,319	9,293	5,453	964
2009	36,455	55	747	2,176	9,174	8,280	9,219	5,716	1,085
2010	36,755	35	646	2,052	9,568	8,321	9,005	5,978	1,147
2011	36,557	30	633	1,863	9,765	8,312	8,601	6,160	1,191
2012	36,933	33	668	1,882	9,952	8,518	8,285	6,286	1,306
2013	37,550	30	646	1,978	10,253	8,723	8,039	6,495	1,384
2014	36,410	30	596	1,936	10,056	8,422	7,633	6,392	1,343
2015	37,275	36	580	1,965	10,235	8,714	7,746	6,595	1,399
2016	37,386	34	646	1,965	10,237	8,790	7,667	6,593	1,450
2017	37,569	32	665	1,965	10,294	8,937	7,597	6,548	1,527
2001 - 2017	7,876	-110	-248	259	3,341	535	-190	3,304	984

Note: Using Beginning of Quarter Employment Counts.

At the top of the next page, Chart 34e shows Oklahoma urban hospitals employment change rate for ages 55 to 64 by gender group, the age group with the second highest rate of change. Below on this same page, Chart 35e does the same for ages 65 to 99, showing the highest urban hospital employment rate of change, as that age group. Chart 34e displays that male hospital employment increased over 157 percent and female hospital employment increased over 112 percent in ages 55 to 64. Chart 35e displays that male hospital employment increased almost 330 percent and female hospital employment increased over 187 percent in ages 65 to 99, from year 2001 to 2017.

Not shown but disclosed in [Chart 28e and Chart 29e, viewed by scrolling down in Appendix G](#), that both males and females in age groups 14 to 18 and ages 19 to 21 decreased in urban hospital employment from 2001 to 2017.



Also not show, but disclosed in our previous rural Oklahoma report on hospital employment change by gender, [Chart 34c](#)³³ and [Chart 35c](#)³⁴ show that in ages 55 to 64 and ages 65 to 99, males and females increased much less than their counterparts in urban Oklahoma (previous page), increasing in a range of about 105 percent to 216 percent less, from year 2001 to 2017.

**Table 15e. Urban Oklahoma: Nursing and Residential Care Facilities
Annual Average Employment for Males by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	3,824	196	257	303	968	944	722	319	111
2002	3,909	190	304	323	1,032	903	696	346	116
2003	4,192	164	339	359	1,101	963	738	395	130
2004	4,144	143	282	367	1,078	966	757	410	139
2005	4,070	133	271	379	1,049	924	754	415	144
2006	4,074	131	262	344	1,041	909	773	459	152
2007	4,144	143	271	335	1,037	892	806	486	171
2008	4,112	141	213	332	1,049	862	809	516	187
2009	4,248	128	234	304	1,118	886	844	540	191
2010	4,383	89	276	318	1,104	963	866	557	208
2011	4,426	87	246	316	1,170	970	873	567	194
2012	4,402	84	250	328	1,078	975	869	596	222
2013	4,285	83	226	318	1,013	923	867	622	229
2014	4,339	76	210	330	1,052	892	890	636	251
2015	4,487	67	194	311	1,083	969	909	683	267
2016	4,499	73	165	271	1,089	963	926	717	292
2017	4,365	65	180	254	1,045	923	865	715	315
2001 - 2017	541	-131	-77	-49	77	-21	143	396	204

Note: Using Beginning of Quarter Employment Counts.

**Table 16e. Urban Oklahoma: Nursing and Residential Care Facilities
Annual Average Employment for Females by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	14,421	415	893	1,024	3,208	3,585	3,130	1,662	501
2002	14,654	380	974	1,104	3,393	3,554	3,059	1,695	493
2003	15,769	354	1,015	1,198	3,657	3,735	3,367	1,902	537
2004	16,027	325	995	1,226	3,740	3,694	3,487	1,972	584
2005	15,167	276	887	1,149	3,625	3,472	3,293	1,892	570
2006	15,083	301	864	1,161	3,588	3,389	3,253	1,927	598
2007	15,409	292	883	1,134	3,620	3,390	3,373	2,053	659
2008	15,483	299	887	1,090	3,678	3,342	3,418	2,078	688
2009	15,622	281	835	1,077	3,791	3,314	3,450	2,139	732
2010	15,774	219	834	1,132	3,884	3,381	3,398	2,181	742
2011	15,784	192	850	1,154	3,988	3,360	3,287	2,226	725
2012	15,610	187	889	1,202	3,894	3,321	3,168	2,197	749
2013	15,458	191	862	1,175	3,872	3,319	3,052	2,210	774
2014	15,698	191	780	1,197	3,922	3,409	3,129	2,247	820
2015	15,958	199	763	1,169	4,011	3,555	3,084	2,328	846
2016	16,304	183	753	1,168	4,057	3,688	3,116	2,431	904
2017	16,345	185	806	1,103	3,991	3,733	3,089	2,511	925
2001 - 2017	1,924	-230	-87	79	783	148	-41	849	424

Note: Using Beginning of Quarter Employment Counts.

Table 15e displays urban Oklahoma nursing and residential care facilities average annual employment for males by age group and Table 16e does the same for urban females. Both males and females had their highest 2017 employment in ages 25 to 34 and their second highest employment in ages 35 to 44.

Observing the amount of employment change over the 17 years, both males and females had their highest amount of change in ages 55 to 64, males had their second highest amount of change in ages 65 to 99, and females had their second largest amount change in ages 25 to 34. In ‘all ages’ (14 to 99) the ratio of female to male employment in this industry is over 3.7 to 1.

Not shown, but in our previous report of rural Oklahoma nursing and residential care facilities by gender, in [Table 15c³⁵](#) and [Table 16c³⁶](#), males show only a slight overall employment increase in ‘all ages’ (14 to 99), while females in ‘all ages’ displayed an overall employment decrease, over the 17 years. As shown in the two tables on the previous page, both male and female urban employment in this industry group increased in employment from year 2001 to 2017.

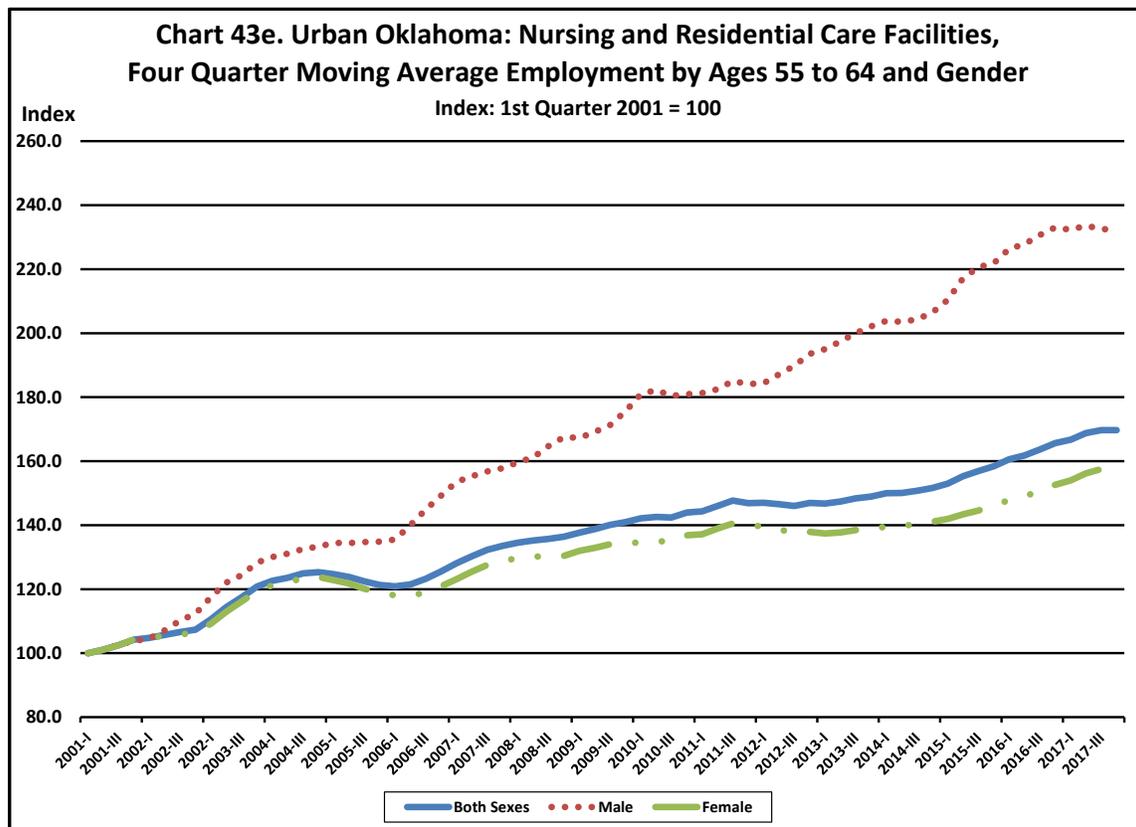
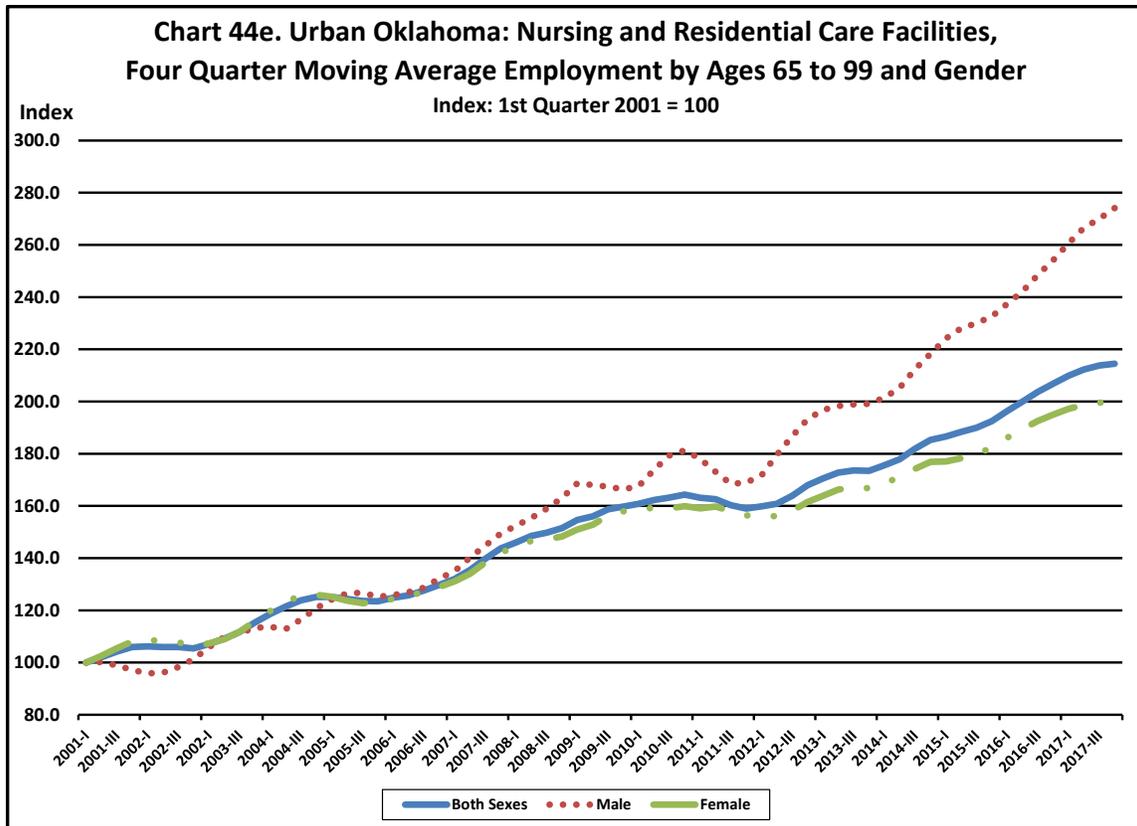


Chart 43e illustrates urban Oklahoma nursing and residential care facilities average employment change for ages 55 to 64, by gender group. On the next page, Chart 44e displays the same for ages 65 to 99. Of the eight age groups, Chart 44e shows the highest change for males at slightly over 174 percent, and the highest average employment rate of change for females at over 99 percent. Chart 43e displays the second highest rate of employment change for both males and females, of over 132 percent and over 57 percent, respectively. Not shown here, but shown in [Appendix G](#) at the end of this report are this same industry’s charts for the other six age groups, exhibiting that both males and females in ages 14 to 18 and ages 19 to 21 showed rates of employment decreases, over the 17 years of observation.

Not shown here, but as reported in our prior rural Oklahoma health report, [Chart 43c³⁷](#) and [Chart 44c³⁸](#) allow comparisons of nursing and residential care facilities rural employment change with the previous urban Oklahoma nursing and residential care facilities employment change charts. These charts show that urban employment changed at higher rates than their counterparts in rural Oklahoma, over the 17 years.



In summary of Section IV, in urban Oklahoma both males and females in all industries, hospitals and in nursing and residential care facilities had their highest 2017 annual average employment in ages 25 to 34, and the second highest male employment in ages 35 to 44. Females in ambulatory health care services had the same two age groups ranked highest and second highest in employment; however males in the industry had ages 35 to 44 ranked as highest in employment and ages 45 to 54 ranked second highest in 2017 employment.

While the amounts of female and male employment in ‘all ages’ (14 -99) in urban Oklahoma all industries are relatively little in difference, the ‘all ages’ ratio of females to males in ambulatory health care services is over 3.4 to 1, in hospitals the ratio is over 3.5 to 1 and the ratio of females to males in nursing and residential care facilities is over 3.7 to 1. Comparing the ratio female to male employment in these three health industry groups in urban to rural Oklahoma, the female to male ratio is over 5.5 to 1, 4.1 to 1 and 4.2 female to male 1, respectively; meaning a higher ratio of females per male employed.

Urban Oklahoma employment amount change was also examined for all four industry groups by eight age groups, an aggregate of all age groups and also by gender group, over the 17 years. In all industry and in nursing and residential care facilities the largest amount of employment change is in ages 55 to 64. In hospital male employment also had these same two age groups ranked first and second in employment change, but their first and second largest female employment change is in ages 25 to 34 and ages 55 to 65, respectively. In ambulatory health care services the largest male employment change is in ages 35 to 44 and in females the largest change is in ages 25 to 34; while the second largest male and female employment change is in ages 55 to 64, over the 17 years of observation.

Four quarter moving average employment was also indexed and charted for the four industry groups,

eight age groups and the aggregate of all ages by gender group. In urban Oklahoma in all industries, as well as the three health industries, and for both males and females, the largest employment rate of change is in ages 65 to 99 and the second highest rate of employment change in ages 55 to 64; the same is the case in our previous rural Oklahoma health industry group report. For ambulatory health care services in ages 14 to 18, employment in both males and female decreased and in ages 19 to 22 female employment decreased. In hospitals in ages 14 to 18 and 19 to 22, both female and male employment decreased. In nursing and residential care facilities in ages 14 to 18 and 19 to 22, both female and male employment also decreased. The other age groups in these three health industry groups female and male employment increased, but not nearly are the rate of increase as the two oldest age groups increased.

V. Earnings and Earnings Change by Age Group and Gender Group

A subject frequently mentioned in connection to employment is the lower earnings of women, as compared to their male counterparts. Since both traditionally and historically, the health industry employs more women, (or females), then men (or males), comparison of the earnings of each, in all industry and the health industry definitely has merit.

**Table 6f. Urban Oklahoma: All Industries
Annual Average Monthly Earnings for Males by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	\$2,969	\$503	\$967	\$1,482	\$2,454	\$3,458	\$4,064	\$3,940	\$2,433
2002	\$3,000	\$515	\$965	\$1,464	\$2,480	\$3,490	\$4,054	\$3,982	\$2,476
2003	\$3,089	\$536	\$973	\$1,459	\$2,492	\$3,557	\$4,160	\$4,135	\$2,662
2004	\$3,230	\$546	\$997	\$1,492	\$2,557	\$3,679	\$4,365	\$4,367	\$2,779
2005	\$3,308	\$553	\$1,015	\$1,538	\$2,608	\$3,740	\$4,486	\$4,495	\$2,886
2006	\$3,560	\$575	\$1,104	\$1,666	\$2,756	\$3,920	\$4,862	\$4,978	\$3,236
2007	\$3,718	\$574	\$1,165	\$1,776	\$2,913	\$4,111	\$5,007	\$5,139	\$3,425
2008	\$3,892	\$591	\$1,200	\$1,871	\$3,046	\$4,279	\$5,208	\$5,376	\$3,715
2009	\$3,835	\$584	\$1,132	\$1,802	\$2,996	\$4,243	\$5,026	\$5,215	\$3,652
2010	\$3,952	\$600	\$1,141	\$1,790	\$3,061	\$4,333	\$5,148	\$5,386	\$3,783
2011	\$4,169	\$595	\$1,186	\$1,848	\$3,198	\$4,547	\$5,426	\$5,786	\$4,037
2012	\$4,317	\$606	\$1,252	\$1,965	\$3,330	\$4,706	\$5,567	\$5,997	\$4,461
2013	\$4,355	\$598	\$1,291	\$1,999	\$3,409	\$4,805	\$5,577	\$6,011	\$4,446
2014	\$4,489	\$618	\$1,325	\$2,067	\$3,554	\$4,957	\$5,737	\$6,171	\$4,562
2015	\$4,525	\$614	\$1,315	\$2,090	\$3,590	\$5,020	\$5,739	\$6,224	\$4,697
2016	\$4,439	\$610	\$1,296	\$2,077	\$3,500	\$4,950	\$5,626	\$5,988	\$4,578
2017	\$4,579	\$628	\$1,334	\$2,155	\$3,619	\$5,111	\$5,783	\$6,113	\$4,747
2001 - 2017	\$1,610	\$125	\$367	\$673	\$1,165	\$1,653	\$1,719	\$2,173	\$2,314

Note: Using Beginning of Quarter Employment Counts.

Table 6f displays that in 2017, all industry males had the highest earnings in ages 55 to 64, with \$6,113 annual average monthly earnings; followed by the second-highest in ages 45 to 54 of \$5,783 annual average monthly earnings. The table shows that males ages 65 to 99 experienced the largest amount of earnings increase, and ages 55 to 64 showed the second-largest increase over the 17 years of observation. Not shown, but in our previous rural Oklahoma report, in [Table 6d³⁹](#), males in all industries had about \$900 less earnings in all ages (14 to 99 year) than their counterparts in urban Oklahoma, with their earnings amount change also slightly less than urban Oklahoma, over the 17 years of observation.

On the next page, Table 7f shows the all industry earnings for females by age group. The table confirms that in 2017, all industry females had the largest average annual monthly earnings in ages 55 to 64 with \$3,570 average monthly earnings; followed by the second-largest earnings in

ages 45 to 54, with \$3,563 average monthly earnings. However, their earnings in each of these age groups are over \$2,500 less than males in the former age group and over \$2,200 less than males in the latter age group. Moreover, the amount earnings increase for females in their largest and second largest amounts of earnings change, is also less than for their male counterparts, over the 17 years of the analysis.

Not shown, but described in our previous rural Oklahoma report, all industry females in [Table 7d⁴⁰](#) have significantly lower earnings in the two highest earnings age groups and also lower earnings amount increase in the two highest earnings increase age groups, than did their female counterparts in urban Oklahoma.

**Table 7f. Urban Oklahoma: All Industries
Annual Average Monthly Earnings for Females by Age Group**

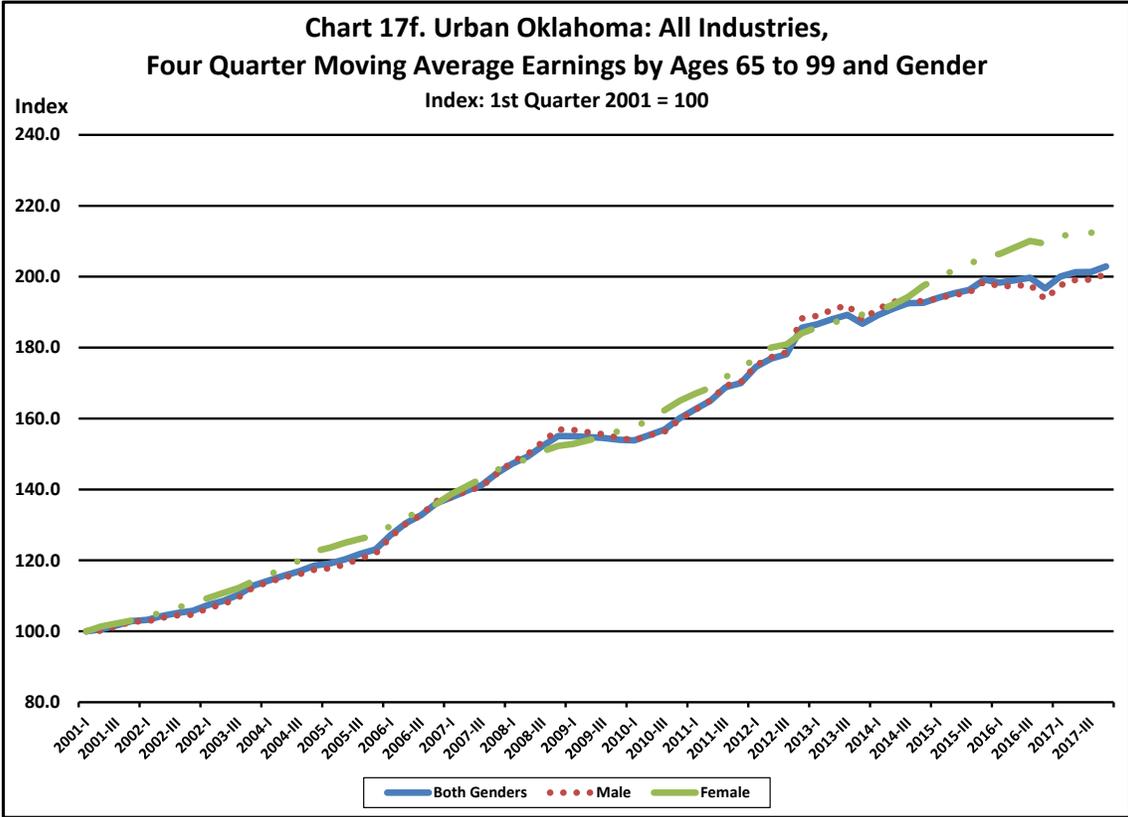
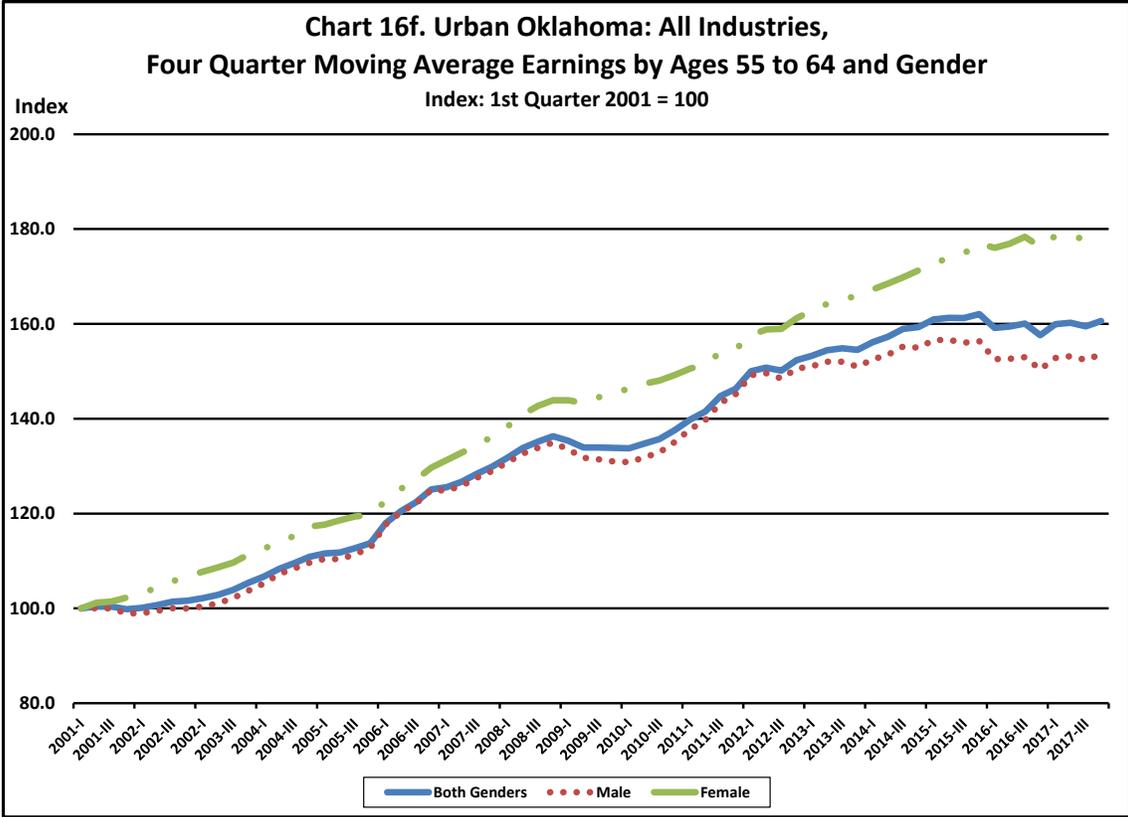
Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	\$1,829	\$442	\$773	\$1,203	\$1,788	\$2,115	\$2,306	\$2,046	\$1,248
2002	\$1,890	\$453	\$789	\$1,214	\$1,838	\$2,172	\$2,377	\$2,136	\$1,312
2003	\$1,952	\$462	\$788	\$1,217	\$1,881	\$2,239	\$2,458	\$2,229	\$1,384
2004	\$2,033	\$473	\$792	\$1,239	\$1,934	\$2,324	\$2,567	\$2,346	\$1,485
2005	\$2,057	\$481	\$800	\$1,256	\$1,942	\$2,349	\$2,593	\$2,395	\$1,540
2006	\$2,171	\$490	\$831	\$1,320	\$2,023	\$2,471	\$2,742	\$2,594	\$1,647
2007	\$2,280	\$497	\$869	\$1,380	\$2,126	\$2,595	\$2,871	\$2,725	\$1,764
2008	\$2,378	\$511	\$901	\$1,440	\$2,212	\$2,694	\$2,975	\$2,878	\$1,845
2009	\$2,426	\$522	\$917	\$1,455	\$2,250	\$2,750	\$2,989	\$2,915	\$1,896
2010	\$2,482	\$531	\$908	\$1,457	\$2,285	\$2,805	\$3,033	\$2,985	\$1,999
2011	\$2,560	\$521	\$897	\$1,477	\$2,351	\$2,913	\$3,123	\$3,093	\$2,101
2012	\$2,636	\$532	\$927	\$1,536	\$2,414	\$2,993	\$3,217	\$3,223	\$2,230
2013	\$2,689	\$530	\$941	\$1,566	\$2,468	\$3,064	\$3,272	\$3,317	\$2,294
2014	\$2,767	\$537	\$964	\$1,572	\$2,556	\$3,161	\$3,368	\$3,425	\$2,393
2015	\$2,856	\$550	\$997	\$1,637	\$2,639	\$3,263	\$3,476	\$3,539	\$2,496
2016	\$2,862	\$556	\$1,012	\$1,645	\$2,637	\$3,267	\$3,477	\$3,523	\$2,535
2017	\$2,920	\$562	\$1,024	\$1,682	\$2,668	\$3,349	\$3,563	\$3,570	\$2,588
2001 - 2017	\$1,091	\$120	\$251	\$479	\$880	\$1,234	\$1,257	\$1,524	\$1,340

Note: Using Beginning of Quarter Employment Counts.

At the top of the next page, Chart 16f illustrates all industry earnings change for ages 55 to 64 by gender group; while below Chart 17f does the same for age group 65 to 99, as indexed to 1st quarter 2001 as being equal to 100; with all ages (14 to 99) as a comparison.

In these two charts, both males and females show their highest rate of earnings change in ages 65 to 99 and both males and females show their second highest rate of earnings change in ages 55 to 64. The earnings rate of change for females is higher than males in both age groups. Shown in this link to [Appendix H](#), Chart 9f through Chart 15f provide all industry earnings change by gender group, for the other six age groups, which display similar but lower earnings change.

Not shown, but displayed in our previous report on rural Oklahoma, [Chart 16d⁴¹](#) and [Chart 17d⁴²](#) showed similar patterns for these same two age groups, but slightly larger amounts of earnings change rates for rural all industry males, and slightly lesser earnings change rate change for rural females, than their counterparts in urban Oklahoma.



**Table 9f. Urban Oklahoma: Ambulatory Health Care Services
Annual Average Monthly Earnings for Males by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	\$8,980	\$559	\$795	\$1,285	\$3,612	\$10,674	\$12,912	\$11,945	\$7,338
2002	\$8,913	\$613	\$862	\$1,328	\$3,768	\$10,421	\$12,690	\$11,700	\$7,678
2003	\$8,861	\$665	\$887	\$1,347	\$3,970	\$10,152	\$12,451	\$11,876	\$7,734
2004	\$9,206	\$837	\$984	\$1,336	\$3,989	\$10,330	\$12,778	\$12,577	\$8,402
2005	\$9,221	\$645	\$992	\$1,486	\$4,186	\$10,572	\$12,480	\$12,394	\$8,260
2006	\$9,290	\$813	\$1,044	\$1,523	\$4,364	\$10,367	\$12,825	\$12,392	\$8,355
2007	\$9,435	\$956	\$1,090	\$1,597	\$4,383	\$10,440	\$13,249	\$12,528	\$8,157
2008	\$9,612	\$891	\$1,151	\$1,660	\$4,545	\$10,553	\$13,606	\$12,632	\$8,381
2009	\$9,718	\$797	\$1,182	\$1,642	\$4,810	\$10,708	\$13,544	\$12,692	\$8,881
2010	\$9,450	\$753	\$1,108	\$1,687	\$4,610	\$10,630	\$12,913	\$12,484	\$8,885
2011	\$9,502	\$891	\$1,164	\$1,709	\$4,564	\$10,791	\$12,432	\$12,971	\$8,495
2012	\$9,650	\$792	\$1,281	\$1,710	\$4,656	\$10,878	\$12,560	\$13,304	\$8,623
2013	\$9,531	\$831	\$1,388	\$1,817	\$4,756	\$10,736	\$12,405	\$12,977	\$8,960
2014	\$9,834	\$945	\$1,183	\$1,791	\$5,105	\$10,994	\$12,621	\$13,087	\$9,409
2015	\$10,046	\$569	\$1,343	\$1,929	\$5,334	\$11,251	\$12,694	\$13,306	\$10,208
2016	\$10,341	\$590	\$1,361	\$1,923	\$5,456	\$11,679	\$12,826	\$13,731	\$10,705
2017	\$10,493	\$604	\$1,436	\$1,881	\$5,669	\$11,766	\$12,864	\$14,146	\$10,786
2001 - 2017	\$1,513	\$45	\$641	\$596	\$2,057	\$1,092	-\$48	\$2,201	\$3,448

Note: Using Beginning of Quarter Employment Counts.

**Table 10f. Urban Oklahoma: Ambulatory Health Care Services
Annual Average Monthly Earnings for Females by Age Group**

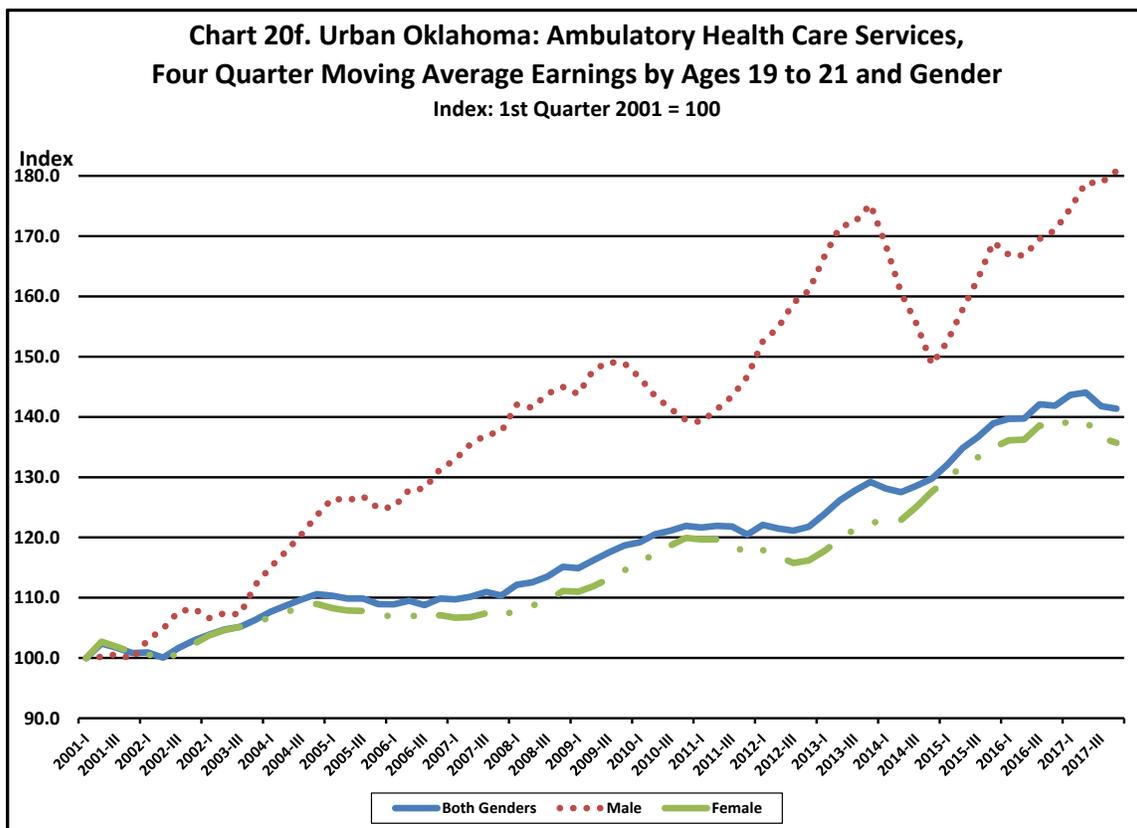
Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	\$2,002	\$504	\$994	\$1,341	\$1,856	\$2,319	\$2,360	\$1,930	\$1,065
2002	\$2,092	\$572	\$1,010	\$1,357	\$1,913	\$2,434	\$2,482	\$2,056	\$1,147
2003	\$2,158	\$664	\$1,042	\$1,410	\$1,992	\$2,450	\$2,585	\$2,092	\$1,268
2004	\$2,279	\$622	\$1,074	\$1,452	\$2,085	\$2,568	\$2,736	\$2,251	\$1,403
2005	\$2,368	\$629	\$1,056	\$1,475	\$2,109	\$2,686	\$2,850	\$2,390	\$1,520
2006	\$2,425	\$596	\$1,056	\$1,505	\$2,155	\$2,743	\$2,882	\$2,539	\$1,534
2007	\$2,532	\$584	\$1,053	\$1,525	\$2,253	\$2,890	\$2,994	\$2,701	\$1,601
2008	\$2,623	\$694	\$1,095	\$1,559	\$2,327	\$2,968	\$3,110	\$2,837	\$1,707
2009	\$2,728	\$672	\$1,129	\$1,575	\$2,401	\$3,070	\$3,204	\$3,068	\$1,781
2010	\$2,792	\$549	\$1,180	\$1,589	\$2,462	\$3,099	\$3,254	\$3,170	\$1,884
2011	\$2,856	\$577	\$1,153	\$1,588	\$2,513	\$3,187	\$3,309	\$3,215	\$1,996
2012	\$2,928	\$645	\$1,145	\$1,641	\$2,582	\$3,267	\$3,409	\$3,287	\$2,101
2013	\$3,073	\$651	\$1,208	\$1,728	\$2,732	\$3,432	\$3,552	\$3,458	\$2,307
2014	\$3,262	\$670	\$1,259	\$1,789	\$2,858	\$3,693	\$3,697	\$3,736	\$2,576
2015	\$3,409	\$755	\$1,330	\$1,884	\$2,978	\$3,895	\$3,882	\$3,869	\$2,761
2016	\$3,483	\$651	\$1,361	\$1,880	\$3,071	\$3,977	\$3,997	\$3,901	\$2,826
2017	\$3,587	\$739	\$1,337	\$1,881	\$3,150	\$4,124	\$4,155	\$3,935	\$2,958
2001 - 2017	\$1,585	\$235	\$343	\$540	\$1,294	\$1,805	\$1,795	\$2,005	\$1,893

Note: Using Beginning of Quarter Employment Counts.

Table 9f shows urban Oklahoma ambulatory health care services annual average monthly earnings for males by age group; while below it, Table 10f does the same for females. Note that the pink shaded cells in the former table indicate aggregated data, some of which are significantly distorted to protect employers' identities. In 2017, males had the largest earnings in ages 55 to 64, and second-largest earnings in ages 45 to 54. Females had the largest earnings in in ages 45 to 54, and second-largest in 35 to 44. The largest male earnings are over three and a third times larger than the largest female rank earnings and the second largest male earnings are over three times their female counterpart earnings.

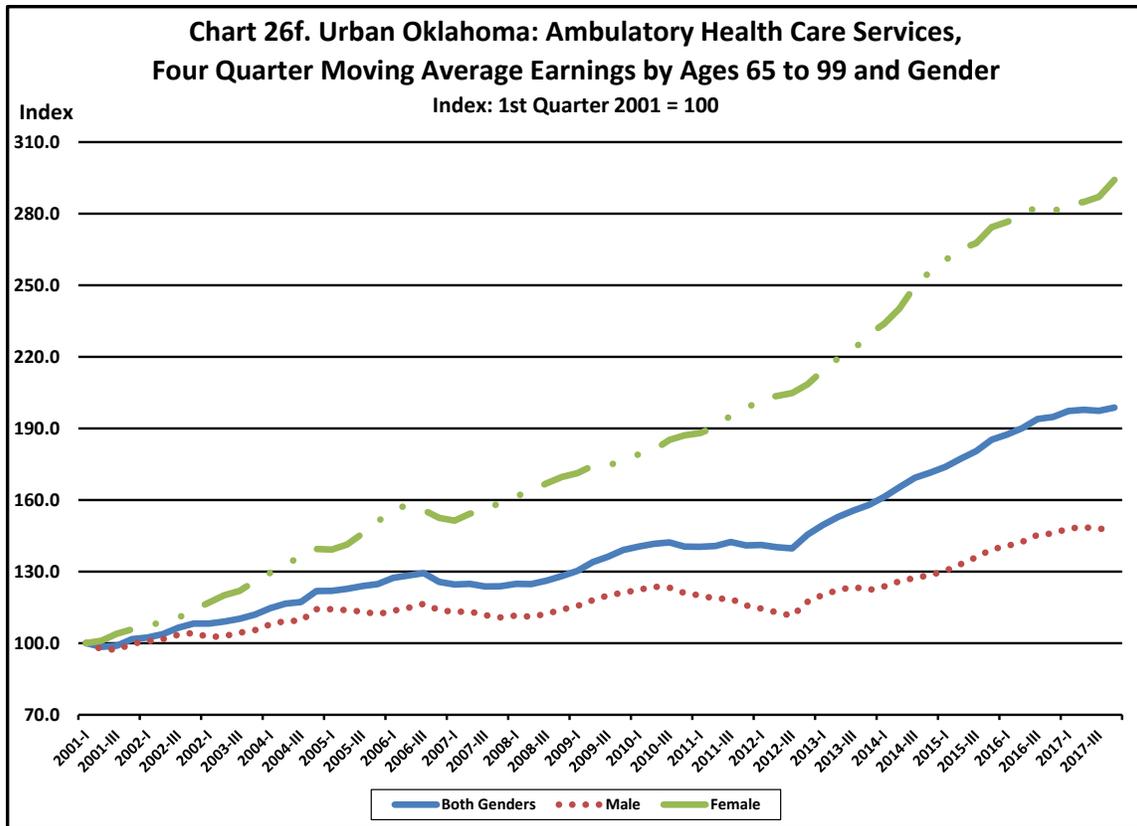
The two tables show that males had the largest amount of earnings change (\$3,448) from 2001 to 2017 in ages 65 to 99 and the second-largest change (\$2,201) in ages 55 to 64; while females had their largest earnings amount increase (\$2,005) in ages 55 to 64 and their second-largest change (\$1,893) in ages 65 to 99, a reverse ranking from that of males.

Not shown, but disclosed in [Table 9d⁴³](#) and [Table 10d⁴⁴](#) in our previous rural Oklahoma report on health industry groups, in the two largest earnings groups males in this same industry group had over two and a third times the earnings as females in their two largest earnings group counterparts. As stated previously, in urban Oklahoma males had over three and a third times that of females in the 2017 largest earnings age group and over three times that of females in the second largest earnings group, in that same year.



Above Chart 20f illustrates urban Oklahoma ambulatory health care services earnings change rates, for ages 19 to 21, while at the top of the next page Chart 26f does the same for the ages 65 to 99, by gender group, as indexed to 1st quarter 2001 as being equal to 100. The former chart shows the largest earnings change rate for males and the latter chart does the same for females, over the 17 years of observation. Males in ages 19 to 21 grew at nearly 81 percent; while females in ages 65 to 99 grew at over 194 percent, from 2001 to 2017.

Not shown is here but shown in [Chart 22f and Chart 25f, by scrolling down in Appendix H](#), the second largest earnings change rate for males in the former and the second largest change rate for females in the latter. Males in ages 25 to 34 earnings exceeded 60 percent in growth and females in ages 55 to 64 earnings grew at nearly 122 percent, over the 17 years of observation.



Also not shown but reported in our previous report for rural Oklahoma, are [Chart 26d⁴⁵](#) for ages 65 to 99 revealing the largest earnings change rates for both males and females, [Chart 23d⁴⁶](#) for ages 35 to 44 showing the second largest earnings change rate for females and [Chart 22d⁴⁷](#) for ages 25 to 34 displaying the second largest earnings change rate for males, from year 2001 to 2017. In every case the urban rank female earnings change rate is larger than rural female, while for rural ranked males the earnings change rate is also larger than their urban ranked male counterparts, over the 17 years of observation.

At the top of the next page, Table 12f displays urban Oklahoma hospitals annual average monthly earnings for males by age group. Beneath, Table 13f shows the same for females. Note that the pink cells in the two tables indicate aggregated data, some of which are significantly distorted to protect employers' identities. In 2017, males had the largest earnings amounts in ages 65 to 99 in the amount of \$8,097, and their second largest earnings is in ages 55 to 64 with \$7,266 annual average earnings. Females had the largest earnings in 2017 in ages 55 to 64 in the amount of \$4,821. Females had the second-largest earnings in ages 45 to 54, with annual average monthly earnings of \$4,696. Comparing the annual average monthly earnings of 'all ages' (14 to 99) of females to males in the two tables in year 2017 determines that female earnings is over \$1,700 less.

The amount of annual average monthly earnings amount change from 2001 to 2017 was also calculated for male and female hospital employees. Males had their largest earnings amount change in ages 65 to 99 and their second largest earnings amount change in ages 35 to 44, while females had their largest earnings amount change in ages 55 to 64 and their second largest annual average earnings amount change in ages 65 to 99.

**Table 12f. Urban Oklahoma: Hospitals
Annual Average Monthly Earnings for Males by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	\$3,526	\$697	\$1,043	\$1,561	\$2,598	\$3,639	\$4,611	\$5,349	\$4,111
2002	\$3,525	\$740	\$1,090	\$1,555	\$2,722	\$3,570	\$4,580	\$5,037	\$4,089
2003	\$3,670	\$712	\$1,121	\$1,559	\$2,772	\$3,667	\$4,702	\$5,426	\$4,344
2004	\$3,878	\$747	\$1,185	\$1,589	\$2,915	\$3,849	\$4,912	\$5,626	\$4,033
2005	\$3,720	\$874	\$1,230	\$1,530	\$2,821	\$3,861	\$4,510	\$5,308	\$3,925
2006	\$3,903	\$845	\$1,219	\$1,665	\$2,888	\$4,017	\$4,756	\$5,428	\$4,391
2007	\$4,372	\$790	\$1,262	\$1,733	\$3,163	\$4,743	\$5,138	\$6,013	\$4,610
2008	\$4,694	\$885	\$1,277	\$1,815	\$3,220	\$5,167	\$5,342	\$6,624	\$5,876
2009	\$4,900	\$752	\$1,291	\$1,853	\$3,415	\$5,265	\$5,591	\$6,698	\$6,569
2010	\$5,112	\$900	\$1,302	\$1,870	\$3,559	\$5,488	\$5,850	\$6,946	\$6,987
2011	\$5,289	\$982	\$1,334	\$1,876	\$3,564	\$5,698	\$6,023	\$7,250	\$7,316
2012	\$5,546	\$833	\$1,433	\$2,007	\$3,586	\$6,021	\$6,313	\$7,412	\$8,429
2013	\$5,763	\$945	\$1,438	\$1,997	\$3,833	\$6,346	\$6,577	\$7,378	\$8,468
2014	\$5,965	\$769	\$1,489	\$2,108	\$3,888	\$6,505	\$6,781	\$7,643	\$9,214
2015	\$6,234	\$964	\$1,539	\$2,409	\$4,145	\$6,752	\$7,137	\$8,142	\$8,617
2016	\$5,731	\$995	\$1,488	\$2,405	\$4,011	\$6,271	\$6,484	\$7,244	\$7,495
2017	\$5,847	\$910	\$1,548	\$2,304	\$4,087	\$6,374	\$6,538	\$7,266	\$8,097
2001 - 2017	\$2,321	\$213	\$505	\$743	\$1,489	\$2,735	\$1,927	\$1,917	\$3,986

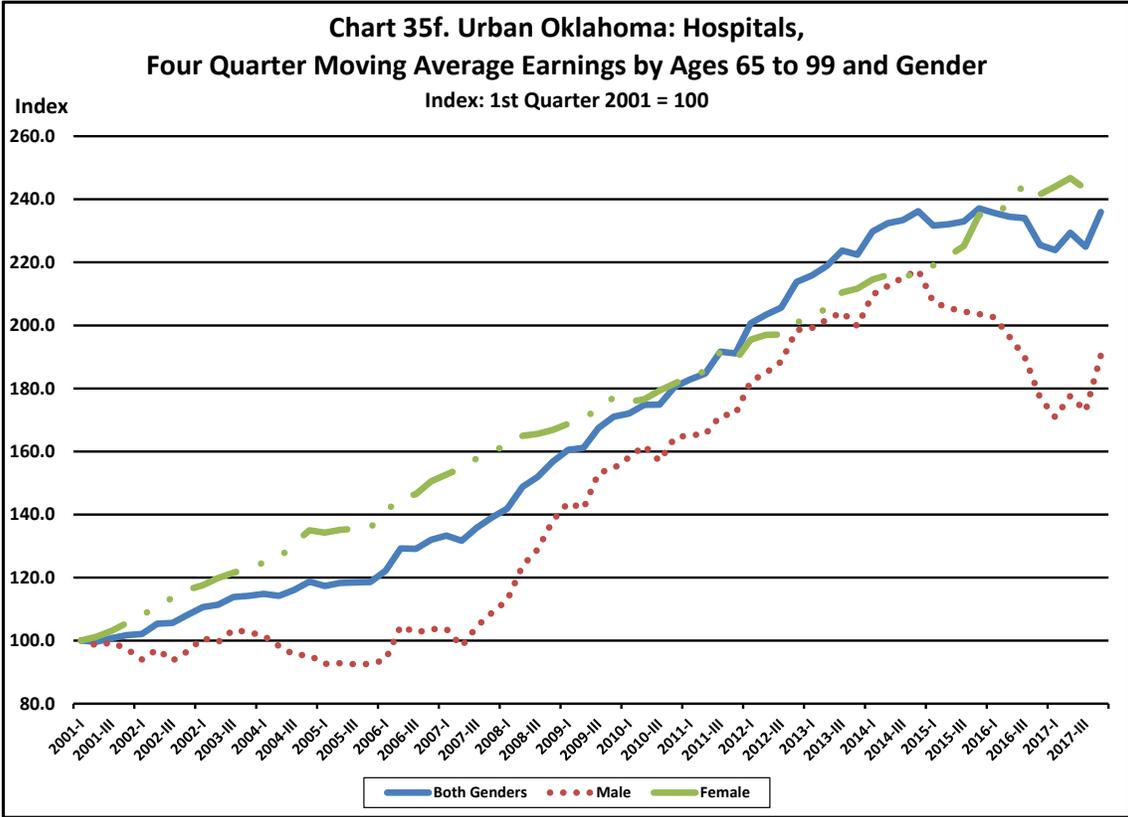
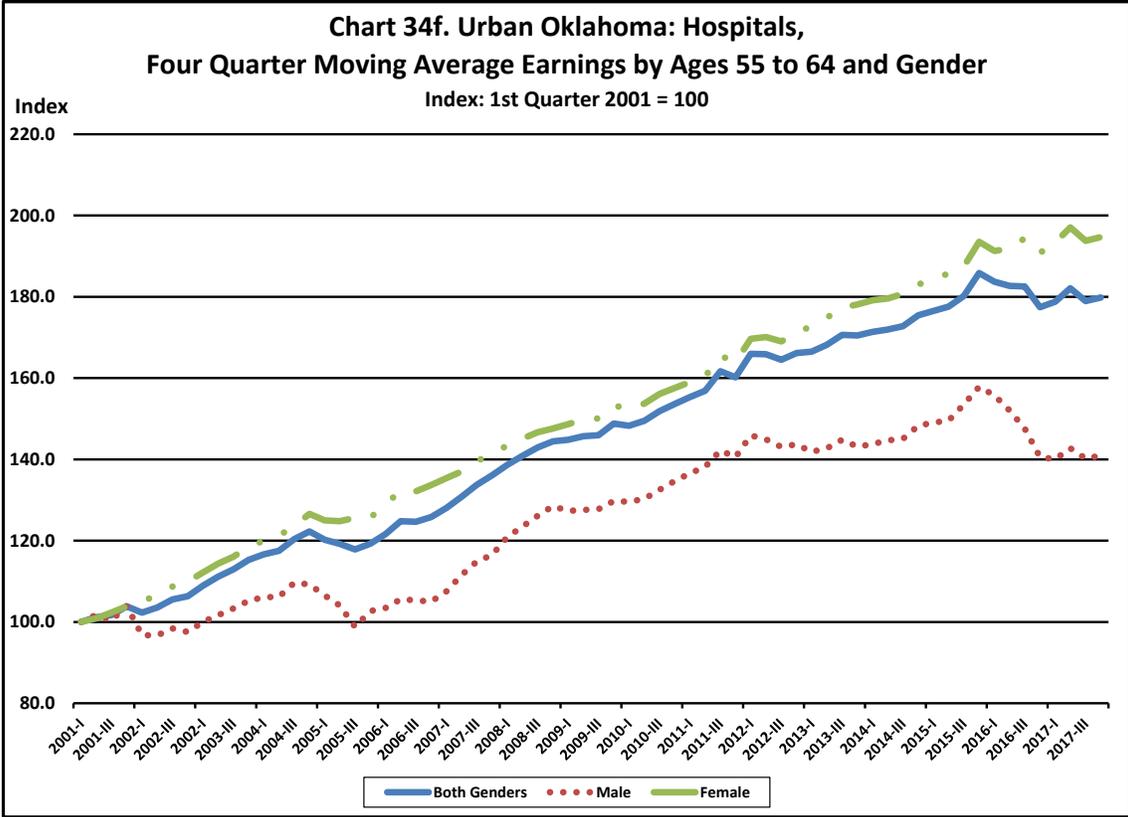
Note: Using Beginning of Quarter Employment Counts.

**Table 13f. Urban Oklahoma: Hospitals
Annual Average Monthly Earnings for Females by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	\$2,420	\$799	\$1,089	\$1,610	\$2,153	\$2,571	\$2,841	\$2,572	\$1,662
2002	\$2,529	\$873	\$1,127	\$1,653	\$2,246	\$2,671	\$2,998	\$2,723	\$1,829
2003	\$2,651	\$859	\$1,165	\$1,668	\$2,331	\$2,792	\$3,132	\$2,935	\$1,937
2004	\$2,827	\$866	\$1,209	\$1,831	\$2,455	\$2,952	\$3,315	\$3,133	\$2,123
2005	\$2,826	\$987	\$1,189	\$1,843	\$2,476	\$2,934	\$3,304	\$3,116	\$2,143
2006	\$2,955	\$961	\$1,203	\$1,888	\$2,571	\$3,089	\$3,451	\$3,310	\$2,371
2007	\$3,111	\$956	\$1,273	\$1,968	\$2,720	\$3,263	\$3,624	\$3,516	\$2,523
2008	\$3,210	\$963	\$1,324	\$2,016	\$2,839	\$3,348	\$3,730	\$3,655	\$2,628
2009	\$3,346	\$1,004	\$1,345	\$2,104	\$2,956	\$3,484	\$3,857	\$3,798	\$2,796
2010	\$3,420	\$989	\$1,360	\$2,187	\$3,009	\$3,592	\$3,880	\$3,904	\$2,861
2011	\$3,547	\$955	\$1,411	\$2,322	\$3,128	\$3,715	\$3,997	\$4,064	\$2,977
2012	\$3,641	\$1,093	\$1,411	\$2,355	\$3,180	\$3,847	\$4,083	\$4,238	\$3,162
2013	\$3,750	\$875	\$1,427	\$2,365	\$3,254	\$3,974	\$4,211	\$4,410	\$3,333
2014	\$3,868	\$1,037	\$1,455	\$2,465	\$3,372	\$4,089	\$4,350	\$4,532	\$3,420
2015	\$4,097	\$993	\$1,559	\$2,614	\$3,574	\$4,318	\$4,597	\$4,791	\$3,703
2016	\$4,060	\$1,055	\$1,579	\$2,586	\$3,578	\$4,239	\$4,572	\$4,726	\$3,805
2017	\$4,141	\$1,275	\$1,556	\$2,584	\$3,609	\$4,373	\$4,696	\$4,821	\$3,862
2001 - 2017	\$1,721	\$476	\$467	\$974	\$1,456	\$1,802	\$1,855	\$2,249	\$2,200

Note: Using Beginning of Quarter Employment Counts.

Not shown here, but as published in our previous report for rural Oklahoma, [Table 12d⁴⁸](#) for hospital males and [Table 13d⁴⁹](#) for hospital females, display that urban Oklahoma females earn more than their rural Oklahoma age group counterparts in all eight age groups; as much as a \$1,400 more in the oldest two age groups. Although the earnings of hospital males in the six of the seven age groups in urban and rural Oklahoma (that can be compared), are also larger than their rural Oklahoma counterparts, age group 65 to 99 hospital males in rural Oklahoma had the largest annual average monthly income of the two areas.



At the top of the previous page, Chart 34f illustrates urban Oklahoma hospital earnings change for ages 55 to 64 by gender group; while beneath it Chart 35f does the same for age group 65 to 99, as indexed to 1st quarter 2001 as being equal to 100; with ‘all ages’ 14 to 99, as a comparison.

Chart 35f reveals the highest rates of annual average monthly earnings change for both hospital males and females of ages 65 to 99 as over 90 percent and over 145 percent, respectively, while Chart 34f displays second highest rate of hospital females in ages 55 to 64 as over 94 percent, over the 17 years of analysis. Not shown here, but provided in [Chart 32f, by scrolling down in Appendix H](#), the second highest rate of hospital males earnings change rate of a fraction over 79 percent, in ages 35 to 44. The remaining charts for hospital annual averages monthly earnings change rates for the five other age groups by gender are also shown in the same appendix.

Also not shown, but as recounted in our previous report for rural Oklahoma, hospital male and female earnings changed the highest amount in ages 65 to 99, as illustrated in [Chart 35d⁵⁰](#). In this same report, [Chart 34d⁵¹](#) displays that females had their second highest earnings change in ages 55 to 64, and [Chart 28d⁵²](#) shows that hospital males had their second highest earnings change in ages 14 to 18. Note that in most age groups both hospital male and female earnings display a larger rate of earnings change in rural Oklahoma than their counterparts in urban Oklahoma, the exception was ages 65 to 99 for urban females where the reverse was the case, urban females earnings change rate is slightly larger than rural females.

**Table 15f. Urban Oklahoma: Nursing and Residential Care Facilities
Annual Average Monthly Earnings for Males by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	\$1,535	\$538	\$777	\$973	\$1,446	\$1,700	\$2,025	\$1,932	\$1,604
2002	\$1,596	\$634	\$896	\$1,027	\$1,499	\$1,814	\$2,056	\$2,065	\$1,607
2003	\$1,590	\$654	\$880	\$1,059	\$1,462	\$1,805	\$2,041	\$2,106	\$1,415
2004	\$1,696	\$670	\$905	\$1,106	\$1,543	\$1,872	\$2,213	\$2,243	\$1,452
2005	\$1,706	\$625	\$881	\$1,096	\$1,525	\$1,859	\$2,250	\$2,377	\$1,425
2006	\$1,801	\$635	\$972	\$1,197	\$1,559	\$1,968	\$2,289	\$2,546	\$1,565
2007	\$1,905	\$660	\$1,051	\$1,247	\$1,662	\$2,101	\$2,415	\$2,617	\$1,627
2008	\$1,999	\$638	\$1,051	\$1,323	\$1,774	\$2,199	\$2,453	\$2,730	\$1,645
2009	\$2,005	\$669	\$980	\$1,279	\$1,764	\$2,244	\$2,399	\$2,766	\$1,736
2010	\$2,038	\$635	\$1,054	\$1,285	\$1,777	\$2,317	\$2,413	\$2,746	\$1,760
2011	\$2,111	\$631	\$1,052	\$1,318	\$1,796	\$2,372	\$2,510	\$2,898	\$1,920
2012	\$2,117	\$627	\$1,001	\$1,353	\$1,801	\$2,340	\$2,525	\$2,836	\$2,123
2013	\$2,104	\$685	\$1,014	\$1,308	\$1,836	\$2,255	\$2,537	\$2,718	\$2,118
2014	\$2,180	\$683	\$1,075	\$1,363	\$1,892	\$2,315	\$2,629	\$2,806	\$2,208
2015	\$2,316	\$721	\$1,107	\$1,417	\$2,000	\$2,458	\$2,788	\$2,931	\$2,235
2016	\$2,315	\$711	\$1,105	\$1,385	\$2,001	\$2,429	\$2,806	\$2,825	\$2,261
2017	\$2,335	\$667	\$1,206	\$1,440	\$1,983	\$2,493	\$2,811	\$2,794	\$2,397
2001 - 2017	\$800	\$129	\$429	\$467	\$537	\$793	\$786	\$862	\$793

Note: Using Beginning of Quarter Employment Counts.

Table 15f exhibits urban Oklahoma nursing and residential care facilities annual average monthly earnings for males by age group. On the next page, Table 16f displays the same for females. In year 2017 males in ages 45 to 54 had the largest earnings, with ages 55 to 64 displaying the second largest earnings. Females had their first and second largest earnings amount change in the same two age groups, only with the ranking reversed. Males had their largest earnings amount change in 55 to 64 and their second largest earnings amount change in ages 65 to 99, over the 17 years of observation. Females had also had their largest two earnings amount change in the same two age groups, with the same ranking order.

**Table 16f. Urban Oklahoma: Nursing and Residential Care Facilities
Annual Average Monthly Earnings for Females by Age Group**

Year	Employee Age Group								
	All Ages (14 to 99)	Ages 14 to 18	Ages 19 to 21	Ages 22 to 24	Ages 25 to 34	Ages 35 to 44	Ages 45 to 54	Ages 55 to 64	Ages 65 to 99
2001	\$1,400	\$587	\$786	\$1,008	\$1,337	\$1,484	\$1,683	\$1,629	\$1,237
2002	\$1,486	\$612	\$878	\$1,065	\$1,418	\$1,600	\$1,783	\$1,728	\$1,297
2003	\$1,519	\$633	\$906	\$1,083	\$1,435	\$1,639	\$1,793	\$1,774	\$1,341
2004	\$1,584	\$673	\$948	\$1,135	\$1,482	\$1,699	\$1,868	\$1,856	\$1,415
2005	\$1,596	\$673	\$932	\$1,127	\$1,472	\$1,717	\$1,863	\$1,919	\$1,453
2006	\$1,698	\$673	\$968	\$1,206	\$1,535	\$1,866	\$1,999	\$2,033	\$1,534
2007	\$1,777	\$677	\$991	\$1,218	\$1,616	\$1,984	\$2,054	\$2,123	\$1,595
2008	\$1,852	\$727	\$1,026	\$1,294	\$1,694	\$2,047	\$2,147	\$2,211	\$1,635
2009	\$1,887	\$708	\$1,080	\$1,340	\$1,699	\$2,072	\$2,167	\$2,295	\$1,678
2010	\$1,907	\$763	\$1,061	\$1,337	\$1,739	\$2,085	\$2,160	\$2,310	\$1,780
2011	\$1,983	\$753	\$1,066	\$1,378	\$1,813	\$2,207	\$2,241	\$2,380	\$1,869
2012	\$2,021	\$777	\$1,086	\$1,400	\$1,817	\$2,269	\$2,309	\$2,437	\$1,959
2013	\$2,047	\$783	\$1,107	\$1,388	\$1,846	\$2,296	\$2,352	\$2,430	\$2,041
2014	\$2,105	\$768	\$1,125	\$1,388	\$1,889	\$2,348	\$2,444	\$2,476	\$2,109
2015	\$2,157	\$748	\$1,130	\$1,378	\$1,938	\$2,365	\$2,544	\$2,546	\$2,169
2016	\$2,173	\$831	\$1,204	\$1,381	\$1,913	\$2,371	\$2,547	\$2,593	\$2,209
2017	\$2,206	\$819	\$1,203	\$1,453	\$1,949	\$2,427	\$2,557	\$2,606	\$2,203
2001 - 2017	\$806	\$232	\$417	\$445	\$612	\$943	\$874	\$977	\$966

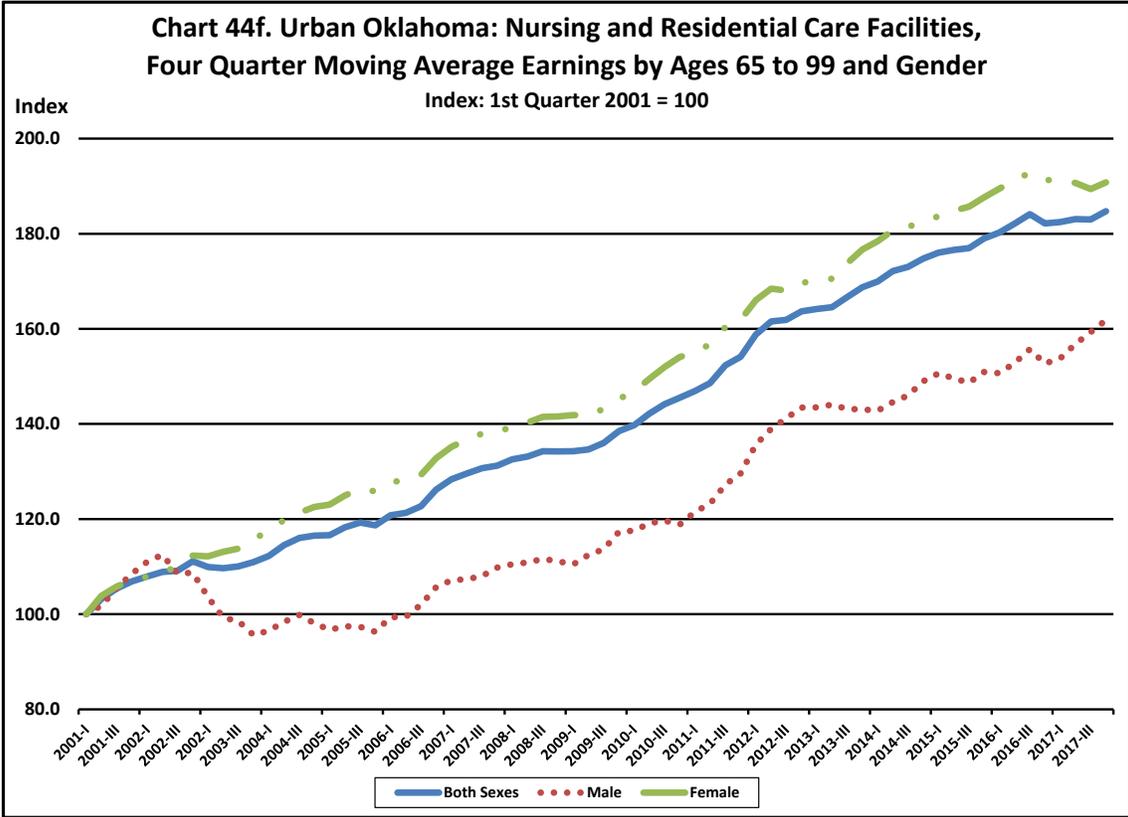
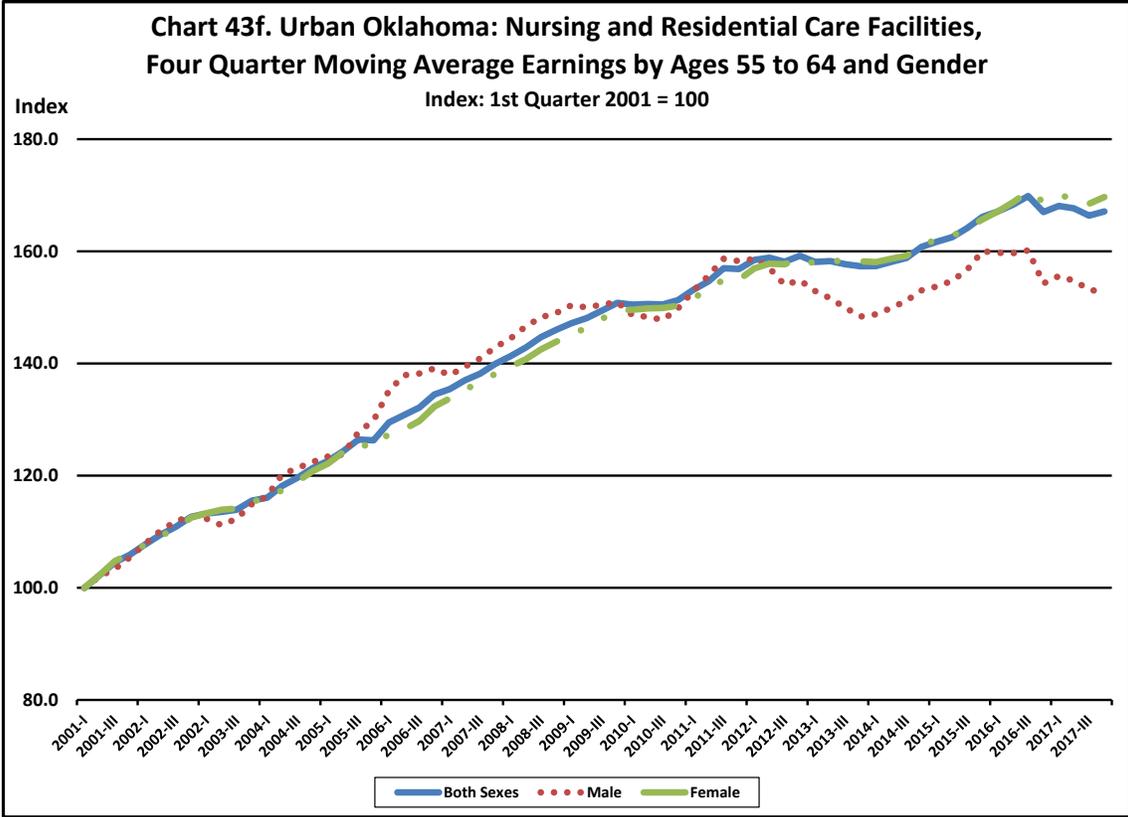
Note: Using Beginning of Quarter Employment Counts.

Not shown but revealed in our previous rural Oklahoma health group report, [Table 15d⁵³](#) and [Table 16d⁵⁴](#) demonstrates the male and female earnings and earnings amount change for rural Oklahoma nursing and residential care facilities, from 2001 to 2017. Year 2017 rural Oklahoma males had lower earnings in seven out of the eight age groups than their urban Oklahoma counterparts, and rural Oklahoma females had lower earnings six out of the eight age groups than did their urban Oklahoma counterparts in this health industry group. On the other hand, males in rural Oklahoma had lower earnings than their age group females, while the reverse was true in six of the eight age groups in urban Oklahoma.

At the top of the next page, Chart 43f illustrates urban Oklahoma nursing and residential care facilities earnings change for ages 55 to 64 by gender group; while beneath it Chart 44f does the same for age group 65 to 99, as indexed to 1st quarter 2001 as being equal to 100; with ‘all ages’ 14 to 99, as a comparison.

Chart 44f reveals the highest rates of annual average monthly earnings change for both nursing and residential care facilities males and females in ages 65 to 99 of nearly 62 percent and nearly 91 percent, respectively, while Chart 43f displays second highest rate of nursing and residential care facilities females in ages 55 to 64 as over 69 percent, over the 17 years of analysis. Not shown here, but provided in [Chart 38f, seen by scrolling down in Appendix H](#), the second highest rate of nursing and residential care facilities male earnings change rate of over 66 percent, in ages 19 to 21. The remaining charts for hospital annual averages monthly earnings change rates for the five other age groups by gender are also shown in this same appendix.

Also not shown, but as recounted in our previous report for rural Oklahoma, nursing and residential care facilities male earnings changed at the highest rates in ages 65 to 99; while females changed at their second highest rate in this same age group, as illustrated in [Chart 44d⁵⁵](#). In this same report, [Chart 38d⁵⁶](#) displays that females had their highest earnings change in ages 19 to 21, and [Chart 37d⁵⁷](#) shows that hospital males had their second highest earnings change in ages 14 to 18, over the 17 years of observation.



In summary of Section V, in 2017 males and females in all industry and nursing and residential care facilities had their two largest earnings in ages 45 to 54 and ages 55 to 64, with males in ambulatory health care services and females in hospitals also having their two largest annual average monthly earnings in these same two age groups. However in ambulatory health care services females had their two largest earnings in ages 35 to 44 and in ages 45 to 54; while hospital males had their two largest annual average monthly earnings in ages 55 to 64 and in ages 65 to 99.

When comparing these earnings findings in urban Oklahoma to those in our previous report on rural Oklahoma health, the four industry groups by gender group had an identical pattern in the two age groups with the largest annual average monthly earnings. However urban Oklahoma year 2017 annual average monthly earnings tend to be higher compared to their rural Oklahoma industry group and gender group counterparts.

In this section, the four industry groups in urban Oklahoma are also explored for earnings amount change over the 17-year interval from 2001 to 2017, by gender groups. Both males and females in the industry groups of all industries, ambulatory health care services and nursing and residential care facilities had the same two age groups experiencing their largest earnings change; these were the two oldest of the eight age groups, of ages 55 to 64 and ages 65 to 99. Females in hospitals also had these same two oldest age groups with the largest earnings amount change. However males in hospitals had their two largest earnings amount change in ages 35 to 44 and ages 65 to 99.

In our previous rural Oklahoma report, only all industry males and hospital males had their largest amount of earnings change as both occurring in the same two oldest age groups, as is most common in urban Oklahoma; however in the other industry groups, the only determinable pattern was that both genders tended to have their two highest earnings amount change age groups in two of the four older of the eight age groups. The one rural Oklahoma exception is ambulatory health care services males, that had their second largest earnings change amount in the younger ages 25 to 34 group. The size of the earnings amount change nearly always is smaller in rural Oklahoma than in their urban Oklahoma industry group and gender group counterparts; the one exception is rural Oklahoma hospital males, who had the larger amounts of earnings change in all ages (14 to 99), over the 17 years of observation.

Urban Oklahoma four-quarter moving average earnings change rates were also calculated and charted for the four industry groups for each of the eight age groups and for the aggregate of all ages by gender group, over the 17 years of analysis. In all four industry groups females had their two oldest of the eight age groups experiencing the largest two earnings rates of change. These same two oldest age groups in all industry males also have the highest two earnings change rates. Males in hospital and in nursing and residential care facilities had their highest of earnings change rate in the oldest age group of ages 65 to 99 and their highest earnings change rate in ambulatory health care services in ages 25 to 34. The second highest earnings change rates for males in the three health industry groups never fell in the oldest two of the eight age groups.

Comparing urban Oklahoma earnings change rates with those in our previous rural Oklahoma report, determined that in both areas the highest two earnings rate changes in both genders tended to fall more often in the two older age groups; with this occurrence more common for females than males and also more often occurring in urban Oklahoma than in rural Oklahoma, from 2001 to 2017.

VI. Summary of Major Findings and Conclusions

There were five major findings in this analysis of urban Oklahoma health industry and all industry employment and employment change.

First, regardless of gender group, in 2017 urban Oklahoma employment in all industry, ambulatory health care services, hospitals and nursing and residential care facilities had the largest two employment age groups in the two middle age groups of ages 25 to 34, and ages 35 to 44. The one exception being the employment of males in ambulatory health care services with the second largest employment group in ages 45 to 54. In this regard in our previous report of rural Oklahoma, the two largest employment groups in males and females nearly always fell in the three middle age groups of ages 25 to 34, 35 to 44 and 45 to 54. The one exception being the employment of males in hospitals with the largest employment group in ages 55 to 64, by one employee.

Second, while the amounts of female and male employment in 'all ages' (14 to 99) in urban Oklahoma all industries is relatively small in difference, the 'all ages' ratio of females to males in ambulatory health care services is 3.4 to 1, in hospitals the female to male ratio is over 3.5 to 1, and in nursing and residential care facilities females to male employment ratio is over 3.7 to 1. A comparison of this gender employment ratio to our previous rural Oklahoma report determined that in the three health industry groups the 'all ages' ratio of females to males employment in ambulatory health care services is a little less than 5.6 to 1, in hospitals is 4.1 to 1 and in nursing and residential care facilities the females to male employment ratio is 4.2 to 1.

Third in urban Oklahoma regardless of gender group, in the industry groups of all industries, and nursing and residential care facilities the two older age groups of 55 to 64 and 65 to 99 always have the two largest amounts of employment increases, over the 17 years of observation. The same is also true of hospital males. However males and females in ambulatory health care services and in nursing and residential care facilities and females in hospitals had their largest two age group amounts of employment change in any two of the three age groups of ages 25 to 34, ages 35 to 44, or ages 55 to 64. In our previous rural Oklahoma report, all industry, hospital and nursing residential care facilities had their largest two age groups amount of employment change of males and females in the oldest two of eight age groups. Rural Oklahoma male and female ambulatory health care services had their largest two employment amount change in ages 25 to 34 and 55 to 64. In both urban and rural Oklahoma the employment often decreases in some of the younger four age groups, over the 17 years of observation.

Fourth in urban Oklahoma when comparing 'all ages' (14 to 99) and males and females, the employment change rate is higher for males than females in ambulatory health care services and in nursing and residential care facilities. Only in hospitals is the employment change rate of the genders relatively equal over the 17 years of observation. In comparison of these urban employment change rate findings to our previous rural Oklahoma report findings, rural male employment decreased at a lower change rate than females in hospitals (12.7 versus 18.7 percent) and increased at a higher change rate in nursing and residential care facilities, with females having much higher employment change rate than males in ambulatory health care services, from 2001 to 2017.

Fifth, and likely the most important employment finding in this analysis in urban Oklahoma, both male and female employment in all four industry groups increased at the highest change rate in the ages 65 to 99 and the second highest change rate in ages 55 to 64. In these same two oldest age groups, female employment increased at the higher change rate than males in all industry; while in the three health industry groups, male employment increased at the higher change rate, over the 17 years of observation. In comparison with employment change rate in our previous report of rural Oklahoma, the same two oldest of the eight age groups increased at the higher change rate than younger six age groups; however female employment in these two older age groups had the higher change rate than their male counterparts, only in ambulatory health care services.

There are seven major earnings and earnings change findings in this analysis of urban Oklahoma health industries and all industries.

First, in urban Oklahoma the most common two largest year 2017 age group earnings in the four industry groups is in the age groups of ages 45 to 54 and 55 to 64. This finding is true for both males and females in all industry and in nursing and residential care facilities, true for males in ambulatory health care services and also true for females in hospitals. Our previous rural Oklahoma report for these four industry groups by gender revealed a similar pattern; these same two age groups of ages 45 to 54 and 55 to 64 most commonly have the year 2017 largest earnings.

Second, comparing the urban Oklahoma male to female 'all ages' (14 to 99) 2017 annual average monthly earnings for the four industry groups, males had significantly higher earnings than did their female counterparts, with the exception of nursing and residential care facilities. This latter exception exhibits much more male to female equalitarian earnings than in the other three industry groups. This finding is also revealed to be true in our previous report for rural Oklahoma, only with the nursing and residential care facilities exception displaying females having higher 2017 earnings than males. It must be noted that in both areas, much of the male to female earnings difference might be explained by higher paid male occupations, an avenue which was not explored in this analysis.

Third, comparing the urban Oklahoma 'all ages' (14 to 99) in all four industry groups and in both genders 2017 annual average monthly earnings to their rural Oklahoma revealed that urban earnings are typically higher than their rural Oklahoma counterparts; with the largest difference occurring in urban ambulatory health care services male earnings, which are more than twice the earnings of rural males in this industry.

Fourth, observing the urban Oklahoma 17 year interval earnings amount change in males and females in the four industry groups determined that the two age groups with the largest earnings amount change were the oldest two of the eight age groups, ages 55 to 64 and ages 65 to 99. The one exception is hospital males with the second largest earnings amount change in ages 35 to 44. In our prior rural Oklahoma analysis it was determined that the two age groups with the largest amount of 17 year earnings change most commonly fell in two of the three oldest of eight age groups. However, in some industry groups, one of the two largest earnings amount change age groups fell in a younger age group.

Fifth, observing urban Oklahoma earnings change rates for females determined that the two oldest of the eight age groups in all four industry groups always had the two highest earnings change rates, over the 17 years of observation. In our prior report of rural Oklahoma this was only true for females in all industry and in nursing and residential care facilities.

Sixth, observing urban Oklahoma earnings change rates for males in the three health industry groups over the 17 year interval determined that although males in hospitals and nursing and residential care facilities experienced their highest male earnings rate change in the oldest of the eight age groups, males in none of the three health industry groups had their second-highest earnings rate change in the three older of the eight age groups. Additionally, males in ambulatory health care services displayed both first- and second-largest age group earnings change rates in the four youngest of the eight age groups. In our prior rural Oklahoma analysis, the single male age group pattern in the three health industry groups that could be determined for highest earnings rate change, is that one of the two largest earnings amount change always fell in the oldest age group of ages 65 to 99.

Seventh, females in urban Oklahoma in all four industry groups, almost always had higher age group earnings change rates than their male counterparts, over the 17 years of observation. In our prior rural Oklahoma analysis, this same finding of female earnings rate of change higher than males only occurred in the two industry groups of ambulatory health care services and in nursing and residential care facilities.

This analysis and the findings allow three conclusions. First, urban Oklahoma female health industry employment outnumbering male employment will likely continue for some time into the future, as

indicated by their current larger than male ratio in all three health industry groups, and male employment change rate higher than female in two health industry group, and only slightly less than females in the third health industry group. Second, females' traditionally lower than males' earnings have the probability of reaching earnings parity at varying rates in each of the three health industry groups; as indicated by the huge and lower difference in earnings, but rapid earnings changing rate for females in ambulatory health care services, the relative moderate difference in earnings but relative low earnings change rates for females in hospitals and the relative little difference in earnings and relative moderate earnings change rates for females in nursing and residential care facilities. Third, urban Oklahoma health industry staffing, which has historically been problematic and presently still is the case, likely will increasingly be so in the future, as indicated by both gender's employment more rapid increase in the older two age groups and 17-year decrease in some of the four younger age groups. Although the two older age groups' employment is growing more rapidly in the urban than in the rural area, the latter is also more often plagued with decreasing employment in the younger four of the eight age groups.

Endnotes: Full name of report tables and charts, with identifying reference numbers.

- ¹ Jesse Fuchs, "Oklahoma Health Industry and All Industry Employment and Earnings: A Trend Analysis Comparison of Change by Age and Gender, 2001 to 2017." January 2019, Oklahoma Employment Commission. https://www.ok.gov/oesc/Labor_Market/Labor_Market_Publications/
- ² Jesse Fuchs, "Rural Oklahoma Health Industry and All Industry Employment and Earnings: A Trend Analysis Comparison of Change by Age and Gender, 2001 to 2017." April 2019, Oklahoma Employment Commission. https://www.ok.gov/oesc/Labor_Market/Labor_Market_Publications/
- ³ Table 1c, Rural Oklahoma: All Industries Annual Average Employment by Age Group
- ⁴ Chart 1c, Urban Oklahoma: All Industries, Four Quarter Moving Average Employment by All Ages (14 to 99 Years) and Age Groups 14 to 34 Years Old Index: 1st Quarter 2001 = 100
- ⁵ Table 2c. Rural Oklahoma: Ambulatory Health Care Services Annual Average Employment by Age Group
- ⁶ Chart 4c, Rural Oklahoma: Ambulatory Health Care Services, Four Quarter Moving Average Employment by All Ages (14 to 99 Years) and Age Groups 35 to 99 Years Old Index: 1st Quarter 2001 = 100
- ⁷ Chart 3c. Rural Oklahoma: Ambulatory Health Care Services, Four Quarter Moving Average Employment by All Ages (14 to 99 Years) and Age Groups 14 to 34 Years Old Index: 1st Quarter 2001 = 100
- ⁸ Table 3c. Rural Oklahoma: Hospitals Annual Average Employment by Age Group
- ⁹ Chart 6c. Rural Oklahoma: Hospitals, Four Quarter Moving Average Employment by All Ages (14 to 99 Years) and Age Groups 35 to 99 Years Old Index: 1st Quarter 2001 = 100
- ¹⁰ Table 4c. Rural Oklahoma: Nursing and Residential Care Facilities Annual Average Employment by Age Group
- ¹¹ Chart 7c. Rural Oklahoma: Nursing and Residential Care Facilities, Four Quarter Moving Average Employment by All Ages (14 to 99 Years) and Age Groups 14 to 34 Years Old Index: 1st Quarter 2001 = 100
- ¹² Chart 8c. Rural Oklahoma: Nursing and Residential Care Facilities, Four Quarter Moving Average Employment by All Ages (14 to 99 Years) and Age Groups 35 to 99 Years Old Index: 1st Quarter

2001 = 100

- ¹³ Table 1d. Rural Oklahoma: All Industries Average Monthly Earnings by Age Group
- ¹⁴ Chart 1d. Rural Oklahoma: All Industries, Four Quarter Moving Average Earnings by All Ages (14 to 99 Years) and Age Groups 14 to 34 Years Old Index: 1st Quarter 2001 = 100
- ¹⁵ Table 2d. Urban Oklahoma: Ambulatory Health Care Services Average Monthly Earnings by Age Group
- ¹⁶ Chart 4d. Rural Oklahoma: Ambulatory Health Care Services, Four Quarter Moving Average Earnings by All Ages (14 to 99 Years) and Age Groups 35 to 99 Years Old Index: 1st Quarter 2001 = 100
- ¹⁷ Chart 3d. Urban Oklahoma: Ambulatory Health Care Services, Four Quarter Moving Average Earnings by All Ages (14 to 99 Years) and Age Groups 14 to 34 Years Old Index: 1st Quarter 2001 = 100
- ¹⁸ Table 3d. Rural Oklahoma: Hospitals Average Monthly Earnings by Age Group
- ¹⁹ Chart 5d. Rural Oklahoma: Hospitals, Four Quarter Moving Average Earnings by All Ages (14 to 99 Years) and Age Groups 14 to 34 Years Old Index: 1st Quarter 2001 = 100
- ²⁰ Chart 6d. Rural Oklahoma: Hospitals, Four Quarter Moving Average Earnings by All Ages (14 to 99 Years) and Age Groups 35 to 99 Years Old Index: 1st Quarter 2001 = 100
- ²¹ Table 4d. Rural Oklahoma: Nursing and Residential Care Facilities Average Monthly Earnings by Age Group
- ²² Chart 7d. Rural Oklahoma: Nursing and Residential Care Facilities, Four Quarter Moving Average Earnings by All Ages (14 to 99 Years) and Age Groups 14 to 34 Years Old Index: 1st Quarter 2001 = 100
- ²³ Chart 8d. Rural Oklahoma: Nursing and Residential Care Facilities, Four Quarter Moving Average Earnings by All Ages (14 to 99 Years) and Age Groups 35 to 99 Years Old Index: 1st Quarter 2001 = 100
- ²⁴ Table 6c. Rural Oklahoma: All Industries Annual Average Employment for Males by Age Group
- ²⁵ Table 7c. Rural Oklahoma: All Industries Annual Average Employment for Females by Age Group
- ²⁶ Chart 16c. Rural Oklahoma: All Industries, Four Quarter Moving Average Employment by Age Group 55 to 64 Years and Gender Index: 1st Quarter 2001 = 100
- ²⁷ Chart 17c. Rural Oklahoma: All Industries, Four Quarter Moving Average Employment by Age Group 65 to 99 Years and Gender Index: 1st Quarter 2001 = 100
- ²⁸ Table 10c. Rural Oklahoma: Ambulatory Health Care Services Annual Average Employment for Females
Age Group
- ²⁹ Chart 25c. Rural Oklahoma: Ambulatory Health Care Services, Four Quarter Moving Average
Employment by Ages 55 to 64 and Gender Index: 1st Quarter 2001 = 100
- ³⁰ Chart 26c. Rural Oklahoma: Ambulatory Health Care Services, Four Quarter Moving Average
Employment by Ages 65 to 99 and Gender Index: 1st Quarter 2001 = 100
- ³¹ Table 12c. Rural Oklahoma: Hospitals Annual Average Employment for Males by Age Group
- ³² Table 13c. Rural Oklahoma: Hospitals Annual Average Employment for Females by Age Group

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- ³³ Chart 34c. Rural Oklahoma: Hospitals, Four Quarter Moving Average Employment by Ages 55 to 64 and Gender Index: 1st Quarter 2001 = 100
- ³⁴ Chart 35c. Rural Oklahoma: Hospitals, Four Quarter Moving Average Employment by Ages 65 to 99 and Gender Index: 1st Quarter 2001 = 100
- ³⁵ Table 15c. Rural Oklahoma: Nursing and Residential Care Facilities Annual Average Employment for Males by Age Group
- ³⁶ Table 16c. Rural Oklahoma: Nursing and Residential Care Facilities Annual Average Employment for Females by Age Group
- ³⁷ Chart 43c. Rural Oklahoma: Nursing and Residential Care Facilities, Four Quarter Moving Average Employment by Ages 55 to 64 and Gender Index: 1st Quarter 2001 = 100
- ³⁸ Chart 44c. Rural Oklahoma: Nursing and Residential Care Facilities, Four Quarter Moving Average Employment by Ages 65 to 99 and Gender Index: 1st Quarter 2001 = 100
- ³⁹ Table 6d. Rural Oklahoma: All Industries Annual Average Monthly Earnings for Males by Age Group
- ⁴⁰ Table 7d. Rural Oklahoma: All Industries Annual Average Monthly Earnings for Females by Age Group
- ⁴¹ Chart 16d. Rural Oklahoma: All Industries, Four Quarter Moving Average Earnings by Ages 55 to 64 and Gender Index: 1st Quarter 2001 = 100
- ⁴² Chart 17d. Rural Oklahoma: All Industries, Four Quarter Moving Average Earnings by Ages 65 to 99 and Gender Index: 1st Quarter 2001 = 100
- ⁴³ Table 9d. Rural Oklahoma: Ambulatory Health Care Services Annual Average Monthly Earnings for Males by Age Group
- ⁴⁴ Table 10d. Rural Oklahoma: Ambulatory Health Care Services Annual Average Monthly Earnings for Females by Age Group
- ⁴⁵ Chart 26d. Rural Oklahoma: Ambulatory Health Care Services, Four Quarter Moving Average Earnings by Ages 65 to 99 and Gender Index: 1st Quarter 2001 = 100
- ⁴⁶ Chart 23d. Rural Oklahoma: Ambulatory Health Care Services, Four Quarter Moving Average Earnings by Ages 35 to 44 and Gender Index: 1st Quarter 2001 = 100
- ⁴⁷ Chart 22d. Rural Oklahoma: Ambulatory Health Care Services, Four Quarter Moving Average Earnings by Ages 25 to 34 and Gender Index: 1st Quarter 2001 = 100
- ⁴⁸ Table 12d. Rural Oklahoma: Hospitals, Annual Average Monthly Earnings for Males by Age Group
- ⁴⁹ Table 13d. Rural Oklahoma: Hospitals Annual Average Monthly Earnings for Females by Age Group
- ⁵⁰ Chart 35d. Rural Oklahoma: Hospitals, Four Quarter Moving Average Earnings by Ages 65 to 99 and Gender Index: 1st Quarter 2001 = 100
- ⁵¹ Chart 34d. Rural Oklahoma: Hospitals, Four Quarter Moving Average Earnings by Ages 55 to 64 and Gender Index: 1st Quarter 2001 = 100
- ⁵² Chart 28d. Rural Oklahoma: Hospitals, Four Quarter Moving Average Earnings by Ages 14 to 18 and Gender Index: 1st Quarter 2001 = 100

⁵³ Table 15d. Rural Oklahoma: Nursing and Residential Care Facilities Annual Average Monthly Earnings for Males by Age Group

⁵⁴ Table 16d. Rural Oklahoma: Nursing and Residential Care Facilities Annual Average Monthly Earnings for Females by Age Group

⁵⁵ Chart 44d. Rural Oklahoma: Nursing and Residential Care Facilities, Four Quarter Moving Average Earnings by Ages 65 to 99 and Gender Index: 1st Quarter 2001 = 100

⁵⁶ Chart 38d. Rural Oklahoma: Nursing and Residential Care Facilities, Four Quarter Moving Average Earnings by Ages 19 to 21 and Gender Index: 1st Quarter 2001 = 100

⁵⁷ Chart 37d. Rural Oklahoma: Nursing and Residential Care Facilities, Four Quarter Moving Average Earnings by Ages 14 to 18 and Gender Index: 1st Quarter 2001 = 100

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