

L a b o r M a r k e t I n d u s t r y P r o f i l e

Broward
Life Sciences
Industry

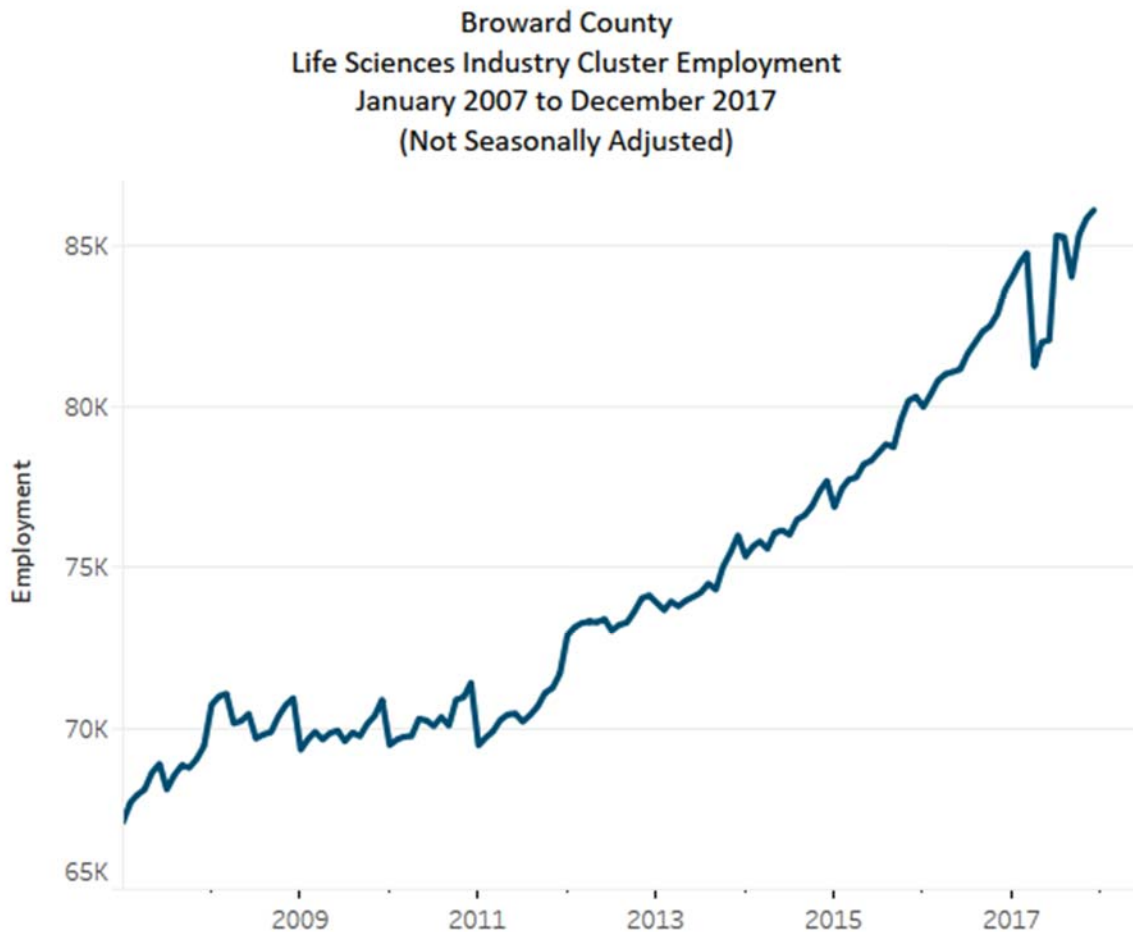
2019 Edition



Broward County Life Sciences Industry Cluster

Broward County Life Sciences Industry cluster is comprised of the Biosciences Industry (Part I) and the Health Care Industry (Part II).

- Some of the largest industries and industry groups within the Life Sciences Industry cluster include: pharmaceutical preparation manufacturing; electromedical and electrotherapeutic apparatus manufacturing; surgical and medical instrument manufacturing; surgical appliance and supplies manufacturing; ophthalmic goods manufacturing; ambulatory health care services (physicians, dentists, outpatient care centers, and home health care centers); and hospitals.
- The Life Sciences Industry cluster had 18,592 establishments in December 2017, with employment of 86,112 jobs. Employment was up 2,479 jobs (+3.0 percent) from December 2016. Employment has been on an upward trend from January 2007 to December 2017, gaining 18,882 jobs (+28.1 percent) over this period.

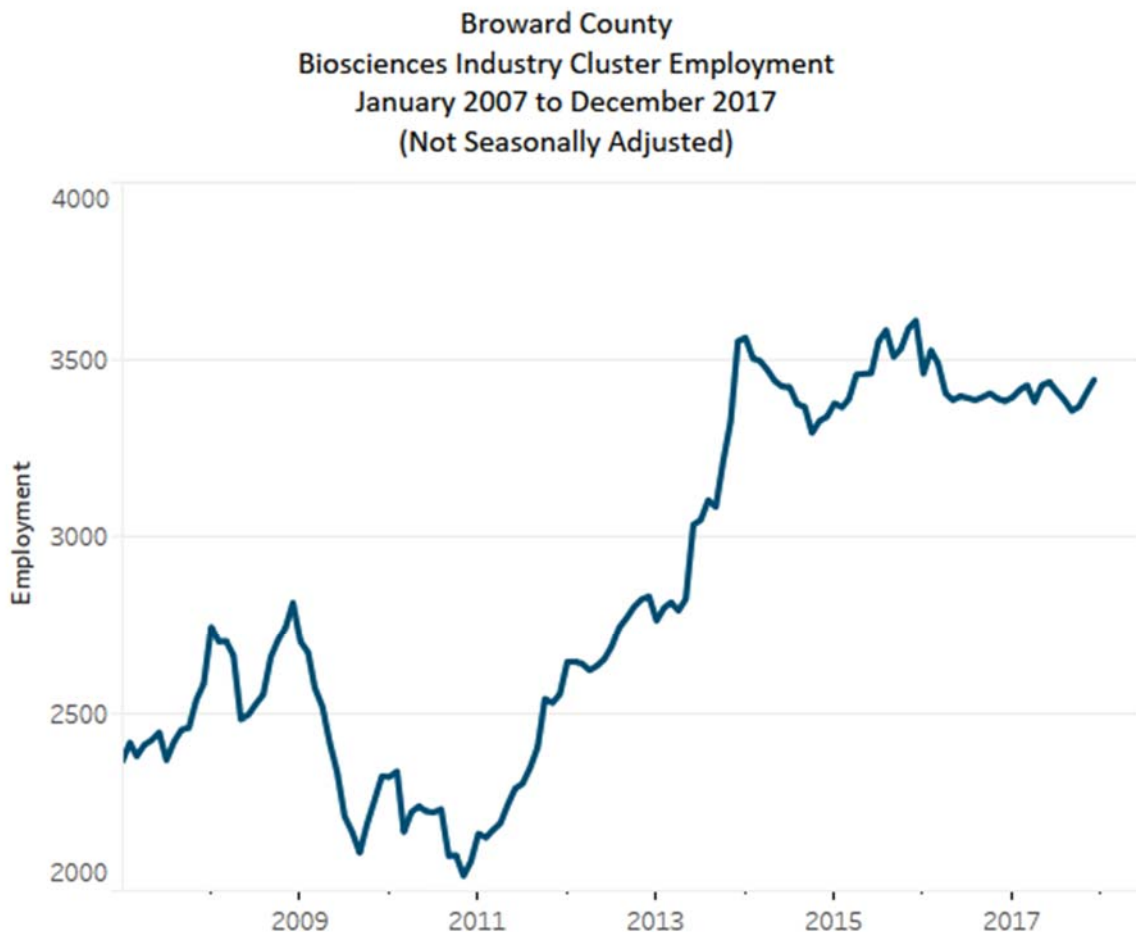


Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics & Economic Research, Quarterly Census of Employment and Wages program (QCEW).

Broward County Biosciences Industry, Part I

The biosciences division includes the following industries: medicinal and botanical manufacturing; pharmaceutical preparation manufacturing; in-vitro diagnostic substance manufacturing; other biological product manufacturing; electromedical apparatus manufacturing; analytical laboratory instruments manufacturing; irradiation apparatus manufacturing; surgical and medical instrument manufacturing; surgical appliance and supplies manufacturing; ophthalmic goods manufacturing; and research and development in biotechnology.

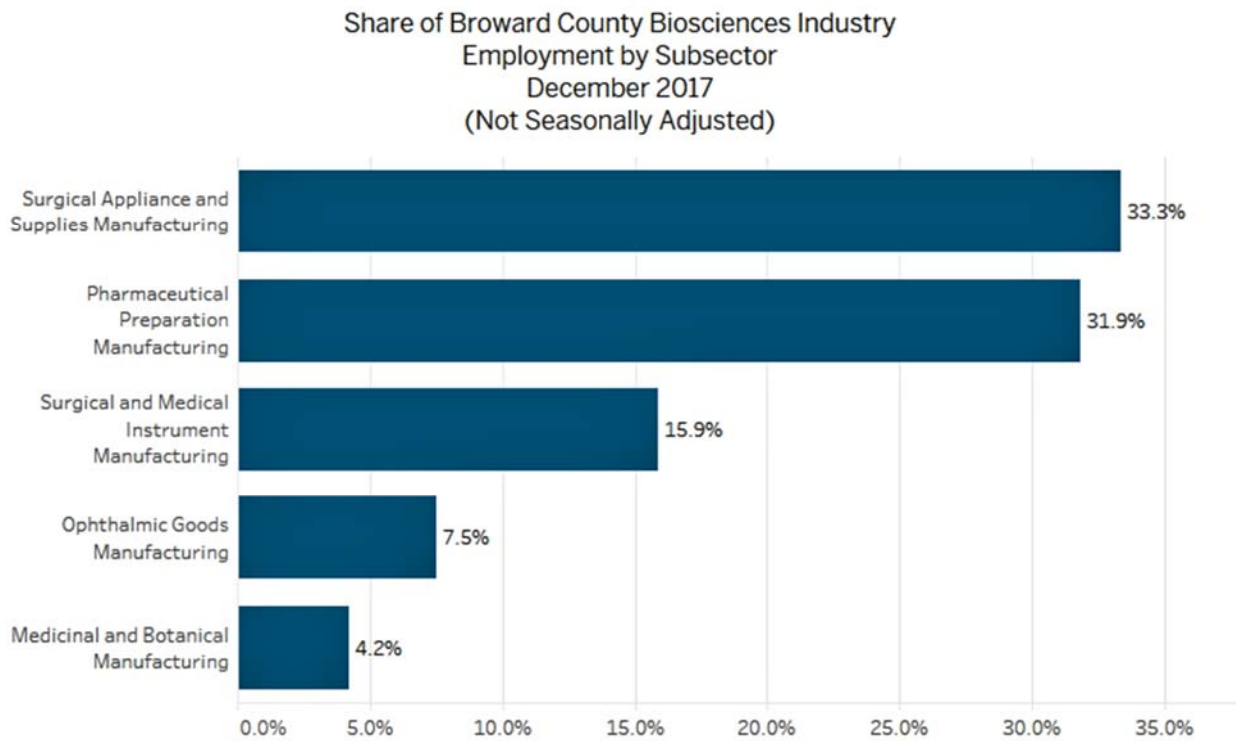
- The Biosciences Industry had 484 establishments in December 2017, with employment of 3,441 jobs. Employment was up 60 jobs (+1.8 percent) from December 2016. Total jobs for all industries increased by 1.5 percent over the same time period.



Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics & Economic Research, Quarterly Census of Employment and Wages program (QCEW).

- Broward County biosciences employment was on an upward trend from January 2007 to January 2009, peaking at 2,701 jobs. From January 2009 to November 2010, the industry cluster followed a negative trend, losing 660 jobs (-24.4 percent). From this low, biosciences employment has been on an upward trend, rising to 3,441 jobs in December 2017.

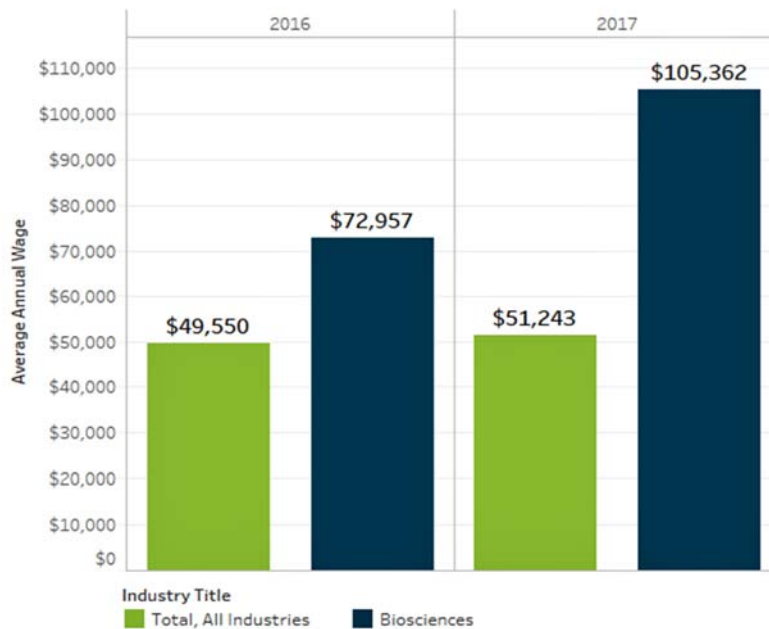
- The largest industries within the biosciences division in December 2017 were surgical appliance and supplies manufacturing (1,147 jobs); pharmaceutical preparation manufacturing (1,096 jobs); and surgical and medical instrument manufacturing (546 jobs).



Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics & Economic Research, Quarterly Census of Employment and Wages program (QCEW).

- Within the Biosciences Industry cluster, the ophthalmic good manufacturing industry gained the most jobs over the year (+59 jobs, +29.5 percent).

Average Annual Wages
Total, All Industries & Biosciences
2016 and 2017



Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics & Economic Research, Quarterly Census of Employment and Wages program (QCEW).

- The 2017 average annual wage for biosciences decreased while the average wage for all industries over the year increased and grew at a faster rate. The 2017 average annual wage for biosciences was \$105,362, an increase of \$32,404 (+44.4 percent) from 2016. The average annual wage for all industries grew by \$1,693 (+3.4 percent) over the year.
- The 2017 average annual wage for biosciences exceeded the average annual wage for all industries (\$51,243) by \$54,119 (+51.4 percent). This gap has expanded since 2016 when the biosciences average annual wage exceeded the wage for all industries by \$23,407 (+47.2 percent).
- Surgical and medical instrument manufacturing had an average annual wage of \$65,437 in 2017, the highest non-confidential average wage in biosciences and 27.7 percent higher than the average annual wage for all industries. Ophthalmic goods manufacturing had the lowest average annual wage in 2017 (\$37,417). Eight of the Biosciences Industries had 2017 average annual wages in excess of the average annual wage for all industries, and five subsectors had wages higher than \$60,000.

- Compared to the average annual wage for all industries in 2017 (\$51,243), most biosciences subsectors had relatively high wages.

All Education and Training Levels

Top Occupations in the Bioscience Industry Cluster For All Training Levels*							
Broward County							
Occupation Title	Employment		2018-2026 Change		% of Industry Total	2018 Median Hourly Wage	Training Requirement
	2018	2026	Total	Percent			
Total, All Biotechnology Occupations	5,042	5,649	607	12.04			
Team Assemblers	428	398	-30	-7.01	8.49	14.25	High school diploma or equivalent
Packaging and Filling Machine Operators and Tenders	328	390	62	18.90	6.51	13.62	High school diploma or equivalent
Dental Laboratory Technicians	313	380	67	21.41	6.21	17.64	High school diploma or equivalent
Machinists	188	210	22	11.70	3.73	19.46	High school diploma or equivalent
Electrical and Electronic Equipment Assemblers	173	143	-30	-17.34	3.43	12.42	High school diploma or equivalent
General and Operations Managers	167	198	31	18.56	3.31	48.13	Bachelor's Degree
Industrial Engineers	164	204	40	24.39	3.25	32.59	Bachelor's Degree
First-Line Supervisors of Production and Operating Workers	149	161	12	8.05	2.96	27.11	High school diploma or equivalent
Medical Scientists, Except Epidemiologists	124	152	28	22.58	2.46	31.20	Doctoral or Professional Degree
Inspectors, Testers, Sorters, Samplers, and Weighers	117	119	2	1.71	2.32	19.08	High school diploma or equivalent
Chemists	112	141	29	25.89	2.22	28.86	Bachelor's Degree
Sales Representatives, Wholesale/Manu., Tech. and Sci. Products	85	97	12	14.12	1.69	30.05	Bachelor's Degree
Medical Appliance Technicians	81	101	20	24.69	1.61	17.72	High school diploma or equivalent
Electronics Engineers, Except Computer	69	84	15	21.74	1.37	49.51	Bachelor's Degree
Ophthalmic Laboratory Technicians	62	74	12	19.35	1.23	12.90	High school diploma or equivalent

Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics & Economic Research, Long Term Projections program, forecast to 2026. Forecasts to the year 2026 assume economic recovery.

*The top 15 tables reflect the occupations synonymous with the particular industry and best represent the required set of skills. Though still counted in the total employment of the Bioscience Industry, the occupations not included above were: Customer Service Representatives (2018-143 jobs), Office Clerks, General (2018-106 jobs), First-Line Supervisors of Office and Administrative Support Workers (2018-95 jobs), Accountants and Auditors (2018-70 jobs), and Packers and Packers, Hand (2018-66 jobs).

- The 15 largest biosciences-specific occupations comprise 51.4 percent of the total employment in this industry.
- The largest biosciences-specific occupation in 2018 was team assemblers, which has a median hourly wage of \$14.25.
- Among the 15 largest biosciences-specific occupations, median hourly wages range from a high of \$49.51 for electronics engineers, except computer to a low of \$12.42 for electrical and electronic equipment assemblers.
- Seven of the 15 largest occupations have a median wage greater than \$20.00 per hour.
- Thirteen of the 15 largest occupations are projected to gain employment through 2026.

- Dental laboratory technicians are projected to gain the most jobs (+67 jobs) and chemists to grow the fastest (+25.89 percent) of the top 15 biosciences-specific occupations from 2018 to 2026.
- Nine of the top 15 biosciences-specific occupations require a high school diploma or similar, and six require a bachelor’s degree or higher. Higher wages are found in occupations with greater training requirements.

Bachelor’s Degree or Higher

Top Occupations in the Bioscience Industry Cluster That Require a Bachelor's Degree or Higher**							
Broward County							
Occupation Title	Employment		2018-2026 Change		% of Industry	2018 Median Hourly Wage	Training Requirement
	2018	2026	Total	Percent	Total		
Total, All Biotechnology Occupations	5,042	5,649	607	12.04			
Industrial Engineers	164	204	40	24.39	3.25	32.59	Bachelor's Degree
Medical Scientists, Except Epidemiologists	124	152	28	22.58	2.46	31.20	Doctoral or Professional Degree
Chemists	112	141	29	25.89	2.22	28.86	Bachelor's Degree
Accountants and Auditors	70	83	13	18.57	1.39	29.95	Bachelor's Degree
Electronics Engineers, Except Computer	69	84	15	21.74	1.37	49.51	Bachelor's Degree
Industrial Production Managers	59	67	8	13.56	1.17	51.42	Bachelor's Degree
Architectural and Engineering Managers	54	61	7	12.96	1.07	54.38	Bachelor's Degree
Management Analysts	48	56	8	16.67	0.95	31.93	Bachelor's Degree
Biomedical Engineers	43	51	8	18.60	0.85	37.77	Bachelor's Degree
Sales Managers	38	44	6	15.79	0.75	56.41	Bachelor's Degree
Orthotists and Prosthetists	33	43	10	30.30	0.65	19.91	Master's Degree
Social Science Research Assistants	31	31	0	0.00	0.61	28.14	Bachelor's Degree
Medical and Health Services Managers	29	34	5	17.24	0.58	54.16	Bachelor's Degree
Financial Managers	28	36	8	28.57	0.56	56.15	Bachelor's Degree
Mental Health and Substance Abuse Social Workers	26	31	5	19.23	0.52	19.27	Master's Degree

Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics & Economic Research, Long Term Projections program, forecast to 2026. Forecasts to the year 2026 assume economic recovery.

**The top 15 tables reflect the occupations synonymous with the particular industry and best represent the required set of skills. Though still counted in the total employment of the Bioscience Industry, the occupations requiring at least a Bachelor’s Degree not included above were: General and Operations Managers (2018-167 jobs), Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products, Purchasing Agents, Except Wholesale, Retail, and Farm Products (2018-49 jobs), Compliance Officers (2018-45 jobs), Electrical Engineers (2018-38 jobs), Managers, All Other (2018-32 jobs), Marketing Managers (2018-30 jobs), Business Operations Specialists, All Other (2018-28 jobs), Chief Executives (2018-28 jobs).

- Approximately 18.4 percent of the jobs in biosciences are concentrated in the 15 largest high skill occupations in this industry.
- Median hourly wages for the top 15 high skill biosciences occupations range from a high of \$56.41 for sales managers to a low of \$19.27 for mental health and substance abuse social workers.
- Thirteen of the 15 largest high skill biosciences occupations have a median wage greater than \$20.00 per hour.
- Fourteen of the top 15 high skill biosciences occupations are projected to gain employment through 2026.

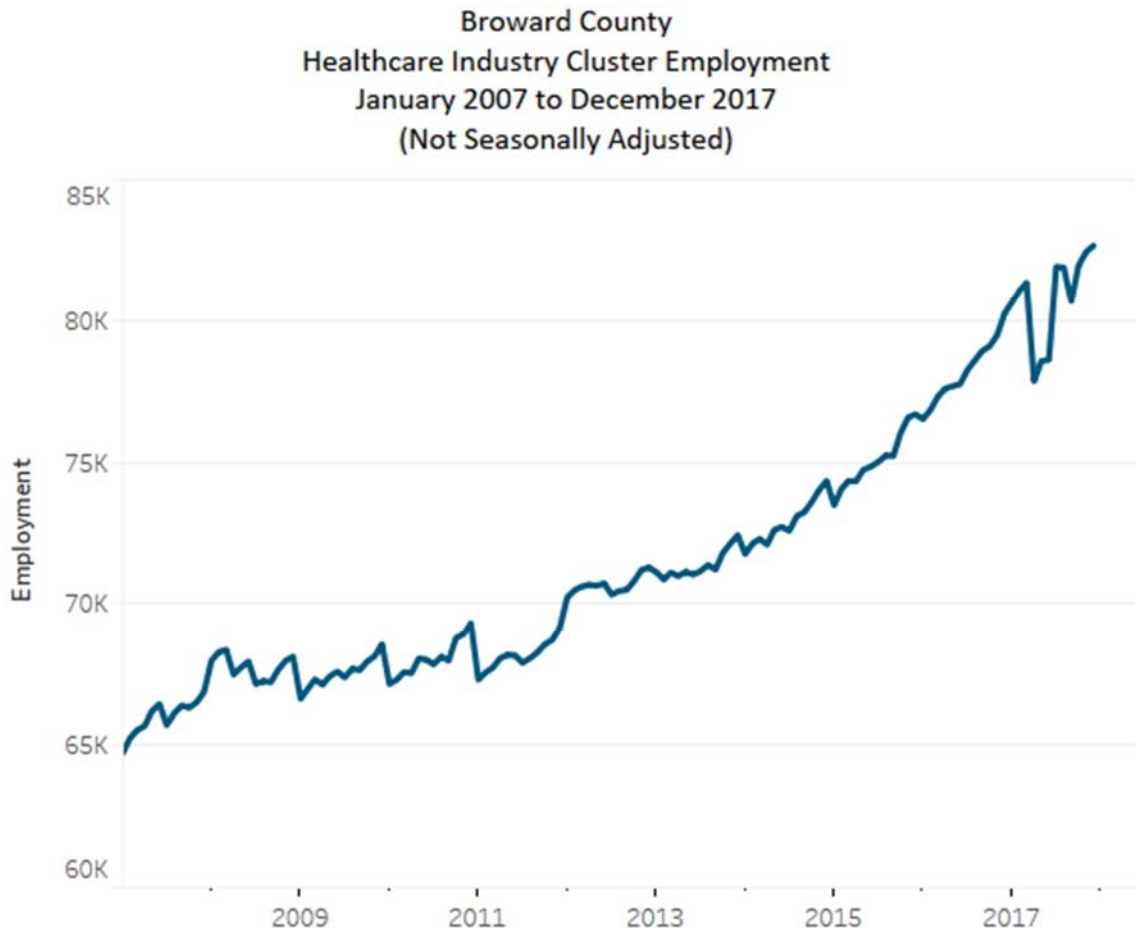
- Industrial engineers are projected to gain the most jobs (+40 jobs) and orthotists and prosthetists projected to grow the fastest (30.30 percent) of the top 15 high skill biosciences occupations from 2018 to 2026.
- Fourteen of the top 15 high skill biosciences occupations are projected to see double digit growth from 2018 to 2026.
- Twelve of the top 15 high skill biosciences occupations require a bachelor's degree and three require a master's degree or higher.

Broward County Health Care Industry, Part II

The health care division has two major subsectors: ambulatory health care services and hospitals. Industries in the ambulatory health care services subsector provide health care services directly or indirectly to ambulatory patients and do not usually provide inpatient services. Industries in the hospitals subsector provide medical, diagnostic, and treatment services that include physician, nursing, and other health services to inpatients and the specialized accommodation services required by inpatients.

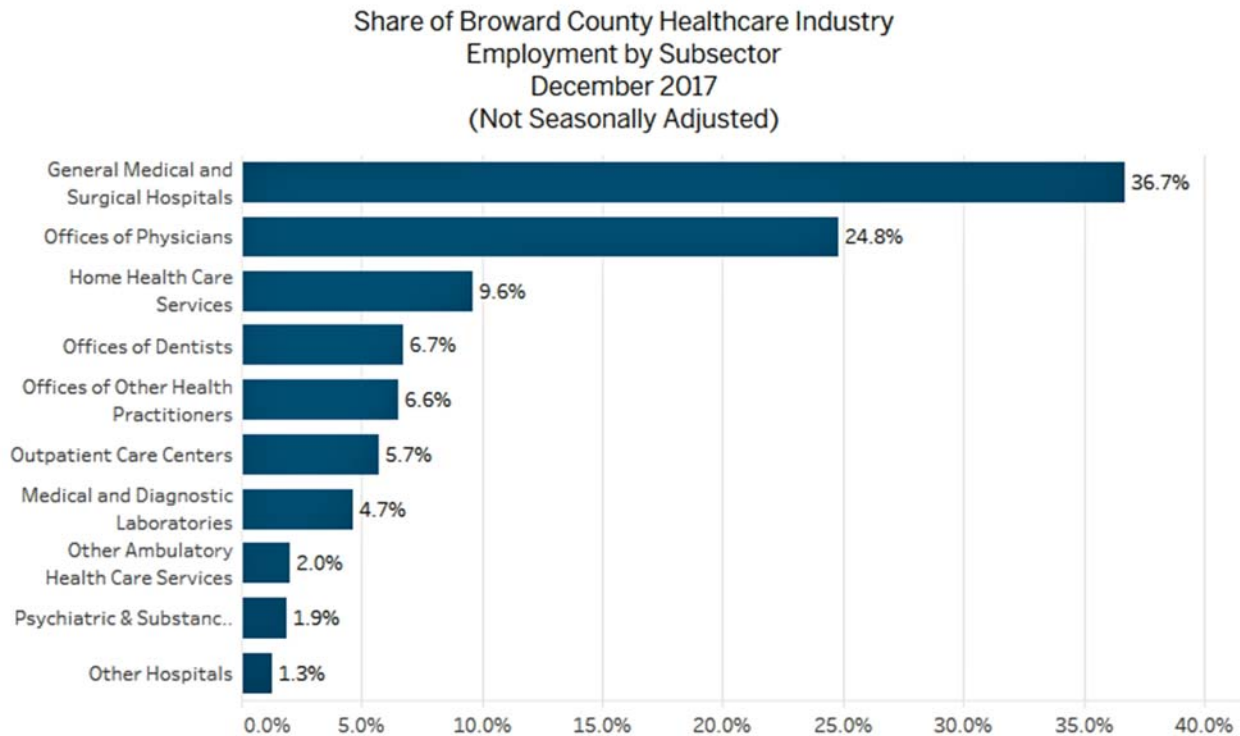
Industry groups within the ambulatory health care services subsector include offices of physicians; offices of dentists; offices of other health practitioners; outpatient care centers; medical and diagnostic laboratories; home health care services; and other ambulatory health care services. Industry groups within the hospitals subsector include general medical and surgical hospitals; psychiatric and substance abuse hospitals; and other hospitals.

- The Health Care Industry sector had 18,108 establishments in December 2017 with employment of 82,671. Employment was up 2,419 jobs (+3.0 percent) from December 2016. Total jobs for all industries increased by 1.5 percent over the same time period.



Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics & Economic Research, Quarterly Census of Employment and Wages Program (QCEW).

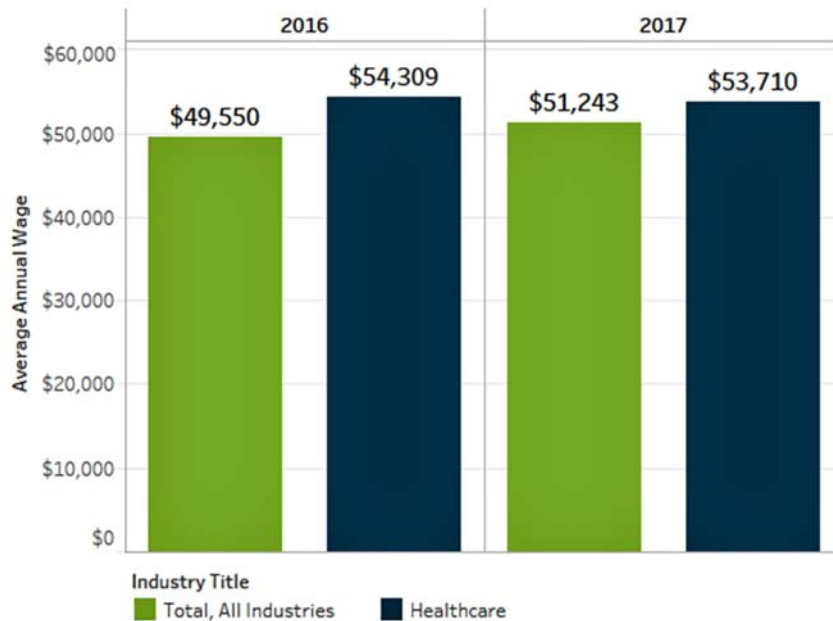
- Broward County health care employment has been on an upward trend from January 2001 to December 2017, rising from 64,725 jobs in January 2007 to 82,671 jobs in December 2017 - an increase of 17,946 jobs (+27.7 percent).
- The largest industry groups within health care in December 2017 were general medical and surgical hospitals (30,333 jobs) and offices of physicians (20,530 jobs). These two industry groups made up 61.5 percent of health care employment.



Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics & Economic Research, Quarterly Census of Employment and Wages Program (QCEW).

- Within the Health Care Industry, the general medical and surgical hospitals industry group gained the most jobs over the year in December 2017 (+457 jobs, +1.5 percent).

**Average Annual Wages
Total, All Industries & Healthcare
2016 and 2017**



Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics & Economic Research, Quarterly Census of Employment and Wages Program (QCEW).

- The 2017 average annual wage for health care decreased while the average wage for all industries over the year increased. The 2017 average annual wage for health care was \$53,710, a decrease of \$599 (-1.1 percent) from 2016. The average annual wage for all industries grew by \$1,693 (+3.4 percent) over the year.
- The 2017 average annual wage for health care exceeded the average annual wage for all industries (\$51,243) by \$2,467 (+4.8 percent). This gap has narrowed from 2016 when the health care average annual wage exceeded the wage for all industries by \$4,759 (+9.6 percent).
- Offices of physicians had an average annual wage of \$90,753 in 2017, the highest of all Health Care Industry groups and 77.1 percent higher than the average annual wage for all industries. Home healthcare services had the lowest average annual wage in 2017 (\$34,295), 33.1 percent lower than the average annual wage for all industries. Five of the ten Health Care Industry groups had 2017 average annual wages in excess of the average annual wage for all industries, and two groups had a wage higher than \$60,000.

All Education and Training Levels

Top Occupations in the Healthcare Industry Cluster For All Training Levels*							
Broward County							
Occupation Title	Employment		2018-2026 Change		% of Industry Total	2018 Median Hourly Wage	Training Requirement
	2018	2026	Total	Percent			
Total, All Healthcare Occupations	93,704	107,388	13,684	14.60			
Registered Nurses	17,258	19,697	2,439	14.13	18.42	33.61	Bachelor's Degree
Medical Assistants	5,143	6,578	1,435	27.90	5.49	17.04	Postsecondary non-degree award
Nursing Assistants	2,705	2,988	283	10.46	2.89	12.44	Postsecondary non-degree award
Home Health Aides	2,655	3,251	596	22.45	2.83	10.59	High school diploma or equivalent
Medical Secretaries	2,475	2,898	423	17.09	2.64	16.91	High school diploma or equivalent
Physicians and Surgeons, All Other	2,013	2,330	317	15.75	2.15	92.49	Doctoral or Professional Degree
Dental Assistants	1,903	2,154	251	13.19	2.03	18.87	Postsecondary non-degree award
Family and General Practitioners	1,826	2,175	349	19.11	1.95	86.53	Doctoral or Professional Degree
Licensed Practical and Licensed Vocational Nurses	1,687	1,872	185	10.97	1.80	22.51	Postsecondary non-degree award
Medical and Clinical Laboratory Technologists	1,528	1,688	160	10.47	1.63	23.21	Bachelor's Degree
Dental Hygienists	1,386	1,563	177	12.77	1.48	27.54	Associate's Degree
Medical and Health Services Managers	1,283	1,462	179	13.95	1.37	54.16	Bachelor's Degree
Medical and Clinical Laboratory Technicians	1,192	1,328	136	11.41	1.27	23.21	Associate's Degree
Physical Therapists	1,158	1,338	180	15.54	1.24	45.30	Doctoral or Professional Degree
Emergency Medical Technicians and Paramedics	1,152	1,356	204	17.71	1.23	15.59	Postsecondary non-degree award

Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics & Economic Research, Long Term Projections Program, forecast to 2026. Forecasts to the year 2026 assume economic recovery.

*The top 15 tables reflect the occupations synonymous with the particular industry and best represent the required set of skills. Though still counted in the total employment of the Healthcare Industry, the occupations not included above were: Receptionists and Information Clerks (2018-4,151 jobs), Secretaries and Administrative Assistants, Except Legal, Medical, and Executive (2018-2,309 jobs), Billing and Posting Clerks (2018-1,789 jobs), Customer Service Representatives (2018-1,448 jobs), Maids and Housekeeping Cleaners (2018-1,416 jobs), First-Line Supervisors of Office and Administrative Support Workers (2018-1,379 jobs), Office Clerks, General (2018-1,306 jobs).

- Employment in the 15 largest health care-specific occupations makes up 48.4 percent of the total employment in this industry.
- The largest health care-specific occupation in 2018 is registered nurses, which has a median hourly wage of \$33.61.
- Median hourly wages among the fifteen largest health care-specific occupations range from a high of \$92.49 for physicians and surgeons, all other to a low of \$10.59 for home health aides.
- Nine of the 15 largest occupations have a median wage greater than \$20.00 per hour.
- All 15 of the largest occupations are projected to gain employment through 2026.
- Registered nurses are projected to gain the most jobs (+2,439 jobs) of the top 15 health care-specific occupations, while medical assistants are projected to grow the fastest (+27.90 percent) from 2018 to 2026.
- Thirteen of the top 15 health care-specific occupations require training beyond high school, with three requiring a doctoral or professional degree. Higher wages are found in occupations with greater training requirements.

Bachelor's Degree or Higher

Top Occupations in the Healthcare Industry Cluster That Require a Bachelor's Degree or Higher**							
Broward County							
Occupation Title	Employment		2018-2026 Change		% of Industry	2018 Median Hourly Wage	Training Requirement
	2018	2026	Total	Percent	Total		
Total, All Healthcare Occupations	93,704	107,388	13,684	14.60			
Registered Nurses	17,258	19,697	2,439	14.13	18.42	33.61	Bachelor's Degree
Family and General Practitioners	1,826	2,175	349	19.11	1.95	86.53	Doctoral or Professional Degree
Medical and Clinical Laboratory Technologists	1,528	1,688	160	10.47	1.63	23.21	Bachelor's Degree
Medical and Health Services Managers	1,283	1,462	179	13.95	1.37	54.16	Bachelor's Degree
Physical Therapists	1,158	1,338	180	15.54	1.24	45.30	Doctoral or Professional Degree
Healthcare Social Workers	855	965	110	12.87	0.91	21.44	Master's Degree
Pharmacists	683	748	65	9.52	0.73	59.91	Doctoral or Professional Degree
Dentists, General	647	729	82	12.67	0.69	53.78	Doctoral or Professional Degree
Internists, General	642	756	114	17.76	0.69	62.68	Doctoral or Professional Degree
Physician Assistants	595	813	218	36.64	0.63	51.18	Master's Degree
Nurse Practitioners	565	740	175	30.97	0.60	55.55	Master's Degree
Occupational Therapists	499	579	80	16.03	0.53	42.49	Master's Degree
Marriage and Family Therapists	430	503	73	16.98	0.46	22.94	Master's Degree
Speech-Language Pathologists	342	395	53	15.50	0.36	36.29	Master's Degree
Accountants and Auditors	326	370	44	13.50	0.35	29.95	Bachelor's degree

Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics & Economic Research, Long Term Projections Program, forecast to 2026. Forecasts to the year 2026 assume economic recovery.

**The top 15 tables reflect the occupations synonymous with the particular industry and best represent the required set of skills. Though still counted in the total employment of the Healthcare Industry, the occupations requiring at least a Bachelor's Degree not included above were: Physicians and Surgeons, All Other (2018-2,013 jobs), Business Operations Specialists, All Other (2018-1,122 jobs) and Computer Systems Analysts (2018-352 jobs).

- Approximately 30.6 percent of the jobs in health care are concentrated in the 15 largest high skill occupations in this industry.
- Of the top 15 high skill health care occupations, family and general practitioners (\$86.53) had the highest wage and healthcare social workers (\$21.44) had the lowest wage.
- All 15 of the largest high skill health care occupations have a median wage greater than \$20.00 per hour.
- All top 15 high skill health care occupations are projected to gain employment through 2026.
- Registered nurses are projected to gain the most jobs (+2,439 jobs) and physician assistants are projected to have the largest growth (36.64 percent) among the top 15 high skill health care occupations from 2018 to 2026.
- Four of the 15 high skill occupations require a bachelor's degree and 11 require a master's degree or higher.