

APENDICES-1 thru 8

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APPENDIX 1

PARTICIPANTS IN THE DEVELOPMENT OF THIS REPORT

Appreciation is extended to the many individuals and associations who have participated in the development of this report. The list below identifies the primary organizations who have contributed to this process.

Industry representation

- Oklahoma Association for Home Health Care
- Oklahoma Association of Health Care Providers
- Oklahoma Association of Homes and Services for the Aging
- Oklahoma Healthcare Human Resources Association
- Oklahoma Hospital Association
- Oklahoma Nurses Association
- Oklahoma Occupational Therapy Association
- Oklahoma Organization of Nurse Executives
- Oklahoma Physical Therapy Association
- Oklahoma Primary Care Association
- Oklahoma Society for Respiratory Care
- Oklahoma Speech-Language-Hearing Association

Government representation

- Oklahoma Board of Nursing
- Oklahoma Department of Career and Technology Education
- Oklahoma Department of Commerce
- Oklahoma State Department of Health
- Oklahoma Employment Security Commission
- Oklahoma Office of Rural Health
- Oklahoma State Regents for Higher Education
- University of Oklahoma College of Allied Health

APPENDIX 2

AVERAGE AGE OF OKLAHOMA'S NURSING POPULATION

Classification/Degree	Average Age
All Nurses	45
Licensed Practical Nurses	35
Registered Nurses	46
Associate Degree in Nursing	42
Bachelor Degree in Nursing	51
Bachelor Degree Other	50
Masters Degree in Nursing	52
Masters Degree Other; PhD in Nursing; or PhD Other	55

Table 19 - Source: Oklahoma Board of Nursing FY 2004 Annual Report



SURVEY RESULTS

Some surveys respondents included write in occupations which have been excluded from the results provided below.

Oklahoma hospitals

Survey was conducted Fall 2005 by the Oklahoma Hospital Association. Response rates were as follows:

Region	Total Statewide Hospitals Beds	Total Participating Hospitals Beds	% of Participating Hospitals Beds
NE	2,469	2,178	88.2
NW	932	751	80.2
OKC	5,628	4,970	88.3
SE	1,853	1,399	75.5
SW	1,579	1,375	87.1
TUL	3,279	2,602	79.4
TOTAL	15,740	13,275	84.3

Table 20

Nursing					
Registered Nurses	11,193	1,129	10.1	1,717	15.3
Licensed Practical Nurses	2,624	221	8.4	601	22.9
Allied Health					
Cardiovascular Technologists and Technicians	234	13	5.6	27	11.4
Medical Lab Technologist (MLT)	319	17	5.2	56	17.5
Medical Technologists	1,444	48	3.3	73	5.0
MR Technologists	100	13	13.0	15	14.5
Nuclear Medical Technologists	118	4	3.4	11	9.3
Occupational Therapists	201	38	18.9	31	15.4
Pharmacists	606	39	6.4	54	8.9
Physical Therapists	498	83	16.7	80	16.1
Radiation Therapists	112	3	3.0	8	7.4
Radiographers	709	35	4.9	82	11.5
Respiratory Therapists	850	57	6.7	109	12.8
Surgical Technicians	676	44	6.6	117	17.2
Ultrasound Technologists and Technicians	223	15	6.5	25	11.1
Vascular/Interventional Technologists	111	7	6.3	24	21.8

Table 21

APPENDIX 3

SURVEY RESULTS

Oklahoma nursing homes

Survey was conducted Fall 2005 by joint efforts of the Oklahoma Department of Commerce, Oklahoma Association of Health Care Providers (industry association) and the Oklahoma Association of Homes and Services for the Aging (industry association). Response rates were as follows:

Region	Total Statewide Nursing Home Beds	Total Participating Nursing Home Beds	% of Participating Nursing Home Beds
NE	7,195	683	9.5
NW	2,378	332	14.0
OKC	6,041	1,136	18.8
SE	5,377	605	11.3
SW	4,738	239	5.0
TUL	4,519	343	7.6
TOTAL	30,248	3,338	11.0

Table 22

Nursing					
Registered Nurses	84	20	23.8	55	65.5
Licensed Practical Nurses	225	21	9.3	188	83.6
Allied Health					
Occupational Therapists	8	4	50.0	3	37.5
Physical Therapists	9	4	44.4	7	77.8
Health Care Support - Aides and Assistants					
	201	24	11.9	148	73.6
Certified Nurses Aides	707	130	18.4	816	115.4
	10	4	40.0	8	80.0
Physical Therapy Aides and Assistants	17	2	11.8	9	52.9

Table 23



Oklahoma ambulatory care and outpatient service clinics

Survey was conducted Fall 2005 by the Oklahoma Department of Commerce.
Response rates were as follows:

NE	10	4	40.0
NW	6	1	16.7
OKC	40	14	35.0
SE	13	6	46.2
SW	8	4	50.0
TUL	22	4	18.9
TOTAL	99	33	33.3

Table 24

Nursing					
Registered Nurses	230	8	3.5	19	8.3
Licensed Practical Nurses	32	1	3.1	7	20.2
Allied Health					
Occupational Therapists	20	6	31.1	5	23.5
Physical Therapists	64	11	17.6	13	20.3
Radiographers	2	0	0.0	0	0.0
Speech Language Pathologists	11	5	49.5	1	6.7
Surgical Technicians	38	1	2.6	2	5.3
Health Care Support - Aides and Assistants					
	3	0	0.0	1	33.3
Home Health Aides	3	0	0.0	0	0.0
	6	3	51.6	3	48.4
Physical Therapy Aides and Assistants	24	4	17.2	5	18.9

Table 25

APPENDIX 3

SURVEY RESULTS

Oklahoma home health care providers

Survey was conducted Fall 2005 by joint efforts of the Oklahoma Department of Commerce and the Oklahoma Association for Home Care (industry association). Response rates were as follows:

	Total Statewide Home Health Businesses	Total Participating Home Health Businesses	% of Participating Home Health Businesses
NE	31	3	9.7
NW	10	1	10.0
OKC	48	4	8.3
SE	75	3	4.0
SW	27	2	7.4
TUL	25	1	4.0
TOTAL	216	14	6.5

Table 26

				Turnover Rate as %
Nursing				
Registered Nurses	70	3	4.3	27 38.6
Licensed Practical Nurses	42	2	4.8	13 31.0
Allied Health				
Occupational Therapists	10	4	40.0	1 10.0
Physical Therapists	24	11	45.8	3 12.5
Respiratory Therapists	1	1	100.0	0 0.0
Speech Language Pathologists	1	0	0.0	0 0.0
Surgical Technicians	1	0	0.0	0 0.0
Health Care Support - Aides and Assistants				
				0.0

Table 27



FORECAST MODELS FOR SELECT OCCUPATIONS

Notes on forecast methodology used in this report:

New demand

Developed using existing vacancy numbers identified through industry surveys, occupational based average annual vacancies, and average annual job growth estimates. Data for average annual vacancies and job growth estimates were obtained from the Oklahoma Employment Security Commission. Survey vacancies represent only actual numbers obtained from respondents. Demand utilized in these forecasts is considered to be conservative as survey responses in some sectors were low and no surveys were prepared for individual physician offices.

New supply

Began with Oklahoma's postsecondary graduates and technical program completers in 2004, then reduced that figure by 7%. Reduction was based on data from the Oklahoma State Regents for Higher Education and was made in order to represent those graduates who find employment outside of Oklahoma, continue their education, or in some way do not directly or immediately enter the Oklahoma health care workforce. Additional reductions were made for registered nurses and licensed practical nurses based on data from the Oklahoma Board of Nursing. That reduction was made in order to represent the net outflow for these occupations evidenced through consistent trends in interstate licensure endorsement rates. Supply utilized in these forecasts is considered to be reasonable.

Notes on column headings used in following tables:

Forecast Oklahoma graduates

2004 graduates by selected occupational category as provided by Oklahoma State Regents for Higher Education. It is assumed this number will be constant between 2005 and 2012.

Forecast Oklahoma graduates who find employment in Oklahoma

93% of 2004 graduates by selected occupational category as provided by Oklahoma State Regents for Higher Education. A 2005 survey of graduates conducted by the Oklahoma State Regents for Higher Education indicated that roughly 7% of 2004 graduates of these selected health care educational programs did not enter the Oklahoma workforce, choosing instead to continue their education, find employment outside of Oklahoma, or not enter the workforce at this time. It is assumed this rate will be constant between 2005 and 2012.

Net reduction in existing workforce due to identified outward migration

Net result of interstate endorsement applications for RN or LPN licensure based on data provided by the Oklahoma Nursing Board. This rate has been roughly consistent since at least 1999 and it is assumed this number will be constant between 2005 and 2012. No similar data was identified for the other occupational groups.

FORECAST MODELS FOR SELECT OCCUPATIONS

Forecast Openings in Existing Jobs (Retirement, Job Transfer)

Actual results of 2005 survey data used as known vacancies in select occupations for 2005 figure, and OESC data used for 2006-2012. These figures are believed to be conservative as 2005 survey data used represents survey respondents only and covers only some of the health care industry sub-sectors. OESC data is likewise described as conservative.

Forecast New Job Growth

OESC forecasts for occupational job growth represent average annual job growth between 2002 and 2012 as obtained from the Oklahoma Employment Outlook 2012.

Resulting Gap / (Surplus)

Calculated in following way:

- Forecast New Job Growth
- PLUS – Forecast Openings in Existing Jobs (Retirement, Job Transfer)
- PLUS – Net reduction in Existing Workforce Due to Identified Outward Migration
- Minus – Forecast Oklahoma Graduates Who Find Employment in Oklahoma
- Equals – Resulting Gap/Surplus

Year	Forecast Oklahoma Graduates	Forecast Oklahoma Graduates Who Find Employment in Oklahoma	Net Reduction in Existing Workforce Due to Identified Outward Migration	Forecast Openings in Existing Jobs (Retirement, Job Transfer)	Forecast New Job Growth	Resulting Gap / (Surplus)	Cumulative Graduates	Cumulative Vacancies in Existing Jobs	Cumulative New Job Growth	Cumulative Gap / (Surplus)
2005	1,368	1,272	586	1,160	535	1,009	1,272	1,746	535	1,009
2006	1,368	1,272	586	455	535	304	2,544	2,787	1,070	1,313
2007	1,368	1,272	586	455	535	304	3,817	3,828	1,605	1,616
2008	1,368	1,272	586	455	535	304	5,089	4,869	2,140	1,920
2009	1,368	1,272	586	455	535	304	6,361	5,910	2,675	2,224
2010	1,368	1,272	586	455	535	304	7,633	6,951	3,210	2,528
2011	1,368	1,272	586	455	535	304	8,906	7,992	3,745	2,831
2012	1,368	1,272	586	455	535	304	10,178	9,033	4,280	3,135

Table 28



Licensed Practical Nurses

Year	Forecast Oklahoma Graduates	Forecast Oklahoma Graduates Who Find Employment in Oklahoma	Net Reduction in Existing Workforce Due to Identified Outward Migration	Forecast Openings in Existing Jobs (Retirement, Job Transfer)	Forecast New Job Growth	Resulting Gap / (Surplus)	Cumulative Graduates	Cumulative Vacancies in Existing Jobs	Cumulative New Job Growth	Cumulative Gap / (Surplus)
2005	1,053	979	319	245	202	(213)	979	564	202	(213)
2006	1,053	979	319	298	202	(160)	1,959	1,181	404	(374)
2007	1,053	979	319	298	202	(160)	2,938	1,798		
2008	1,053	979	319	298	202	(160)	3,917	2,415	808	(694)
2009	1,053	979	319	298	202	(160)	4,896	3,032		(854)
2010	1,053	979	319	298	202	(160)	5,876	3,649	1,212	(1,015)
2011	1,053	979	319	298	202	(160)	6,855	4,266	1,414	(1,175)
2012	1,053	979	319	298	202	(160)	7,834	4,883	1,616	(1,335)

Table 29

Radiologic Technology

Year	Forecast Oklahoma Graduates	Forecast Oklahoma Graduates Who Find Employment in Oklahoma	Net Reduction in Existing Workforce Due to Identified Outward Migration	Forecast Openings in Existing Jobs (Retirement, Job Transfer)	Forecast New Job Growth	Resulting Gap / (Surplus)	Cumulative Graduates	Cumulative Vacancies in Existing Jobs	Cumulative New Job Growth	Cumulative Gap / (Surplus)
2005	130	121		87	66	32	121	87	66	32
2006	130	121		74	66	19	242	161	132	51
2007	130	121		74	66	19	363	235	198	70
2008	130	121		74	66	19	484	309	264	89
2009	130	121		74	66	19	605	383	330	109
2010	130	121		74	66	19	725	457	396	128
2011	130	121		74	66	19	846	531	462	147
2012	130	121		74	66	19	967	605	528	156

Table 30

APPENDIX 4

FORECAST MODELS FOR SELECT OCCUPATIONS

Year	Forecast Oklahoma Graduates	Forecast Oklahoma Graduates Who Find Employment in Oklahoma	Net Reduction in Existing Workforce Due to Identified Outward Migration	Forecast Openings in Existing Jobs (Retirement, Job Transfer)	Forecast New Job Growth	Resulting Gap / (Surplus)	Cumulative Graduates	Cumulative Vacancies in Existing Jobs	Cumulative New Job Growth	Cumulative Gap / (Surplus)
2005	76	71		65	56	50	71	65	56	50
2006	76	71		94	56	79	141	159	112	130
2007	76	71		94	56	79	212	253	168	209
2008	76	71		94	56	79	283	347	224	288
2009	76	71		94	56	79	353	441	280	368
2010	76	71		94	56	79	424	535	336	447
2011	76	71		94	56	79	495	629	392	526
2012	76	71		94	56	79	565	723	448	606

Table 31

Year	Forecast Oklahoma Graduates	Forecast Oklahoma Graduates Who Find Employment in Oklahoma	Net Reduction in Existing Workforce Due to Identified Outward Migration	Forecast Openings in Existing Jobs (Retirement, Job Transfer)	Forecast New Job Growth	Resulting Gap / (Surplus)	Cumulative Graduates	Cumulative Vacancies in Existing Jobs	Cumulative New Job Growth	Cumulative Gap / (Surplus)
2005	25	23		52	25	54	23	52	25	54
2006	25	23		15	25	17	47	67	50	71
2007	25	23		15	25	17	70	82	75	87
2008	25	23		15	25	17	93	97	100	104
2009	25	23		15	25	17	116	112	125	121
2010	25	23		15	25	17	140	127	150	138
2011	25	23		15	25	17	163	142	175	154
2012	25	23		15	25	17	186	157	200	171

Table 32



Year	Forecast Oklahoma Graduates	Forecast Oklahoma Graduates Who Find Employment in Oklahoma	Net Reduction in Existing Workforce Due to Identified Outward Migration	Forecast Openings in Existing Jobs (Retirement, Job Transfer)	Forecast New Job Growth	Resulting Gap / (Surplus)	Cumulative Graduates	Cumulative Vacancies in Existing Jobs	Cumulative New Job Growth	Cumulative Gap / (Surplus)
2005	29	27		109	49	131	27	109	49	131
2006	29	27		21	49	43	54	130	98	174
2007	29	27		21	49	43	81	151	147	217
2008	29	27		21	49	43	108	172	196	260
2009	29	27		21	49	43	135	193	245	303
2010	29	27		21	49	43	162	214	294	346
2011	29	27		21	49	43	189	235	343	389
2012	29	27		21	49	43	216	256	392	432

Table 33

Year	Forecast Oklahoma Graduates	Forecast Oklahoma Graduates Who Find Employment in Oklahoma	Net Reduction in Existing Workforce Due to Identified Outward Migration	Forecast Openings in Existing Jobs (Retirement, Job Transfer)	Forecast New Job Growth	Resulting Gap / (Surplus)	Cumulative Graduates	Cumulative Vacancies in Existing Jobs	Cumulative New Job Growth	Cumulative Gap / (Surplus)
2005	80	74		57	33	16	74	57	33	16
2006	80	74		27	33	(14)	149	84	66	1
2007	80	74		27	33	(14)	223	111	99	(13)
2008	80	74		27	33	(14)	298	138	132	(28)
2009	80	74		27	33	(14)	372	165	165	(42)
2010	80	74		27	33	(14)	446	192	198	(56)
2011	80	74		27	33	(14)	521	219	231	(71)
2012	80	74		27	33	(14)	595	246	264	(85)

Table 34

APPENDIX 4

FORECAST MODELS FOR SELECT OCCUPATIONS

Year	Forecast Oklahoma Graduates	Forecast Oklahoma Graduates Who Find Employment in Oklahoma	Net Reduction in Existing Workforce Due to Identified Outward Migration	Forecast Openings in Existing Jobs (Retirement, Job Transfer)	Forecast New Job Growth	Resulting Gap / (Surplus)	Cumulative Graduates	Cumulative Vacancies in Existing Jobs	Cumulative New Job Growth	Cumulative Gap / (Surplus)
2005	23	21		5	24	8	21	5	24	8
2006	23	21		26	24	29	43	31	48	36
2007	23	21		26	24	29	64	57	72	65
2008	23	21		26	24	29	86	83	96	93
2009	23	21		26	24	29	107	109	120	122
2010	23	21		26	24	29	128	135	144	151
2011	23	21		26	24	29	150	161	168	179
2012	23	21		26	24	29	171	187	192	208

Table 35

Year	Forecast Oklahoma Graduates	Forecast Oklahoma Graduates Who Find Employment in Oklahoma	Net Reduction in Existing Workforce Due to Identified Outward Migration	Forecast Openings in Existing Jobs (Retirement, Job Transfer)	Forecast New Job Growth	Resulting Gap / (Surplus)	Cumulative Graduates	Cumulative Vacancies in Existing Jobs	Cumulative New Job Growth	Cumulative Gap / (Surplus)
2005	7	7		45	30	68	7	45	30	68
2006	7	7		10	30	33	13	55	60	102
2007	7	7		10	30	33	20	65	90	135
2008	7	7		10	30	33	26	75	120	169
2009	7	7		10	30	33	33	85	150	202
2010	7	7		10	30	33	39	95	180	236
2011	7	7		10	30	33	46	105	210	269
2012	7	7		10	30	33	52	115	240	303

Table 36



Year	Forecast Oklahoma Graduates	Forecast Oklahoma Graduates Who Find Employment in Oklahoma	Net Reduction in Existing Workforce Due to Identified Outward Migration	Forecast Openings in Existing Jobs (Retirement, Job Transfer)	Forecast New Job Growth	Resulting Gap / (Surplus)	Cumulative Graduates	Cumulative Vacancies in Existing Jobs	Cumulative New Job Growth	Cumulative Gap / (Surplus)
2005	11	10		7	20	17	10	7	20	17
2006	11	10		10	20	20	20	17	40	37
2007	11	10		10	20	20	31	27	60	56
2008	11	10		10	20	20	41	37	80	76
2009	11	10		10	20	20	51	47	100	96
2010	11	10		10	20	20	61	57	120	116
2011	11	10		10	20	20	72	67	140	135
2012	11	10		10	20	20	82	77	160	155

Table 37

Year	Forecast Oklahoma Graduates	Forecast Oklahoma Graduates Who Find Employment in Oklahoma	Net Reduction in Existing Workforce Due to Identified Outward Migration	Forecast Openings in Existing Jobs (Retirement, Job Transfer)	Forecast New Job Growth	Resulting Gap / (Surplus)	Cumulative Graduates	Cumulative Vacancies in Existing Jobs	Cumulative New Job Growth	Cumulative Gap / (Surplus)
2005	41	38		6	44	12	38	6	44	12
2006	41	38		26	44	32	76	32	88	44
2007	41	38		26	44	32	114	58	132	76
2008	41	38		26	44	32	153	84	176	107
2009	41	38		26	44	32	191	110	220	139
2010	41	38		26	44	32	229	136	264	171
2011	41	38		26	44	32	267	162	308	203
2012	41	38		26	44	32	305	188	352	235

Table 38

APPENDIX 5

INTERSTATE WAGE COMPARISONS FOR SELECT OCCUPATIONS

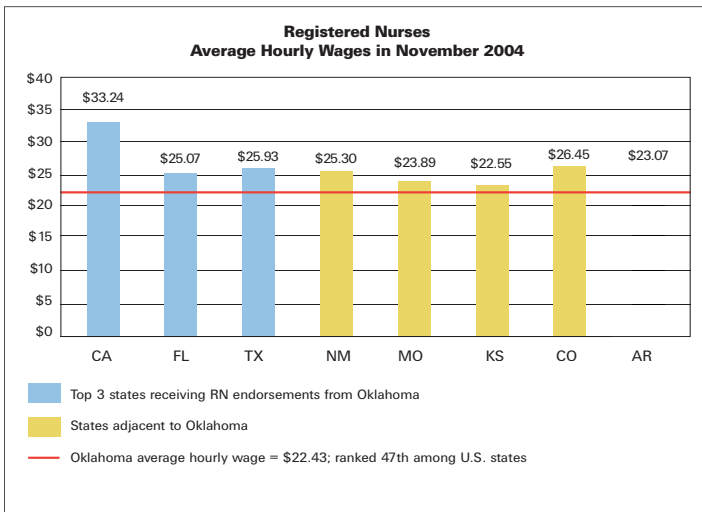


Figure 20 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

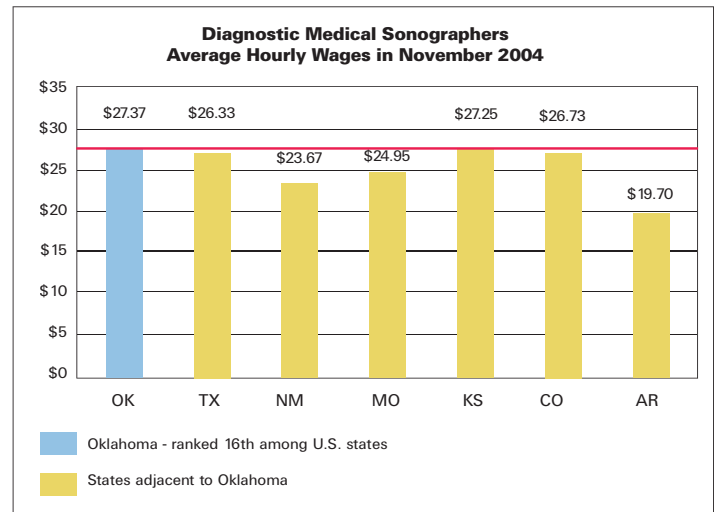


Figure 22 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

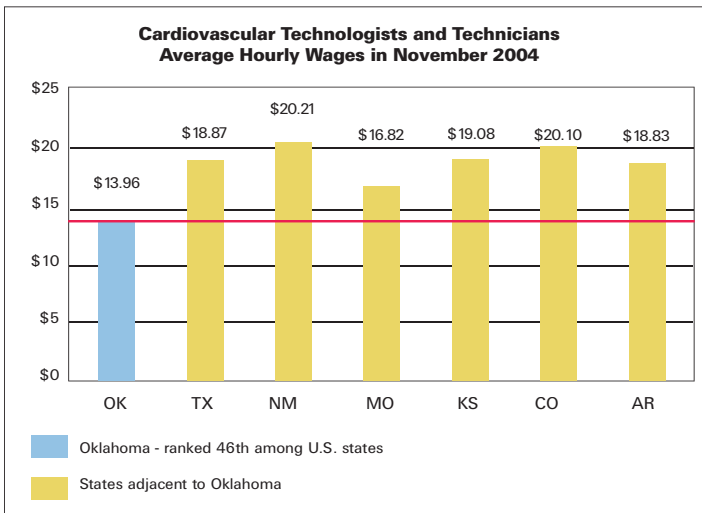


Figure 21 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

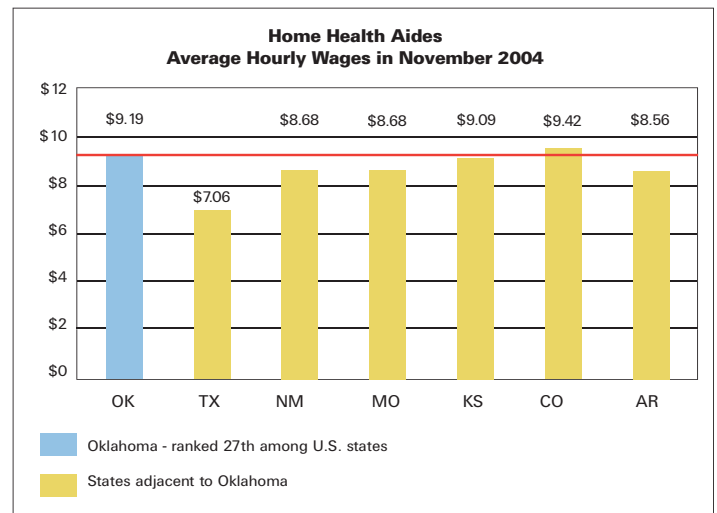


Figure 23 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

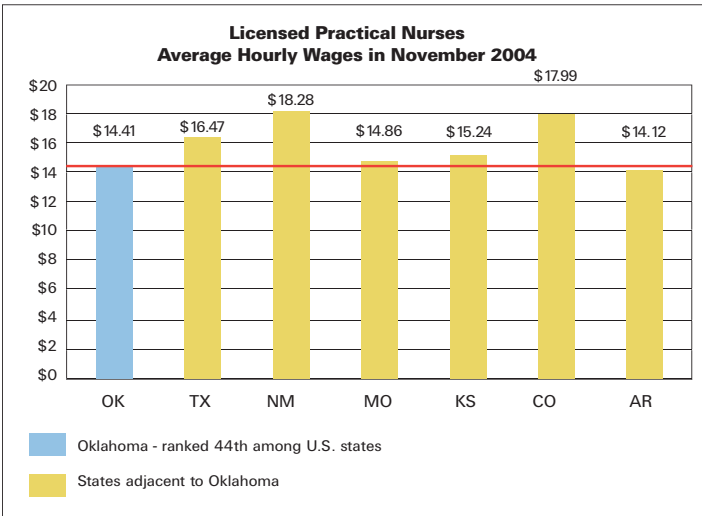


Figure 24 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

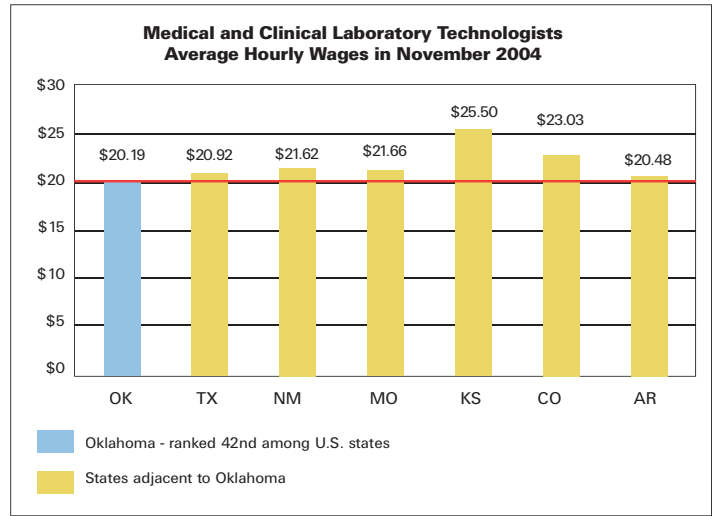


Figure 26 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

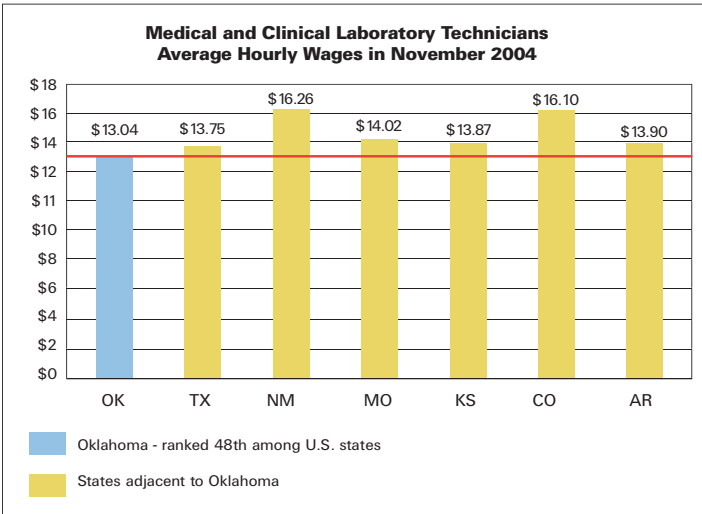


Figure 25 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

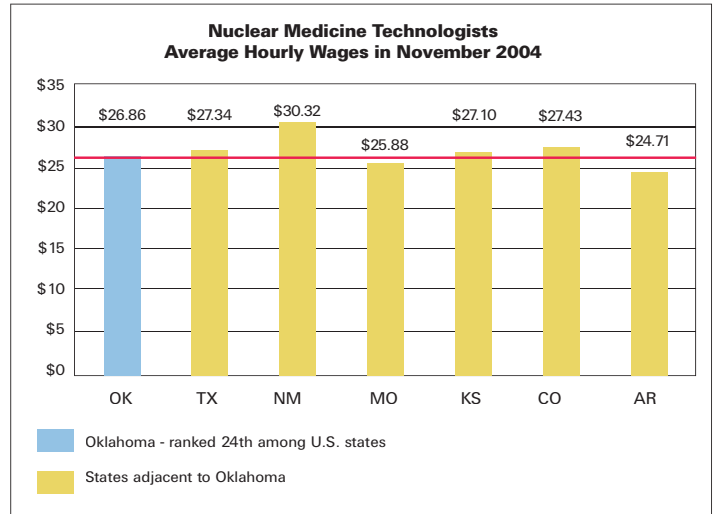


Figure 27 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

APPENDIX 5

INTERSTATE WAGE COMPARISONS FOR SELECT OCCUPATIONS

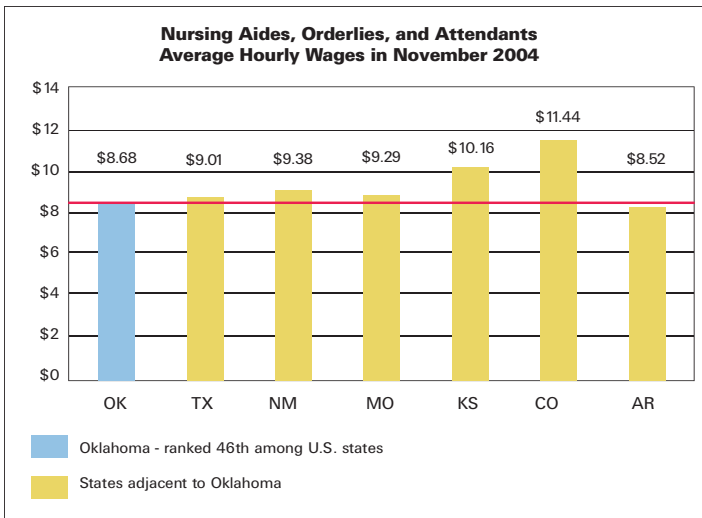


Figure 28 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

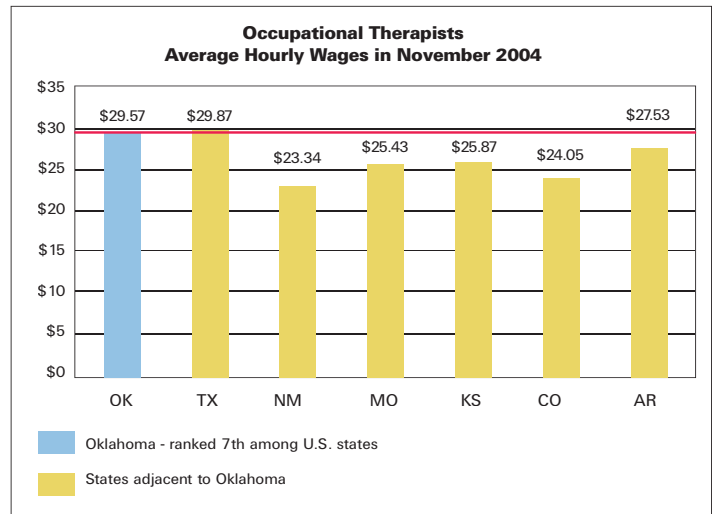


Figure 30 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

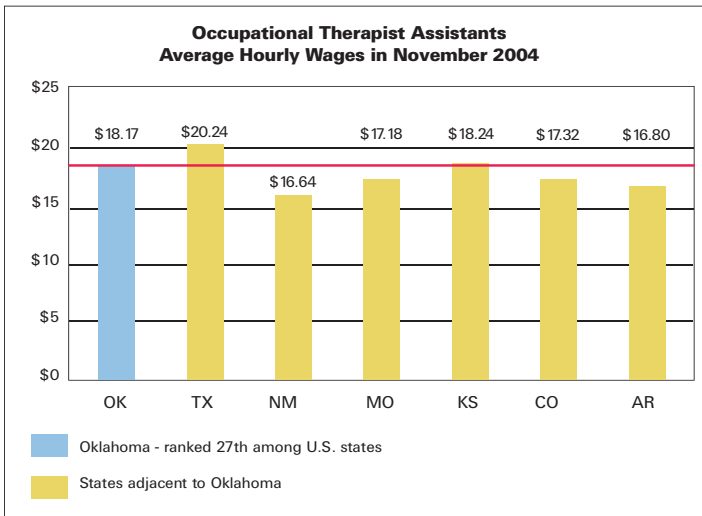


Figure 29 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

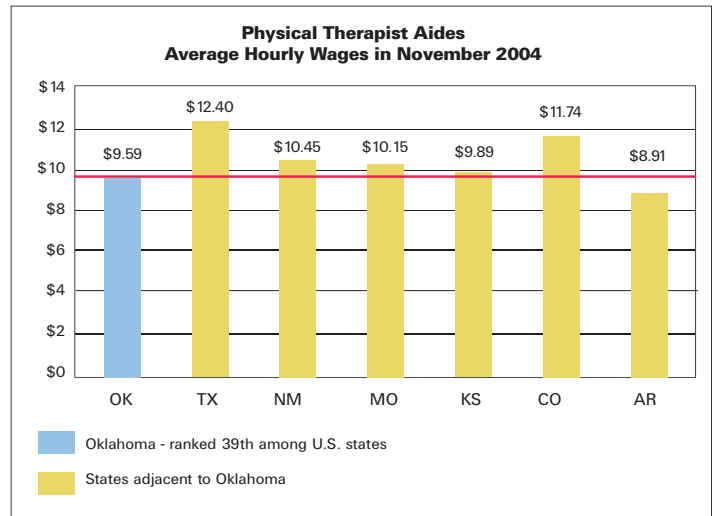


Figure 31 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

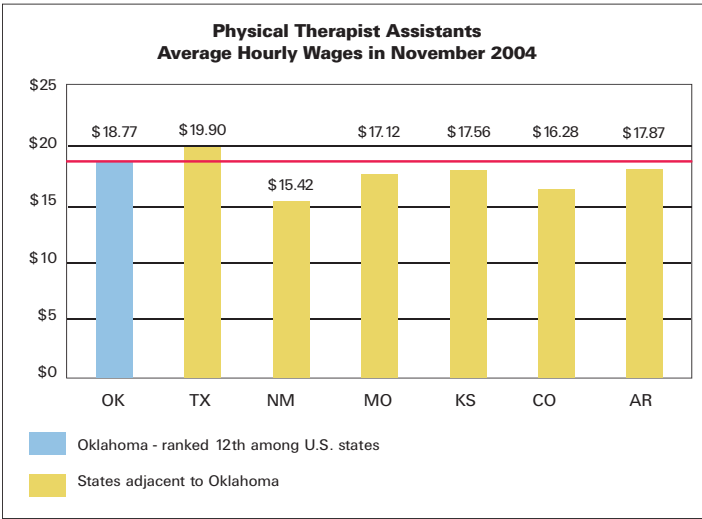


Figure 32 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

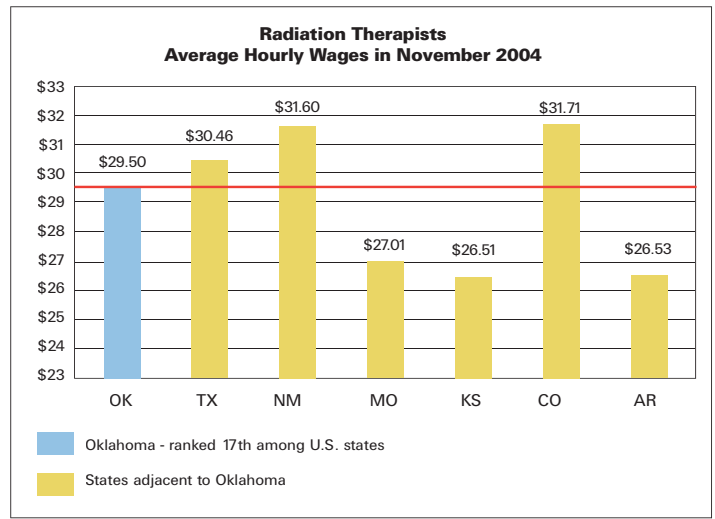


Figure 34 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

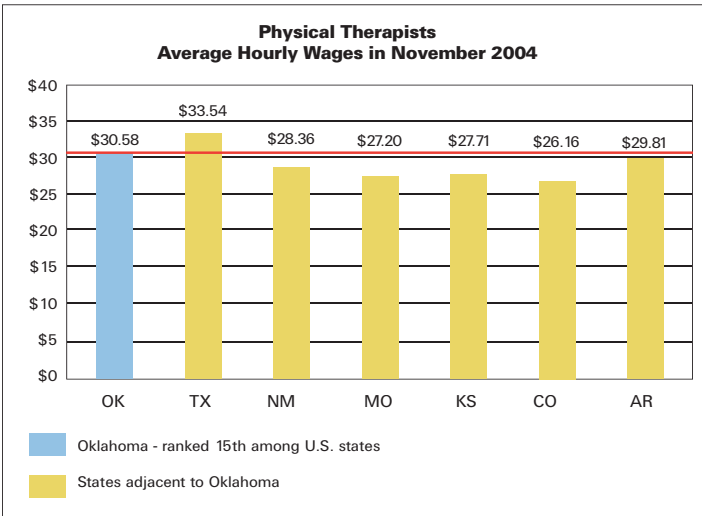


Figure 33 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

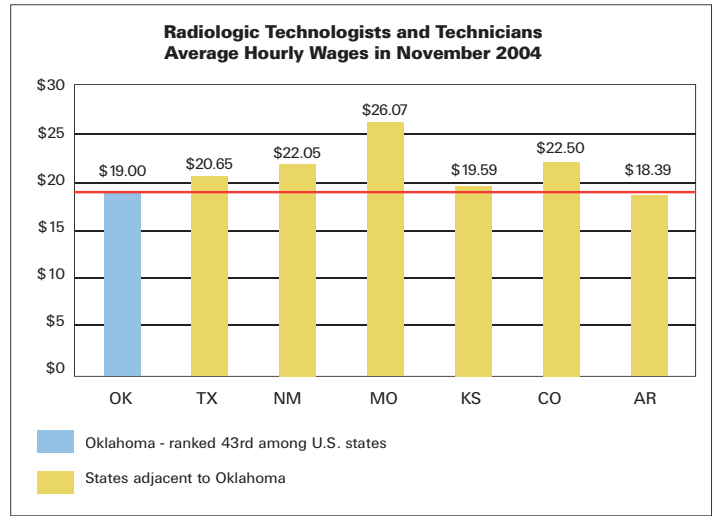


Figure 35 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004



INTERSTATE WAGE COMPARISONS FOR SELECT OCCUPATIONS

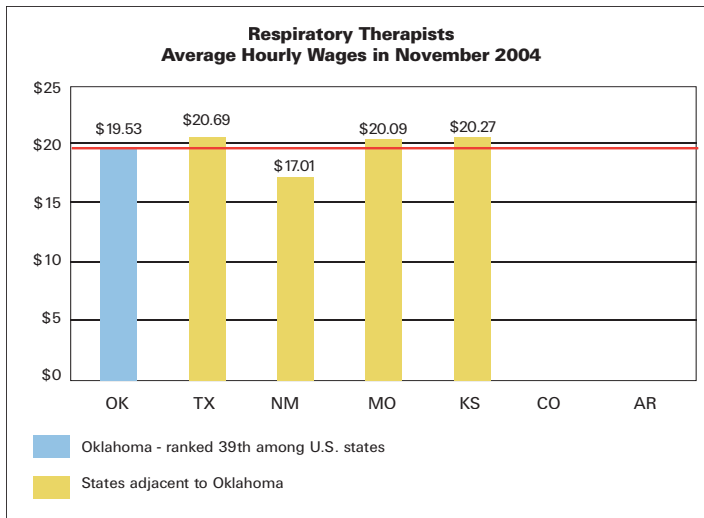


Figure 36 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

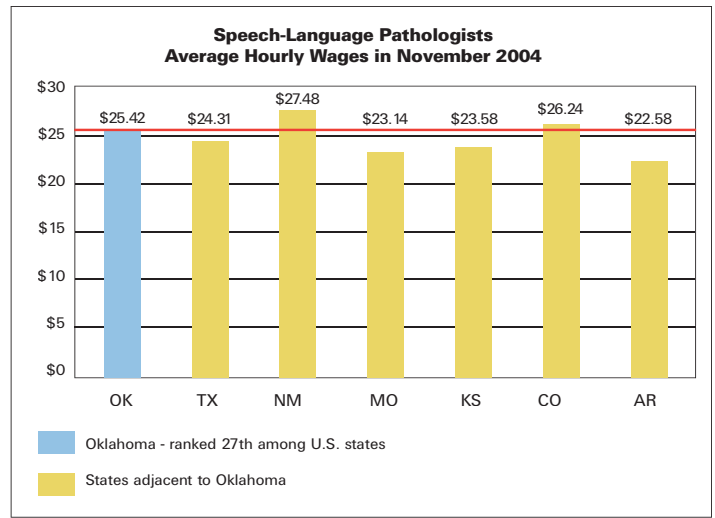


Figure 38 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

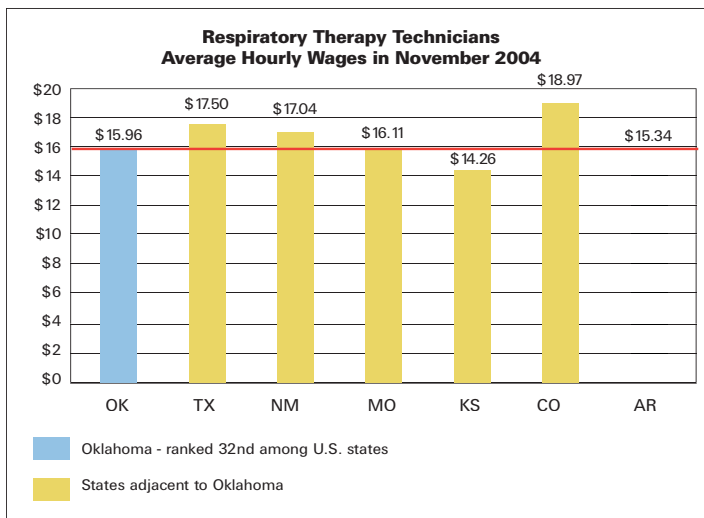


Figure 37 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004

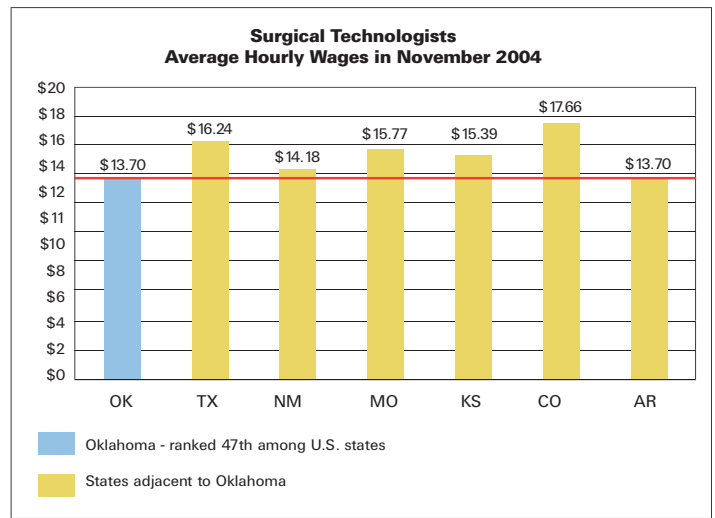


Figure 39 - Source: U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment Statistics Survey November 2004



APPENDIX 6

INDUSTRY RELATED JOB DESCRIPTIONS

Source: U.S. Department of Labor – Standard Occupational Classification system with further assistance provided by the Oklahoma Hospital Association.

Cardiovascular Technologists and Technicians

Conduct tests on pulmonary or cardiovascular systems of patients for diagnostic purposes. May conduct or assist in electrocardiograms, cardiac catheterizations, pulmonary-functions, lung capacity, and similar tests. Include vascular technologists.

Cardiovascular/Interventional Technologists

Performs vascular procedures at a technical level not requiring constant supervision of technical detail. Performs a variety of highly specialized cardiac, vascular, or interventional procedures that require independent judgment to apply prescribed techniques to obtain the best possible diagnostic and therapeutic results. This position requires age related competencies.

Diagnostic Medical Sonographers

Produce ultrasonic recordings of internal organs for use by physicians.

Home Health Aides

Provide routine, personal health care, such as bathing, dressing, or grooming, to elderly, convalescent, or disabled persons in the home of patients or in a residential care facility.

Licensed Practical and Licensed Vocational Nurses

Care for ill, injured, convalescent, or disabled persons in hospitals, nursing homes, clinics, private homes, group homes, and similar institutions. May work under the supervision of a registered nurse. Licensing required.

Medical and Clinical Laboratory Technicians

Perform routine medical laboratory tests for the diagnosis, treatment, and prevention of disease. May work under the supervision of a medical technologist.

Medical and Clinical Laboratory Technologists

Perform complex medical laboratory tests for diagnosis, treatment, and prevention of disease. May train or supervise staff.

Medical Assistants

Perform administrative and certain clinical duties under the direction of physician. Administrative duties may include scheduling appointments, maintaining medical records, billing, and coding for insurance purposes. Clinical duties may include taking and recording vital signs and medical histories, preparing patients for examination, drawing blood, and administering medications as directed by physician. Exclude “Physician Assistants”.



Nuclear Medicine Technologists

Prepare, administer, and measure radioactive isotopes in therapeutic, diagnostic, and tracer studies utilizing a variety of radioisotope equipment. Prepare stock solutions of radioactive materials and calculate doses to be administered by radiologists. Subject patients to radiation. Execute blood volume, red cell survival, and fat absorption studies following standard laboratory techniques.

Nursing Aides, Orderlies, and Attendants

Provide basic patient care under direction of nursing staff. Perform duties, such as feed, bathe, dress, groom, or move patients, or change linens. Exclude “Home Health Aides” and “Psychiatric Aides”.

Nursing Instructors and Teachers, Postsecondary

Demonstrate and teach patient care in classroom and clinical units to nursing students. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Occupational Therapist Aides

Under close supervision of an occupational therapist or occupational therapy assistant, perform only delegated, selected, or routine tasks in specific situations. These duties include preparing patient and treatment room.

Occupational Therapist Assistants

Assist occupational therapists in providing occupational therapy treatments and procedures. May, in accordance with State laws, assist in development of treatment plans, carry out routine functions, direct activity programs, and document the progress of treatments. Generally requires formal training.

Occupational Therapists

Assess, plan, organize, and participate in rehabilitative programs that help restore vocational, homemaking, and daily living skills, as well as general independence, to disabled persons.

Pharmacists

Performs those duties associated with the manufacture, preparation, inspection and distribution of drugs, chemicals, antibiotics, biological and pharmaceutical preparations used in the treatment of patients. Prepares and maintains those records, reports, etc., required in the preparation, dispensing and storage of medications. Requires state licensure.

Physical Therapist Aides

Under close supervision of a physical therapist or physical therapy assistant, perform only delegated, selected, or routine tasks in specific situations. These duties include preparing the patient and the treatment area.

APPENDIX 6

INDUSTRY RELATED JOB DESCRIPTIONS

Physical Therapist Assistants

Assist physical therapists in providing physical therapy treatments and procedures. May, in accordance with State laws, assist in the development of treatment plans, carry out routine functions, document the progress of treatment, and modify specific treatments in accordance with patient status and within the scope of treatment plans established by a physical therapist. Generally requires formal training.

Physical Therapists

Assess, plan, organize, and participate in rehabilitative programs that improve mobility, relieve pain, increase strength, and decrease or prevent deformity of patients suffering from disease or injury.

Radiation Therapists

Provide radiation therapy to patients as prescribed by a radiologist according to established practices and standards. Duties may include reviewing prescription and diagnosis; acting as liaison with physician and supportive care personnel; preparing equipment, such as immobilization, treatment, and protection devices; and maintaining records, reports, and files. May assist in dosimetry procedures and tumor localization.

Radiologic Technologists and Technicians

Take X-rays and CAT scans or administer non-radioactive materials into patient's blood stream for diagnostic purposes. Include technologists who specialize in other modalities, such as computed tomography and magnetic resonance. Include workers whose primary duties are to demonstrate portions of the human body on X-ray film or fluoroscopic screen.

Registered Nurses

Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required. Include advance practice nurses such as: nurse practitioners, clinical nurse specialists, certified nurse midwives, and certified registered nurse anesthetists. Advanced practice nursing is practiced by RNs who have specialized formal, post-basic education and who function in highly autonomous and specialized roles.

Respiratory Therapists

Assess, treat, and care for patients with breathing disorders. Assume primary responsibility for all respiratory care modalities, including the supervision of respiratory therapy technicians. Initiate and conduct therapeutic procedures; maintain patient records; and select, assemble, check, and operate equipment.



Respiratory Therapy Technicians

Provide specific, well defined respiratory care procedures under the direction of respiratory therapists and physicians.

Speech-Language Pathologists

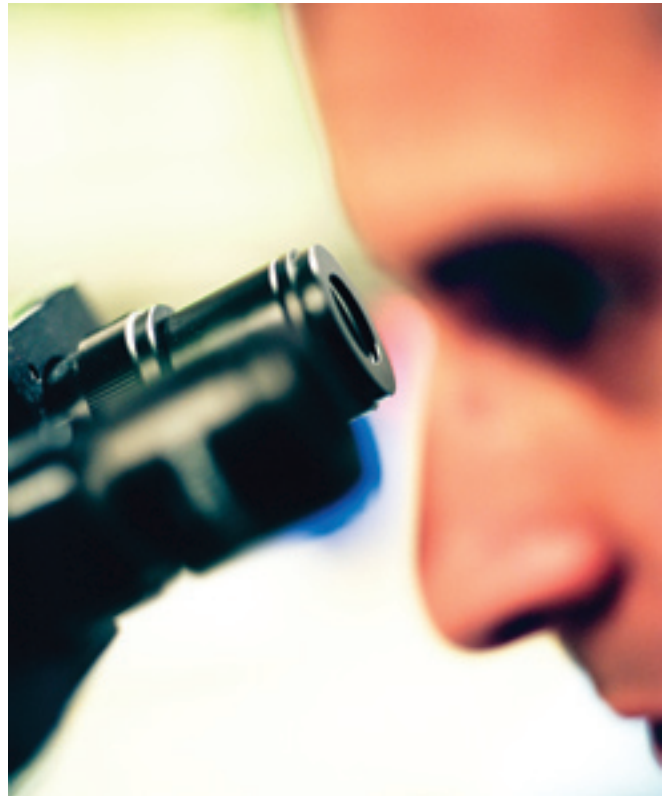
Assess and treat persons with speech, language, voice, and fluency disorders. May select alternative communication systems and teach their use. May perform research related to speech and language problems.

Surgical Technicians, Certified

Under supervision of the operating room staff nurse: works with the surgeon, in preparing the operating room, sterilizing supplies and equipment, preparing the operative site and draping the patient. Handles instruments, sponges, sutures, catheters, drains and dressings to insure asepsis and safety to the patient. Requirements: Certified as a Surgical Technologist by the Association of Surgical Technologists, Inc.

Ultrasound Technologists (Sonographer)

Performs ultrasound procedures at a technical level not requiring constant supervision. Performs a variety of examinations to produce ultrasound tracings; applies prescribed methods of ultrasound energy. Training as a registered technologist or a registered diagnostic medical sonographer.



EMPLOYMENT, VACANCY RATES AND WAGES

Employment - Actual 2004 and Projected 2012 Projected Vacancy Rates, and Wages - 2004 Actual

Occupational Title	Actual 2004 Employment	Projected 2012 Employment	Projected Net New Jobs Created From 2002 - 2012	Average Annual Openings (New jobs plus replacement hires)	Projected Vacancy Rate*	2004 Average Annual Wages
Nursing						
Registered Nurses	22,100	27,100	5,350	990	4.6	44,200
Licensed Practical Nurses	13,050	15,810	2,020	500	14.6	28,480
Allied Health						
Radiologic Technology						
Cardiovascular Technologists and Technicians	570	720	160	30	5.4	30,350
Nuclear Medicine Technologists	200	230	40	10	5.3	52,900
Radiologic Technologists and Technicians	2,040	2,430	380	80	3.9	38,230
Medical Lab						
Medical and Clinical Lab Technologists	1,570	2,090	300	80	4.5	40,900
Medical and Clinical Laboratory Technicians	1,900	1,890	260	70	4.3	27,350
Occupational Therapists	700	1,040	250	40	5.1	54,680
Physical Therapists	1,510	2,150	490	70	4.2	59,100
Respiratory Therapists	880	1,270	330	60	6.3	39,360
Speech-Language Pathologists	1,140	1,260	240	50	5.0	50,400
Surgical Technicians	1,150	1,410	300	40	3.6	27,740
Health Care Support - Aides and Assistants						
Home Health Aides	7,230	9,030	2,490	330	5.0	17,750
Medical Assistants	4,880	6,860	2,300	310	6.8	21,650
Occupational Therapist Assistants	360	450	110	20	6.1	37,030
Occupational Therapist Aides	20	230	90	10	7.1	21,550
Physical Therapist Aides	640	910	220	30	4.3	19,030
Physical Therapist Assistants	790	1020	220	40	6.0	36,590
Health Educators						
Health Specialties Teachers, Postsecondary	1,340	1,650	430	70	5.7	**
Nursing Instructors and Teachers, Postsecondary	530	650	170	30	6.3	**

Table 39 - Source: All from Oklahoma Employment Security Commission. 2004 wage and number employed from Oklahoma Wage Report 2004; 2012 projected employment, net new jobs, and average annual openings from Oklahoma Employment Outlook 2012; projected vacancy rates calculated by dividing average annual openings as reported in Oklahoma Employment Outlook 2012.

* Projected vacancy rate calculated by dividing Average Annual Job Openings by 2002 Employment Figures

** Denotes that the information is not available



END NOTES

¹ Oklahoma Department of Commerce, Local Health Care Cluster Analysis, 2005.

² GSP data from U.S. Bureau of Economic Analysis.

³ Oklahoma Department of Commerce, Local Health Care Cluster Analysis, 2005.

⁴ Indirect employment impact based on implied multiplier of 0.71. Multiplier determined by Oklahoma Department of Commerce using IMPLAN model.

⁵ GSP data from U.S. Bureau of Economic Analysis. Indirect contribution based on implied multiplier of 0.80. Multiplier determined by Oklahoma Department of Commerce using IMPLAN model.

⁶ Plunkett's Health Care Industry Almanac 2006 as accessed at their website, <http://www.plunkettresearch.com/Industries/HealthCare/tabid/205/Default.aspx#IndustryTrends> on January 25, 2006.

⁷ Oklahoma Department of Commerce, Local Health Care Cluster Analysis, 2005.

⁸ Biviano, Marilyn; Fritz, Marshall; Spencer, William; "What is Behind HRSA's Projected Supply, Demand, and Shortage of Registered Nurses?"; National Center for Health Workforce Analysis, Bureau of Health Professions, Health Resources and Services Administration; September 2004; pgs. 25; 32-33

⁹ National data from J. Walter Thompson, a specialized communications company, as provided by the Oklahoma Hospital Association.

¹⁰ Dr. Jiahui Wong, Dr. Julie Gilbert, Maria Farar-On, all of the Change Foundation; *Rising Tide – Understanding Demand in Health Care*; May 2005; page 1; as accessed on November 10, 2005 at [http://www.changefoundation.com/tcf/TCFBul.nsf/dea2e13875b9d7cb052565e4007faaa0/289bd74bb25d2f2185257012004506dc/\\$FILE/Rising%20Tide%20-%20Understanding%20Demand%20in%20Health%20Care%20%20Final.pdf](http://www.changefoundation.com/tcf/TCFBul.nsf/dea2e13875b9d7cb052565e4007faaa0/289bd74bb25d2f2185257012004506dc/$FILE/Rising%20Tide%20-%20Understanding%20Demand%20in%20Health%20Care%20%20Final.pdf)

¹¹ U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions; *Changing Demographics: Implications for Physicians, Nurses, and Other Health Workers*; Spring 2003 as accessed on January 24, 2006 at <http://bhpr.hrsa.gov/healthworkforce/reports/changedemo/Content.htm#2>

¹² U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions; *Changing Demographics: Implications for Physicians, Nurses, and Other Health Workers*; Spring 2003 as accessed on January 24, 2006 at <http://bhpr.hrsa.gov/healthworkforce/reports/changedemo/Content.htm#2>

¹³ Biviano, Marilyn; Fritz, Marshall; Spencer, William; "What is Behind HRSA's Projected Supply, Demand, and Shortage of Registered Nurses?"; National Center for Health Workforce Analysis, Bureau of Health Professions, Health Resources and Services Administration; September 2004; p. 12



END NOTES

¹⁴ U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions; Changing Demographics: Implications for Physicians, Nurses, and Other Health Workers; Spring 2003 as accessed on January 24, 2006 at <http://bhpr.hrsa.gov/healthworkforce/reports/changedemo/Content.htm#2>

¹⁵ U.S. Census Bureau; 2004 American Community Survey as accessed at http://factfinder.census.gov/servlet/ADPTable?_bm=y&-context=adp&-ds_name=ACS_2004_EST_G00_&-tree_id=304&-all_geo_types=N&-caller=geoselect&-geo_id=04000US40&-format=&-lang=en

¹⁶ U.S. Census Bureau; 2004 American Community Survey as accessed at http://factfinder.census.gov/servlet/ADPTable?_bm=y&-context=adp&-ds_name=ACS_2004_EST_G00_&-tree_id=304&-all_geo_types=N&-caller=geoselect&-geo_id=04000US40&-format=&-lang=en

¹⁷ U.S. Census Bureau; Statistical Abstract of the United States: 2004-2005; Table 597. Employed Civilians by Occupation, Sex, Race, and Hispanic Origin: 2003.

¹⁸ U.S. Census Bureau; Hispanic Population Passes 40 Million; Press Release dated June 9, 2005.

¹⁹ GAO Forum: Health Care, Unsustainable Trends Necessitate Comprehensive and Fundamental Reforms to Control Spending and Improve Value; May 2004; page 22

²⁰ GAO Forum: Health Care, Unsustainable Trends Necessitate Comprehensive and Fundamental Reforms to Control Spending and Improve Value; May 2004; page 19

²¹ Oklahoma Department of Commerce, 2005 Local Health Care Cluster Analysis.

²² U.S. Department of Labor, Bureau of Labor Statistics; Occupational Employment Statistics (OES) Survey, November 2004

²³ Oklahoma Board of Nursing; FY 2004 Annual Report.

²⁴ Oklahoma Board of Nursing; FY 2004 Annual Report

²⁵ Oklahoma Board of Nursing; FY 2004 Annual Report

²⁶ The survey included a 56% response rate from the various CareerTech programs and a 90% response rate from Oklahoma's public colleges and universities. Respondents indicated 1,365 full-time faculty, with 156 current full-time faculty openings and 80 full-time faculty retiring within 5 years.

²⁷ U.S. Department of Labor, Bureau of Labor Statistics; Occupational Employment Statistics (OES) Survey, November 2004

²⁸ Oklahoma Institute for Child Advocacy, Inc.; [Oklahoma Kids Count Factbook 2005](#); p 13

²⁹ PLAN Oklahoma Statewide profile summary, 2004-2005, ACT Inc.

³⁰ Data provided by Oklahoma State Regents for Higher Education

³¹ Thrall, Terese Hudson; "Retirement Boom?"; [Hospital and Health Magazine](#); November 17, 2005 as accessed on January 19, 2006 via http://www.hhnmag.com/hhnmag/hospitalconnect/search/article.jsp?dcrpath=HHNMAG/PubsNewsArticle/data/0511HHN_FEA_CoverStory&domain=HHNMAG

³² National rates are for 2004, as provided by Oklahoma Hospital Association and based on reports from J Walter Thompson, Inc.





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