

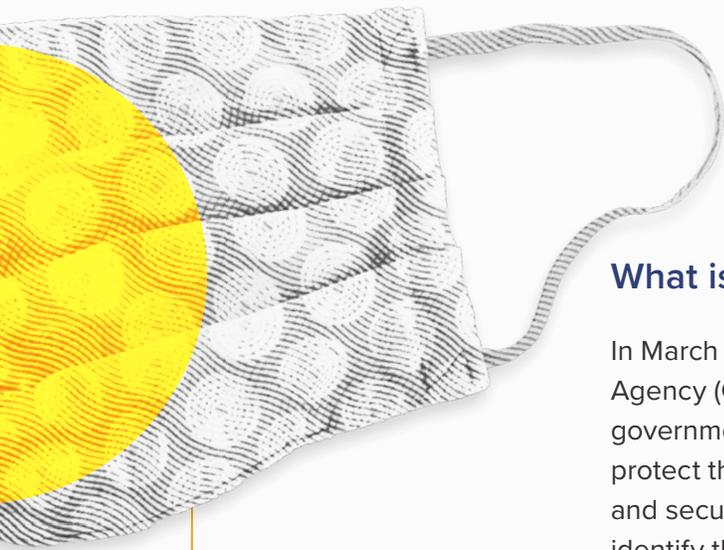
CHARACTERISTICS OF FRONTLINE ESSENTIAL WORKERS IN NEW YORK STATE

September 2021

WE ARE YOUR DOL



The COVID-19 pandemic brought with it a host of pervasive words and phrases that suddenly had new meaning in our daily lives. One example, “Essential Workforce”, became the ubiquitous catch-all for workers who were forced to continue working during lockdowns. The federal Centers for Disease Control defines “essential workers” as “those who conduct a range of operations and services in industries that are essential to ensure the continuity of critical functions in the United States.” A subset of this group, the “Frontline Essential” workers, refers to those who perform critical work functions in close physical proximity to other people. “Frontline Essential” workers are at the greatest risk of exposure to COVID-19 as they perform their day-to-day job duties. Considering this, we need a greater understanding of what constitutes a “Frontline Essential” job, and who is willing to work under such dangerous circumstances. The following report will show which occupations are considered “Frontline Essential” and will also break down the demographic qualities of New Yorkers who fill these critical roles.



What is a Frontline Essential Worker?

In March 2020, the federal Cybersecurity and Infrastructure Security Agency (CISA), in collaboration with federal agencies, state and local governments, and the private sector, issued guidance intended to help protect their workers and communities and to ensure the continued safe and secure operation of critical infrastructure. The guidance sought to identify the universe of essential workers that may require specialized risk management strategies so that they can work safely. Identification also allowed stakeholders to plan and prepare for how resources should be allocated to protect these essential workers against COVID-19. (1)

In order to determine the occupations within these critical industries, the Labor Market Information (LMI) Institute and the Council for Community and Economic Research (C2ER) used the CISA memo cited above to identify the Standard Occupational Classification (SOC) definitions connected to medical and healthcare, telecommunications, information technology systems, defense, food and agriculture, transportation and logistics, energy, water and wastewater, law enforcement, and public works industries. (2)



Characteristics of Frontline Essential Workers

labor.ny.gov

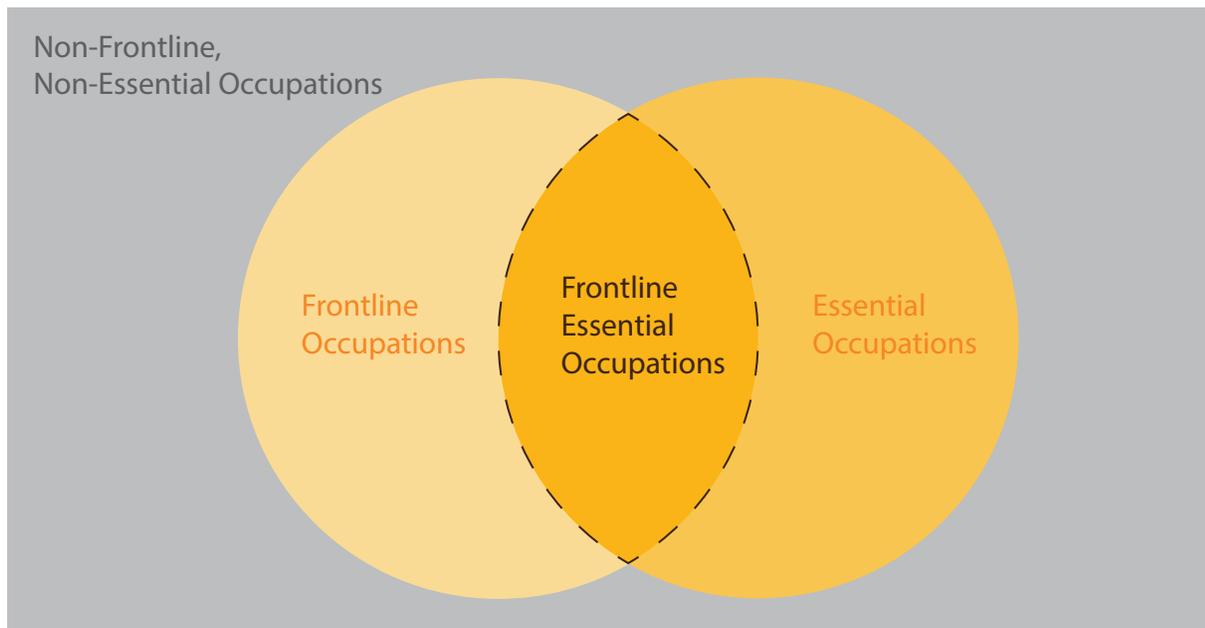
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1. Composition of All Occupations

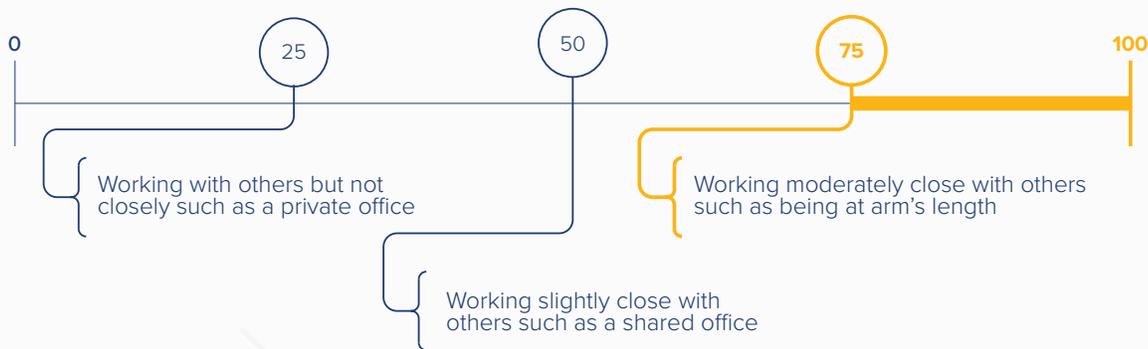
Among essential occupations — but not exclusive to them (as shown in the diagram) — are frontline workers who are in close physical proximity to others. We identify these Frontline Essential occupations using the LMI Institute/C2ER list of critical occupations in conjunction with a measure of physical closeness.

The Occupational Information Network (O*NET), which is an online database developed under the sponsorship of the U.S. Department of Labor’s Employment and Training Administration, tracks a wide range of occupational characteristics, including a measure of occupational physical proximity. O*NET develops this physical proximity measure, or score, through their Work Context questionnaire (3).

Note: Diagram is for illustrative purposes only; shapes therein are not to scale



For each occupation, as defined by O*NET, a score is assigned based on a respondent's reported physical proximity to others while performing their job duties. The proximity score ranges from 0 to 100, with 0 indicating an occupation in which all tasks are performed beyond 100 feet of other people, and 100 representing a job in which all tasks are performed in a very close proximity (near touching) to other people. Other proximity scores and their interpretation include:



Here, we considered occupations with proximity scores of 75-100 to be those with the greatest potential for viral exposure. We classified these job titles as “Frontline Essential” occupations. Employment and wage data related to these workers was obtained from Economic Modeling Specialists International (EMSI), which provided the data shown on the next page. (4)

12.3 Million

Total 2020 Employment

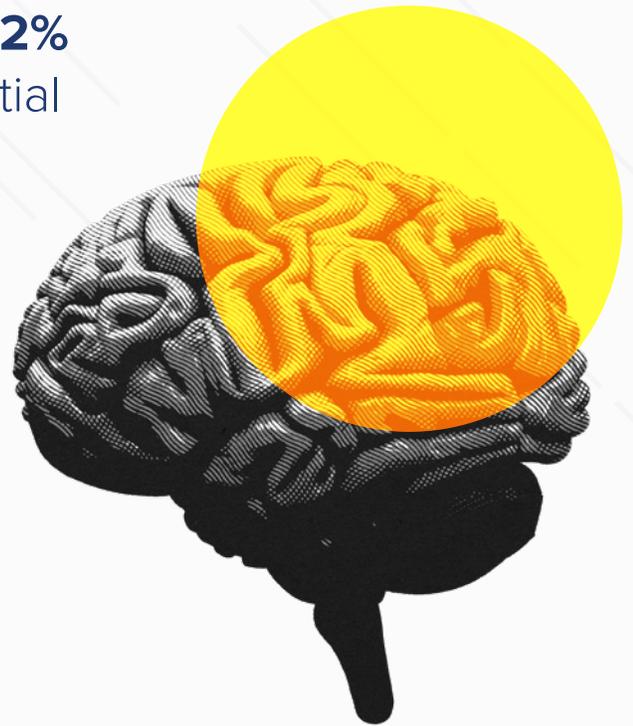
Employment by Frontline and Essential Status, NYS, 2020
Source: Emsi Labor Market Analytics, 2020

2,245,875 | 18.2%
Frontline Essential

10,085,011 | 81.8%
Non-Essential or
Non-Frontline

2. Empirical Results

Roughly one in five jobs in New York State were considered Frontline Essential Employment by Frontline and Essential Status, NYS, 2020.



As shown in the figure above, 18.2% of employment in New York State in 2020 was in Frontline Essential occupations. The overall Frontline Essential workforce in New York State is projected to grow by 15.5% over the next 10 years compared to a 9.5% growth rate for all jobs. With a faster-than-average growth rate, Frontline Essential workers are expected to comprise a larger share (19.2%) of the State workforce in 2030 than it did in 2020.

Projected Growth in Employment by Frontline & Essential Status, NYS, 2020-2030

Frontline Essential occupations are projected to grow almost 90% faster than Non-Frontline or Non-Essential occupations.

Source: Emsi Labor Market Analytics, 2020



+823,630

Non-Essential or Non-Frontline
 2020
 2020 - 2030 Change
 % Change

Frontline Essential
 2020
 2020 - 2030 Change
 % Change

+15.5%

10,085,011

+8.2%

+348,027

2,245,875

10M

7.5M

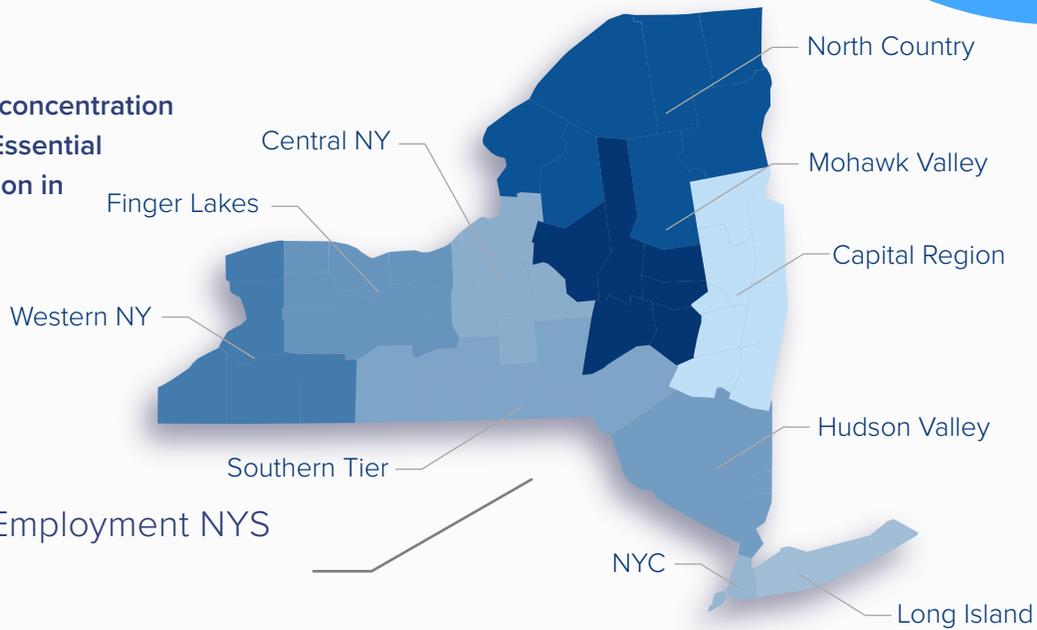
5M

2.5M

0

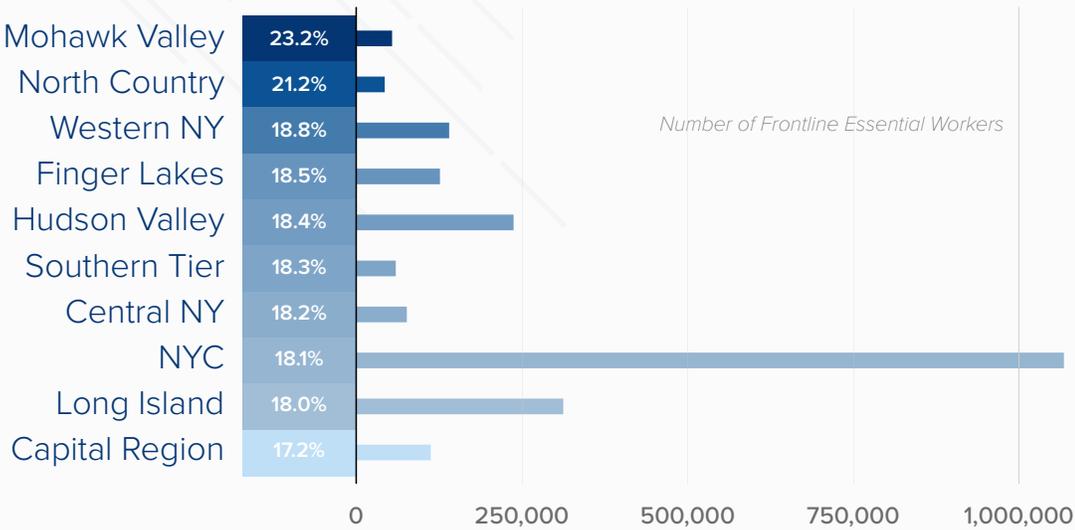
3. Area Analysis

The Mohawk Valley had the highest concentration (23.2%) of employment in Frontline Essential occupations of any labor market region in New York State.



Share of Frontline Essential Employment NYS Labor Market Regions, 2020

Source: Emsi Labor Market Analytics, 2020



Source: Emsi Labor Market Analytics, 2020

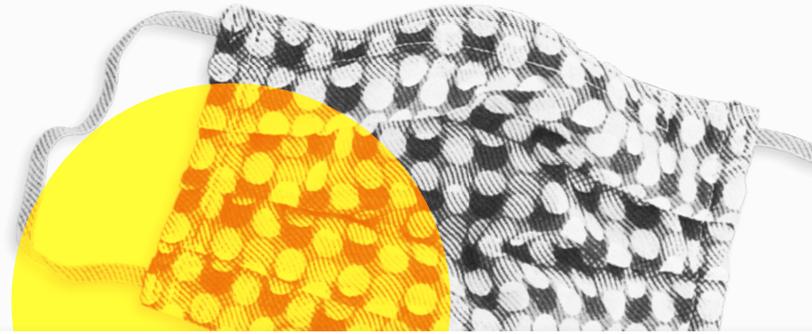
In 2020, New York State's workforce had a higher share of Frontline Essential workers (18.2%) than in the nation (17.0%). Within the state, the Mohawk Valley Region (23.2%) had the largest relative share of Frontline Essential workers, while the Capital Region (17.2%) had the smallest. All 10 New York State labor market regions had shares greater than that of the nation.

In general, areas with a high concentration of employment in sectors such as healthcare, food services, and protective services, among others, tend to have a higher percentage of Frontline Essential workers. Areas with more diversified economies, as well as those with a large share of employment in higher education, financial services, or other professional services fields typically have a lower percentage of Frontline Essential workers.

4. Occupational Employment

Occupations providing Frontline Essential services included food service, critical commerce, healthcare, public safety, education and infrastructure upkeep workers.

Home health and personal care aids comprised roughly one in four Frontline Essential jobs.



Frontline Essential Occupations Employing the Most Individuals, NYS, 2020-2030

Source: Emsi Labor Market Analytics, 2020

Description	2020 Jobs	2030 Jobs	Net Change	Percent Change
Home Health and Personal Care Aides	539,650	738,327	198,677	37%
Registered Nurses	189,166	226,194	37,028	20%
Cashiers	186,274	174,235	-12,039	-6%
Fast Food and Counter Workers	180,338	192,943	12,606	7%
Elementary School Teachers, Except Special Education	92,650	103,487	10,838	12%
Nursing Assistants	92,438	105,834	13,396	14%
Carpenters	79,526	80,828	1,302	2%
Cooks, Restaurant	61,329	63,273	1,944	3%
Police and Sheriffs Patrol Officers	57,939	65,618	7,679	13%
Licensed Practical and Licensed Vocational Nurses	48,293	59,221	10,928	23%

As shown in the above figure, workers in healthcare positions comprise a large proportion of Frontline Essential jobs. The nearly 540,000 home health and personal care aides, by far, make up the largest amount of Frontline Essential workers in New York State. Workers in this occupation account for 24.0% of the total Frontline Essential workforce. The state's aging population, along with growth in outpatient and in-home care contribute to a projected growth rate of 37.0% over the next decade for home health and personal care aides.

Registered nurses are the state's second largest Frontline Essential occupation, both in terms of total workers (189,200) and percentage (8.4%). Workers

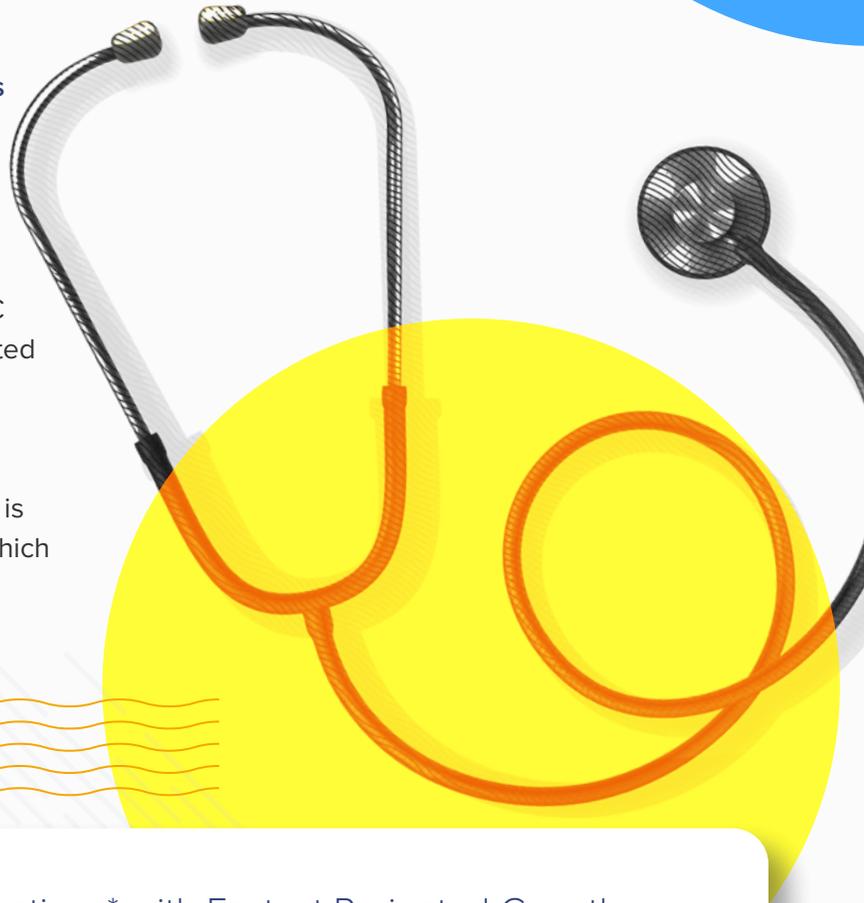
in this occupation are often employed at hospitals, doctor's offices and long-term care facilities.

Cashiers are the third most common occupation in the Frontline Essential workforce. There are 186,300 cashiers employed across many different industries throughout the state. As displayed in the figure above, this is the only occupation in the top 10 that is not projected to grow over the next 10 years. Growth in automation and self-checkout kiosks, and online shopping all contribute to an expected decline in the number of workers employed as cashiers in the future.



The fastest-growing Frontline Essential occupations are in the healthcare field.

All 10 of the top fastest growing Frontline Essential occupations are found in two broad job categories: Healthcare Practitioners and Technical Occupations (SOC 29) and Healthcare Support Occupations (SOC 31). The Frontline Essential occupation that is projected to grow the fastest from 2020 to 2030 is Physical Therapist Assistants (+51%). This represents an over-the-decade increase of 2,817 jobs. The occupation with the largest projected expansion in employment is Home Health and Personal Care Aides (+198,677), which translates to a 37% increase over the 10-year period.



Frontline Essential Occupations* with Fastest Projected Growth, NYS, 2020-2030

**Of those employing at least 1,000 workers in 2020
Source: Emsi Labor Market Analytics, 2020*

Description	2020 Jobs	2030 Jobs	Net Change	Percent Change
Physical Therapist Assistants	5,483	8,300	2,817	51%
Occupational Therapy Assistants	2,660	3,859	1,199	45%
Nurse Practitioners	16,398	23,703	7,305	45%
Home Health and Personal Care Aides	539,650	738,327	198,677	37%
Psychiatric Technicians	2,877	3,806	928	32%
Respiratory Therapists	6,233	8,151	1,918	31%
Physical Therapists	17,874	23,018	5,144	29%
Speech-Language Pathologists	17,285	21,775	4,490	26%
Physician Assistants	14,414	18,089	3,675	25%
Occupational Therapists	11,761	14,527	2,766	24%



5. Demographics

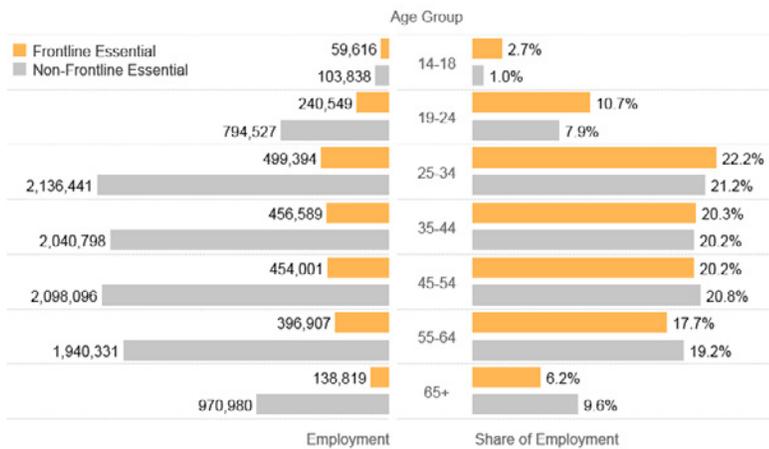
More than one-third of Frontline Essential workers in the state were ages 14-34.

Frontline Essential workers in New York tend to be younger – 36% are 14-34 years of age as compared to 30% of Non-Frontline Essential workers. The Frontline Essential occupations with the greatest share of younger workers (ages 14-34) include: Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop (73%); Fast Food and Counter Workers (62%); Veterinary Assistants and Laboratory Animal Caretakers (60%); Cashiers (57%) and Veterinary Technologists and Technicians (56%).



Age Distribution of Frontline Essential & Non-Frontline Essential Workers, NYS, 2020

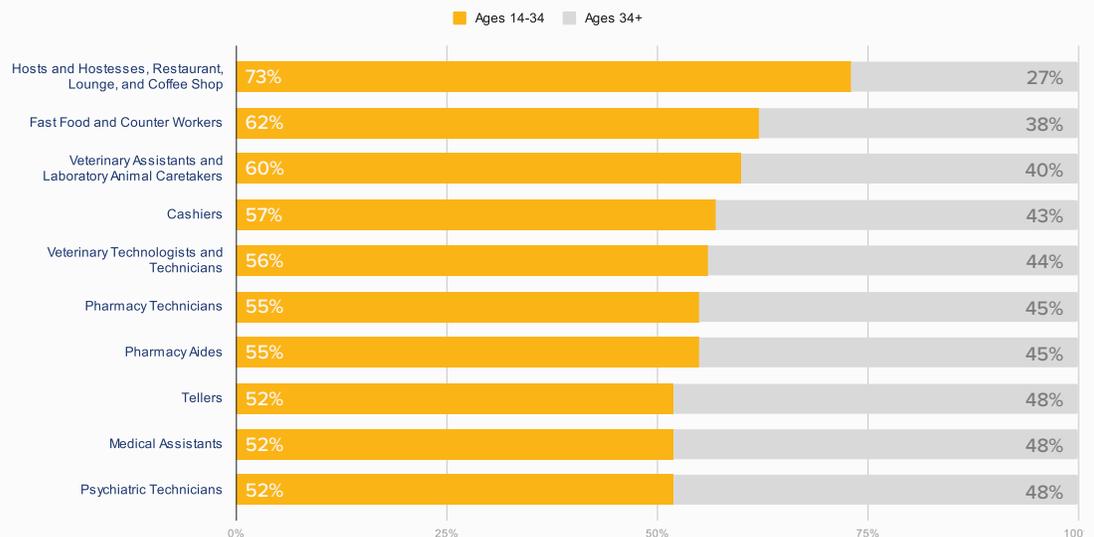
Source: Emsi Labor Market Analytics, 2020



Frontline Essential occupations with the greatest share of workers ages 14-34 were primarily in the healthcare and food services fields.

Top 10 Occupations Among Frontline Essential Workers Ages 14-34, NYS, 2020

Note: Calculation based on data from Emsi Labor Market Analytics, 2020

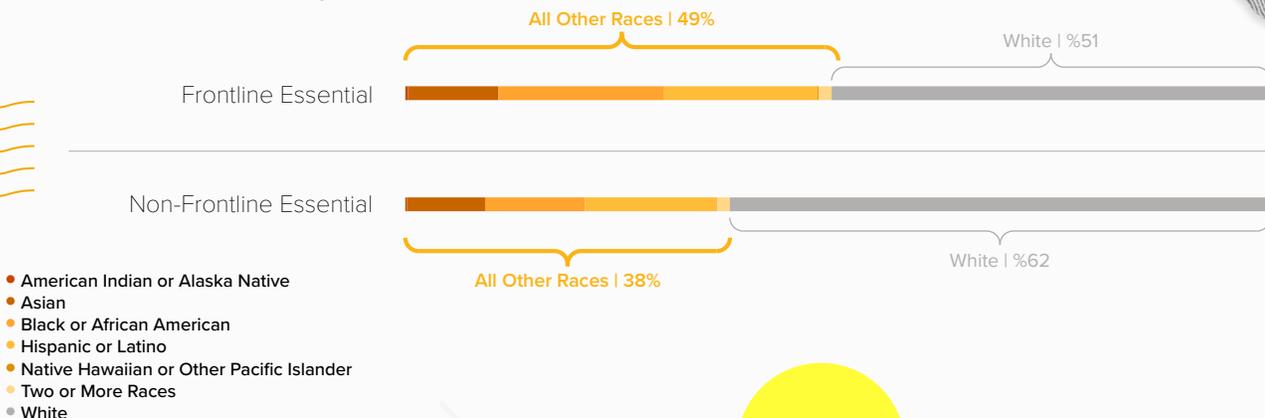


Frontline Essential workers tend to be more diverse than their counterparts.

Frontline Essential employees are more diverse than Non-Frontline Essential employees. Nearly half (49%) of Frontline Essential workers in New York are non-white as opposed to 38% of Non-Frontline Essential workers. The most diverse Frontline Essential occupations in New York State are: Home Health and Personal Care Aides (68%); Nursing Assistants (65%), Bus Drivers; Transit and Intercity (65%); Transportation Security Screeners (64%) and Chefs and Head Cooks (64%).

Racial/Ethnic Composition of Frontline Essential & Non-Frontline Essential Workers, NYS, 2020

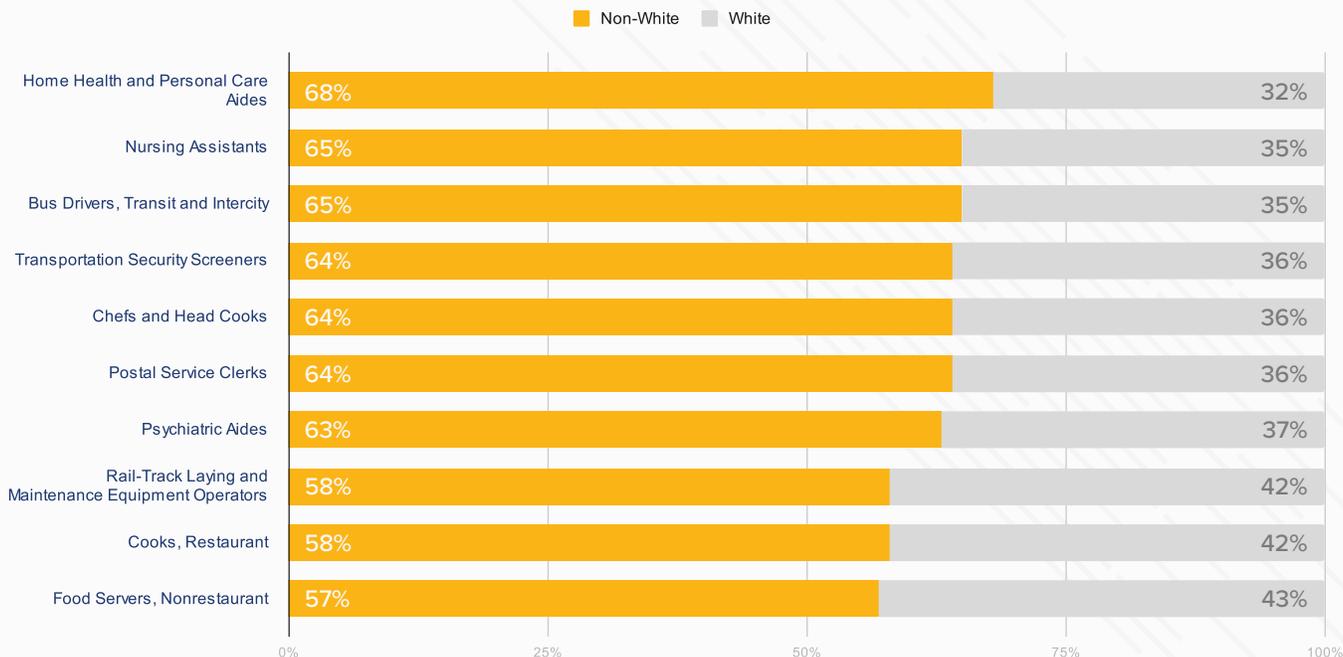
Source: Emsi Labor Market Analytics, 2020



The two most diverse Frontline Essential occupations were both in the healthcare support field.

Top 10 Most Diverse Frontline Essential Occupations, NYS, 2020

Note: Calculation based on data from Emsi Labor Market Analytics, 2020

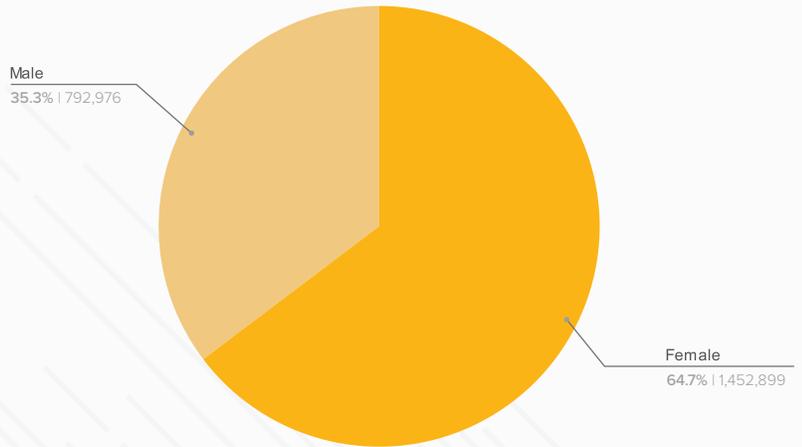


Women comprised almost two-thirds of the NYS Frontline Essential workforce.

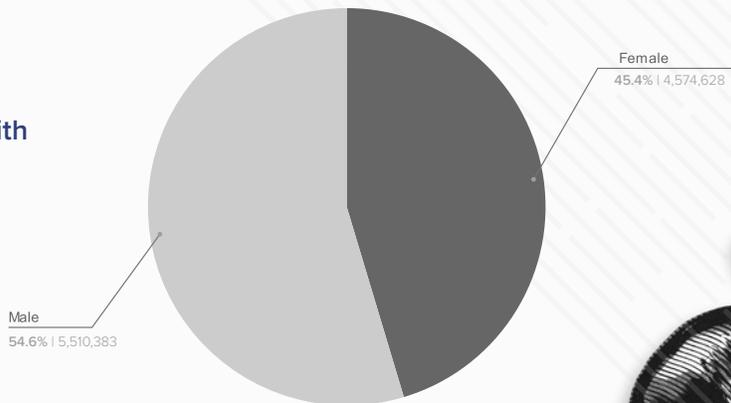
The majority of Frontline Essential workers in New York are women (65%), in contrast to Non-Frontline Essential workers, where men hold the majority. In New York State, a greater share of workers in the following Frontline Essential occupations are female: Kindergarten Teachers, Except Special Education (97%); Preschool Teachers, Except Special Education (96%); Speech-Language Pathologists (95%); Dental Assistants (94%), Medical Assistants (91%) and Nurse Practitioners (91%).

Source: Emsi Labor Market Analytics, 2020

Frontline Essential



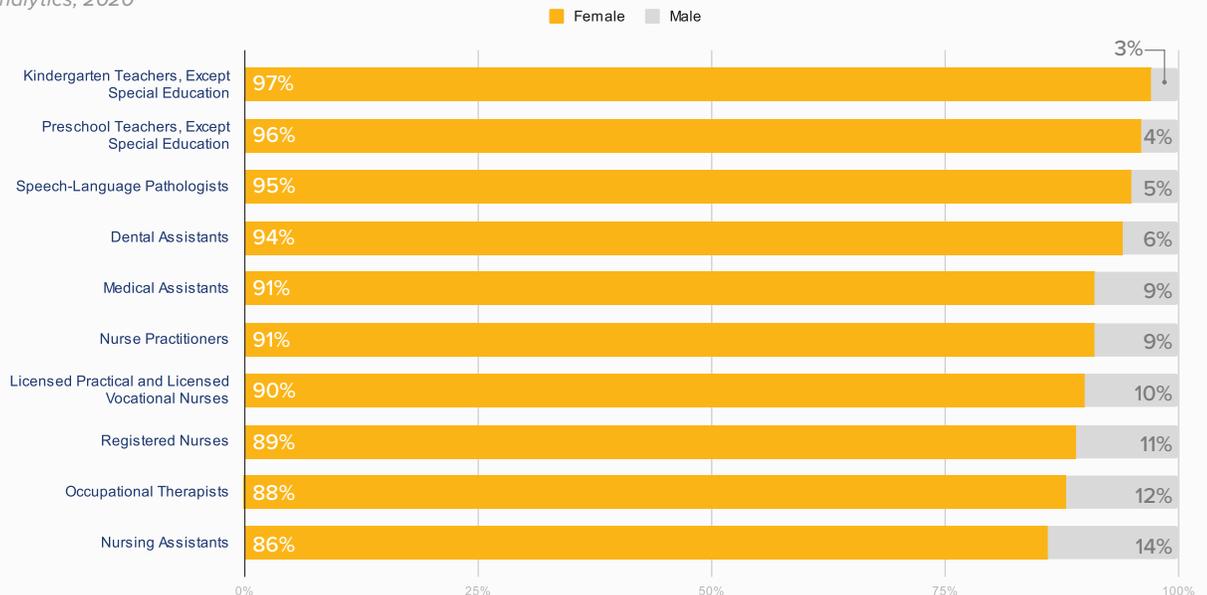
The two Frontline Essential jobs with the highest percentage of female workers were in the educational instruction field.



Non-Frontline Essential

Top 10 Most Female Frontline Essential Occupations, NYS, 2020

Note: Calculation based on data from Emsi Labor Market Analytics, 2020



6. Earnings

The median Frontline Essential worker earned 76¢ on the dollar compared to their counterparts.

As indicated, Non-Frontline Essential workers earn more at the first, second and third quartiles than their Frontline Essential counterparts. Frontline Essential workers in New York averaged \$53,887 in annual earnings. This stands in contrast to Non-Frontline Essential workers with annual average earnings of \$74,005, which is almost 40% greater.

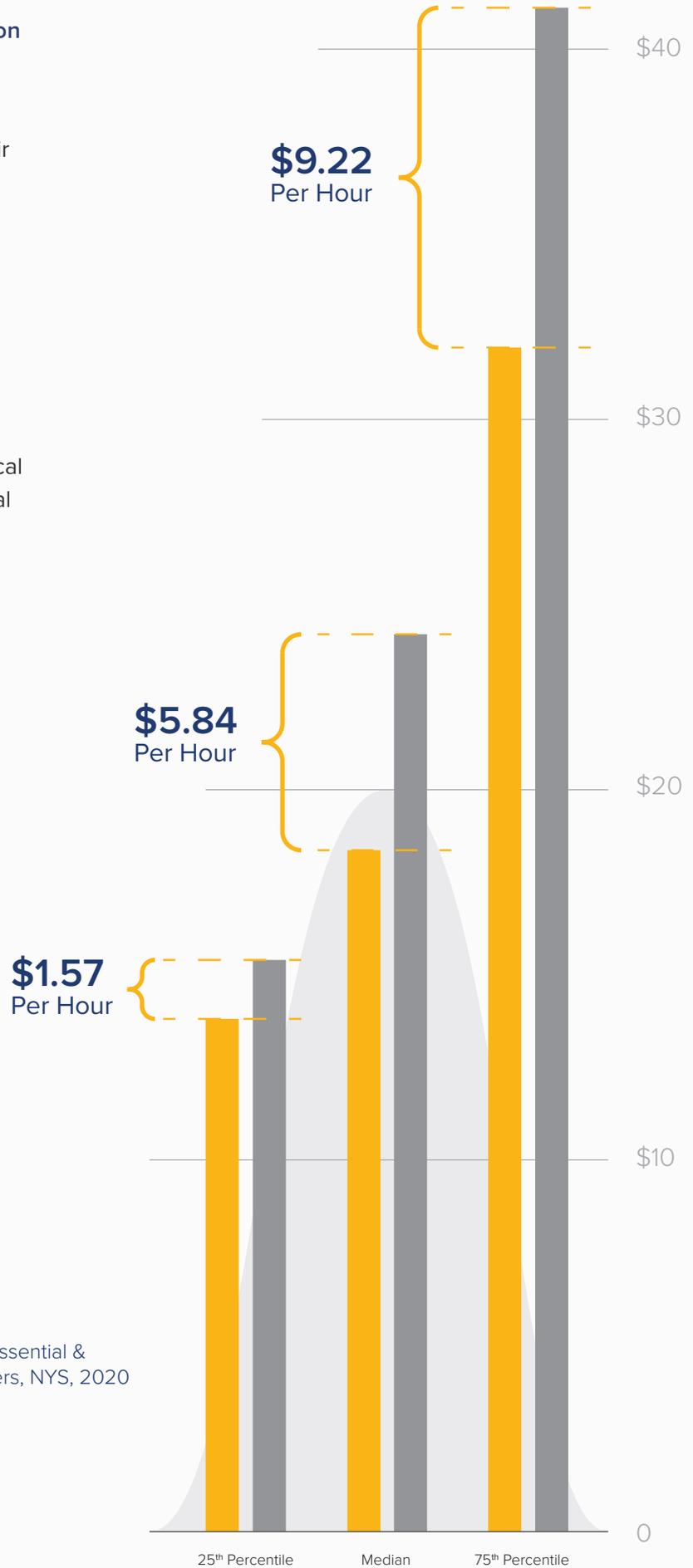
Frontline Essential occupations in New York State with the lowest average hourly earnings are: Cooks, Restaurant (\$14.14); Funeral Attendants (\$14.26); Butchers and Meat Cutters (\$15.36); Licensed Practical and Licensed Vocational Nurses (\$15.53) and Medical Equipment Preparers (\$15.75).

Source: Emsi Labor Market Analytics, 2020



Hourly Earnings of Frontline Essential & Non-Frontline Essential Workers, NYS, 2020

- Frontline Essential Workers
- Non-Essential or Non-Frontline



7. Industrial Employment

The majority of the 10 industries with the largest share of Frontline Essential workers were in the Healthcare and Social Assistance sector.

Almost half (45%) of all Frontline Essential jobs were in the Healthcare and Social Assistance sector. Industries employing the largest number of Frontline Essential occupations include those which provide food/drink, medical services, education or public service.

Except for Gasoline Stations with Convenience Stores (NAICS 447110), the top 10 industries with the largest shares of Frontline Essential workers were in either the Healthcare and Social Assistance (NAICS 62) sector or the Restaurants and Other Eating Places (NAICS 72251) industry. Four out of the six Healthcare and Social Assistance industries were in the Nursing and Residential Care Facilities (NAICS 623) subsector.



Industries with Largest Share of Frontline Essential Workers, NYS, 2020

Source: Emsi Labor Market Analytics, 2020

NAICS	Industry	Frontline Essential Employment (2020)	Frontline Essential Share of Industry Workforce
621610	Home Health Care Services	265,525	91.4%
624120	Services for the Elderly & Persons with Disabilities	163,180	87.3%
623210	Residential Intellectual & Developmental Disability Facilities	49,336	80.7%
722515	Snack & Nonalcoholic Beverage Bars	41,051	78.6%
722513	Limited-Service Restaurants	134,333	78.5%
722514	Cafeterias, Grill Buffets & Buffets	3,025	74.8%
623311	Continuing Care Retirement Communities	7,511	73.2%
623312	Assisted Living Facilities for the Elderly	15,283	72.4%
623110	Nursing Care Facilities (Skilled Nursing Facilities)	83,051	71.1%
447110	Gasoline Stations with Convenience Stores	17,840	70.6%

Nine of the top 10 fastest-growing industries by projected Frontline Essential employment were in the Healthcare and Social Assistance sector.

The Home Healthcare Services (NAICS 621610) industry is projected to grow its Frontline Essential workforce by 58% over the 10-year period ending 2030. This represents the fastest growth rate of all six-digit NAICS industries employing at least 1,000 Frontline Essential workers in 2020. The industry is projected to add 153,827 Frontline Essential jobs over this time period, making it the largest growing industry as well.

Of the top 10 fastest-growing industries by projected Frontline Essential employment, nine were in the Healthcare and Social Assistance sector. Office Administrative Services (NAICS 561110) was the only non-healthcare or social services industry to make the top 10. In 2020, the industry employed people in 36 Frontline Essential occupations which accounted for only 2.8% of total employment in the industry. However, the industry’s Frontline Essential employment is projected to grow by 54% over the decade, outpacing the industry’s total projected growth rate (+28%). As a result, the industry’s share of Frontline Essential occupations is projected to increase from 2.8% to 3.2% over this time period.

Industries with Fastest Projected Growth in Frontline Essential Employment, NYS, 2020–2030

**Of those that employed at least 1,000 Frontline Essential workers in 2020
Source: Emsi Labor Market Analytics, 2020*

NAICS	Industry*	Frontline Essential Employment		Net Change	Percent Change
		2020	2030		
621610	Home Health Care Services	265,525	419,352	153,827	58%
623311	Continuing Care Retirement Communities	7,511	11,556	4,044	54%
561110	Office Administrative Services	1,577	2,329	752	48%
622310	Specialty (except Psychiatric and Substance Abuse) Hospitals	11,993	17,513	5,521	46%
621493	Freestanding Ambulatory Surgical and Emergency Centers	3,832	5,358	1,525	40%
624120	Services for the Elderly and Persons with Disabilities	163,180	227,429	64,249	39%
621492	Kidney Dialysis Centers	3,105	4,245	1,140	37%
621340	Offices of Physical, Occupational and Speech Therapists, and Audiologists	18,584	25,387	6,803	37%
621498	All Other Outpatient Care Centers	7,699	10,297	2,599	34%
622210	Psychiatric and Substance Abuse Hospitals	2,880	3,842	962	33%

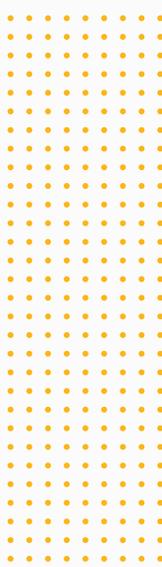
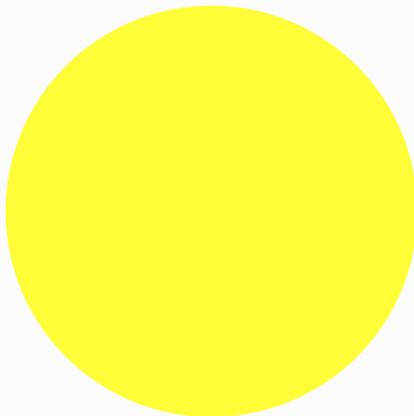
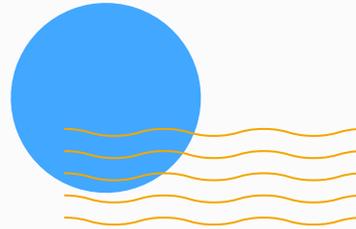
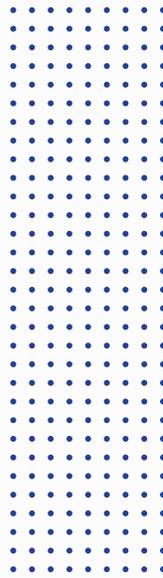
As the COVID-19 pandemic persists around the globe, it should come as no surprise to learn that the healthcare industry has the highest share of Frontline Essential workers. And with nearly every sector that employs Frontline Essential workers projecting growth in the years to come, we can expect a correlating increase in demand for people willing to take on these hazardous roles. The people taking these roles tend to be young and quite diverse, with a large majority of women. And despite the heightened importance of their jobs and the danger associated with them, Frontline Essential workers earned almost 25% less than their non-essential counterparts. At the height of lockdowns, there was a clarion call for Frontline Essential workers to receive recognition for their bravery and increased compensation for the jobs they performed. Perhaps this is an argument worth revisiting.



8. For Further Information

Questions regarding this report should be directed to Jeffrey Sorensen, Chief of the Bureau of Labor Market Information. He can be reached via email at Jeffrey.Sorensen@labor.ny.gov or by phone at 518-457-3800.

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9. Appendix

References

1. Cybersecurity and Infrastructure Security Agency (CISA)

- GUIDANCE ON THE ESSENTIAL CRITICAL INFRASTRUCTURE WORKFORCE
cisa.gov/publication/guidance-essential-critical-infrastructure-workforce
 - Provides Broad Essential Industry Categories

2. LMI Institute and C2ER

- The LMI Institute and C2ER used the DHS memo to identify the Standard Occupational Classification (SOC) definitions connected to medical and healthcare, telecommunications, information technology systems, defense, food and agriculture, transportation and logistics, energy, water and wastewater, law enforcement, and public works industries
lmiontheweb.org/wp-content/uploads/sites/4/2020/03/SOC-Codes-CISA-Critical-Infrastructure-Workers-with-OES-Data-Rev-1.xlsx

3. O*NET Online

- The O*NET program is the nation's primary source of occupational information. Central to the project is the O*NET database, containing information on hundreds of standardized and occupation-specific descriptors. The database is continually updated by surveying a broad range of workers from each occupation. Information from this freely available database forms the heart of O*NET OnLine, the interactive application for exploring and searching occupations. The database also provides the basis for our Career Exploration Tools, a set of valuable assessment instruments for workers and students looking to find or change careers.
- Physical Proximity Score - To what extent does this job require the worker to perform job tasks in close physical proximity to other people? onetonline.org/find/descriptor/result/4.C.2.a.3

4. Economic Modeling Specialist International (EMSI)

- The labor market data provider aggregates and displays an array of statistics in order to better describe the market for labor. Their “Developer” Product allows subscribers to, among many other data elements, extract employment, wage and worker demographic information. economicmodeling.com

Frontline Essential Occupation List

SOC Code	SOC Title
11-9031	Education and Childcare Administrators, Preschool and Daycare
11-9051	Food Service Managers
21-1022	Healthcare Social Workers
21-1094	Community Health Workers
25-1031	Architecture Teachers, Postsecondary
25-1194	Career/Technical Education Teachers, Postsecondary
25-2011	Preschool Teachers, Except Special Education
25-2012	Kindergarten Teachers, Except Special Education
25-2021	Elementary School Teachers, Except Special Education
25-2023	Career/Technical Education Teachers, Middle School
25-2032	Career/Technical Education Teachers, Secondary School
25-2051	Special Education Teachers, Preschool
25-2057	Special Education Teachers, Middle School
25-2059	Special Education Teachers, All Other
29-1021	Dentists, General
29-1071	Physician Assistants
29-1122	Occupational Therapists
29-1123	Physical Therapists
29-1126	Respiratory Therapists
29-1127	Speech-Language Pathologists
29-1131	Veterinarians
29-1141	Registered Nurses
29-1171	Nurse Practitioners
29-1215	Family Medicine Physicians
29-1216	General Internal Medicine Physicians
29-1221	Pediatricians, General
29-2031	Cardiovascular Technologists and Technicians
29-2033	Nuclear Medicine Technologists
29-2052	Pharmacy Technicians
29-2053	Psychiatric Technicians
29-2055	Surgical Technologists
29-2056	Veterinary Technologists and Technicians
29-2061	Licensed Practical and Licensed Vocational Nurses
31-1120	Home Health and Personal Care Aides

SOC Code	SOC Title
31-1131	Nursing Assistants
31-1133	Psychiatric Aides
31-2011	Occupational Therapy Assistants
31-2021	Physical Therapist Assistants
31-9091	Dental Assistants
31-9092	Medical Assistants
31-9093	Medical Equipment Preparers
31-9095	Pharmacy Aides
31-9096	Veterinary Assistants and Laboratory Animal Caretakers
31-9097	Phlebotomists
31-9099	Healthcare Support Workers, All Other
33-1011	First-Line Supervisors of Correctional Officers
33-1012	First-Line Supervisors of Police and Detectives
33-1021	First-Line Supervisors of Firefighting and Prevention Workers
33-2011	Firefighters
33-3012	Correctional Officers and Jailers
33-3051	Police and Sheriff's Patrol Officers
33-3052	Transit and Railroad Police
33-9093	Transportation Security Screeners
35-1011	Chefs and Head Cooks
35-1012	First-Line Supervisors of Food Preparation and Serving Workers
35-2014	Cooks, Restaurant
35-3023	Fast Food and Counter Workers
35-3041	Food Servers, Non-Restaurant
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop
39-4021	Funeral Attendants
41-2011	Cashiers
43-3071	Tellers
43-5051	Postal Service Clerks
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers
47-2031	Carpenters
47-2111	Electricians
47-2151	Pipelayers
47-4061	Rail-Track Laying and Maintenance Equipment Operators
47-4071	Septic Tank Servicers and Sewer Pipe Cleaners

SOC Code	SOC Title
47-5011	Derrick Operators, Oil and Gas
47-5012	Rotary Drill Operators, Oil and Gas
47-5013	Service Unit Operators, Oil and Gas
47-5071	Roustabouts, Oil and Gas
49-2021	Radio, Cellular, and Tower Equipment Installers and Repairers
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay
51-2051	Fiberglass Laminators and Fabricators
51-3021	Butchers and Meat Cutters
51-3022	Meat, Poultry, and Fish Cutters and Trimmers
53-2011	Airline Pilots, Copilots, and Flight Engineers
53-2012	Commercial Pilots
53-2021	Air Traffic Controllers
53-3052	Bus Drivers, Transit and Intercity
53-5022	Motorboat Operators

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The New York State Department of Labor is an Equal Opportunity Employer/Program. Auxiliary aids and services are available upon request to individuals with disabilities.