

ALASKA STATE LEGISLATURE

HEALTH & SOCIAL SERVICES
COMMITTEE

RULES

EDUCATION COMMITTEE

ETHICS



SENATOR Tom Begich

Senate Democratic Leader

WHILE IN SESSION
STATE CAPITOL
JUNEAU, AK 99801
(907) 465-3704

•
WHILE IN ANCHORAGE
1500 W BENSON BLVD
ANCHORAGE, AK 99503
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Free/Reduced Tuition for Essential Workers Sponsor Statement

Senate Bill #10 (EDU)

Version: 32-LS0127\N

During this unprecedented time, thousands of Alaskans have remained steadfast in their commitment to their communities. From restocking grocery shelves to delivering medicine, from hauling away our trash, to continuing to care for the most vulnerable amongst us, essential workers have provided the critical support our communities have needed during this pandemic. Now is the time to recognize the efforts and invest in this ready and able workforce. Senate Bill 10 establishes an Essential Worker Grant Program, leveraging the dedication of our frontline workers and providing a tuition free pathway for them to enhance and grow their professional capacity.

According to the US Department of Labor, rising levels of education attainment correlates to a 14% increase in output per hour worked in the private sector. In fact, data shows that the typical college graduate working full-time pays more than 80% in local, state, and federal taxes than the typical high school graduate. Investing in our essential workers will make Alaska more competitive and reduce strain on government financial assistance programs, reduce crime rates, and increase tax revenue and wages.

Research indicates that an overwhelming 93% of employees would stay at their companies longer if the company invested in their professional development. With declining population rates affecting all of Alaska, investing in our essential workforce will keep Alaskans here – working hard to stabilize, strengthen, and build back our economy.

CS FOR SENATE BILL NO. 10(FIN) am

IN THE LEGISLATURE OF THE STATE OF ALASKA

THIRTY-SECOND LEGISLATURE - FIRST SESSION

BY THE SENATE FINANCE COMMITTEE

Amended: 5/17/21

Offered: 4/28/21

Sponsor(s): SENATORS BEGICH, Olson, Revak, Gray-Jackson, Wielechowski, Kiehl, Kawasaki

A BILL

FOR AN ACT ENTITLED

"An Act establishing a grant program to provide to essential workers and laid-off workers the tuition and fees to attend certain postsecondary institutions."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The uncoded law of the State of Alaska is amended by adding a new section to read:

ESSENTIAL WORKER AND LAID-OFF WORKER GRANT PROGRAM. (a) Subject to appropriation, the Alaska Commission on Postsecondary Education shall award a grant in an amount equal to the recipient's cost of annual tuition and fees at a postsecondary institution qualified under AS 14.43.830 to a person who

(1) applies not later than December 31, 2021, on a form provided by the commission;

(2) was

(A) employed as an essential worker in the state when the federal government declared a public health emergency on January 31, 2020;

1 or

2 (B) temporarily or permanently laid off in the state as a direct
3 consequence of the public health emergency declared by the federal
4 government on January 31, 2020;

5 (3) is enrolled or about to be enrolled at a postsecondary institution qualified
6 under AS 14.43.830 as a half-time or full-time student;

7 (4) has been a resident of the state for at least 12 months;

8 (5) has received, or will receive within six months after applying for a grant
9 under this section, a high school diploma or general educational development certificate;

10 (6) has earned a cumulative grade point average of 2.0 or higher in high
11 school or has otherwise demonstrated an equivalent academic ability, as specified by the
12 commission in regulation;

13 (7) has completed and submitted the Free Application for Federal Student Aid
14 for each academic year, if eligible, and accepted all state and federal aid grants available to
15 the person; and

16 (8) has not completed more than a total of 90 credit hours, or the equivalent, at
17 a postsecondary institution.

18 (b) A recipient of a grant under this section is eligible to receive a grant for another
19 term if the person

20 (1) maintains a cumulative grade point average of 2.0 or higher during each
21 term for which the person has received a grant under this section, unless waived in accordance
22 with regulations adopted by the commission;

23 (2) makes satisfactory progress toward a curriculum, degree, or program, as
24 specified by the commission in regulation;

25 (3) maintains enrollment as a half-time or full-time student; and

26 (4) has not completed the curriculum, degree, or program at a postsecondary
27 institution for which the recipient received a grant for the previous term.

28 (c) The commission shall

29 (1) establish an application process for participation in the program;

30 (2) implement policies that improve the academic success or completion rates
31 of students who receive a grant under this section;

(3) evaluate the effects of the grant program for the purpose of preparing the report required under sec. 2 of this Act.

(d) The total amount of grants awarded under this section may not exceed \$2,500,000 in a fiscal year. If the amount appropriated in a fiscal year is insufficient to meet the amounts awarded under (a) and (b) of this section, the commission shall prioritize payment of grants based on need according to the expected family contribution reported on each applicant's Free Application for Federal Student Aid.

(e) The commission shall consult with the Department of Health and Social Services, review the Alaska Essential Services and Critical Workforce Infrastructure Order, as amended on April 10, 2020, and determine the specific employment that qualifies as essential under (a)(2)(A) of this section.

(f) The commission may adopt regulations necessary to implement this section.

(g) In this section,

(1) "commission" means the Alaska Commission on Postsecondary Education;

(2) "full-time student" means an undergraduate or career education student who enrolls in and regularly attends classes for at least 12 semester hours of credit or the equivalent during the semester; any combination of semester hours of credit, or the equivalent, aggregating to the requisite number of semester hours and undertaken during a semester at two or more postsecondary institutions qualified under AS 14.43.830 constitutes full-time student status;

(3) "half-time student" means

(A) an undergraduate or career education student who, during the semester, enrolls in and regularly attends classes at one or more postsecondary institutions qualified under AS 14.43.830 for six to 11 semester credit hours or an equivalent of six to 11 semester credit hours; or

(B) a career education student who enrolls in and regularly attends classes for 15 hours a week.

* **Sec. 2.** The uncoded law of the State of Alaska is amended by adding a new section to read:

ESSENTIAL WORKER AND LAID-OFF WORKER GRANT PROGRAM
REPORT. On or before December 31 of each calendar year, the Alaska Commission on

1 Postsecondary Education shall submit a report to the senate secretary and chief clerk of the
2 house of representatives and notify the legislature that the report is available. The report must
3 include

4 (1) student completion rates of the curricula, degrees, and programs described
5 in sec. 1(b)(2) of this Act;

6 (2) the amount of federal aid awarded to grant recipients under sec. 1 of this
7 Act;

8 (3) the effects of the grant program on the enrollment and finances of state-
9 supported postsecondary educational institutions;

10 (4) the overall success rate and financial effects of the grant program.

11 * **Sec. 3.** Section 1 of this Act is repealed June 30, 2025.

12 * **Sec. 4.** Section 2 of this Act is repealed June 30, 2026.

ALASKA STATE LEGISLATURE

HEALTH & SOCIAL SERVICES
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Free/Reduced Tuition for Essential Workers Sectional Analysis

Senate Bill #10 (EDU)
Version: 32-LS0127\N

Section 1.

Establishes an Essential Worker Grant Program as new uncodified law of the State of Alaska by directing the Alaska Commission on Postsecondary Education (ACPE) to establish a post-secondary tuition grant program for and award post-secondary tuition grants to essential workers employed at the start of or during the declared federal public health emergency or those who were temporarily or permanently laid off as a direct consequence of the declared federal public health emergency.

Directs ACPE to establish policies and procedures for application and admission to the program, including consulting the Department of Health and Social Services and reviewing the Alaska Essential Services and Critical Workforce Infrastructure Order in determining applicant eligibility.

Section 2.

Establishes an Essential Worker Grant Program Report as new uncodified law of the State of Alaska and directs ACPE to submit the report of program efficacy to the Alaska State Legislature on or before December 31st.

Section 3.

Repeals *Section 1* on June 30, 2025.

Section 4.

Repeals *Section 2* on June 30, 2026.

CS FOR SENATE BILL NO. 10(FIN)

IN THE LEGISLATURE OF THE STATE OF ALASKA

THIRTY-SECOND LEGISLATURE - FIRST SESSION

BY THE SENATE FINANCE COMMITTEE

Offered: 4/28/21

Referred: Rules

Sponsor(s): SENATOR BEGICH

A BILL

FOR AN ACT ENTITLED

1 **"An Act establishing a grant program to provide to essential workers the tuition and**
2 **fees to attend a state-supported postsecondary educational institution."**

3 **BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:**

4 *** Section 1.** The uncoded law of the State of Alaska is amended by adding a new section
5 to read:

6 **ESSENTIAL WORKER GRANT PROGRAM.** (a) Subject to appropriation, the
7 Alaska Commission on Postsecondary Education shall award a grant in an amount equal to
8 the recipient's cost of annual tuition and fees at a state-supported postsecondary educational
9 institution to a person who

10 (1) applies not later than December 31, 2021, on a form provided by the
11 commission;

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13 (A) employed as an essential worker in the state when the
14 federal government declared a public health emergency on January 31, 2020;

1 or

2 (B) temporarily or permanently laid off in the state as a direct
3 consequence of the public health emergency declared by the federal
4 government on January 31, 2020;

5 (3) is enrolled or about to be enrolled at a state-supported postsecondary
6 educational institution as a half-time or full-time student;

7 (4) has been a resident of the state for at least 12 months;

8 (5) has received, or will receive within six months after applying for a grant
9 under this section, a high school diploma or general educational development certificate;

10 (6) has earned a cumulative grade point average of 2.0 or higher in high
11 school or has otherwise demonstrated an equivalent academic ability, as specified by the
12 commission in regulation;

13 (7) has completed and submitted the Free Application for Federal Student Aid
14 for each academic year, if eligible, and accepted all state and federal aid grants available to
15 the person; and

16 (8) has not completed more than a total of 90 credit hours, or the equivalent, at
17 a postsecondary educational institution.

18 (b) A recipient of a grant under this section is eligible to receive a grant for another
19 term if the person

20 (1) maintains a cumulative grade point average of 2.0 or higher during each
21 term for which the person has received a grant under this section, unless waived in accordance
22 with regulations adopted by the commission;

23 (2) makes satisfactory progress toward a curriculum, degree, or program, as
24 specified by the commission in regulation;

25 (3) maintains enrollment as a half-time or full-time student; and

26 (4) has not completed the curriculum, degree, or program at a postsecondary
27 educational institution for which the recipient received a grant for the previous term.

28 (c) The commission shall

29 (1) establish an application process for participation in the program;

30 (2) implement policies that improve the academic success or completion rates
31 of students who receive a grant under this section;

(3) evaluate the effects of the grant program for the purpose of preparing the report required under sec. 2 of this Act.

(d) The total amount of grants awarded under this section may not exceed \$2,500,000 in a fiscal year. If the amount appropriated in a fiscal year is insufficient to meet the amounts awarded under (a) and (b) of this section, the commission shall prioritize payment of grants based on need according to the expected family contribution reported on each applicant's Free Application for Federal Student Aid.

(e) The commission shall consult with the Department of Health and Social Services, review the Alaska Essential Services and Critical Workforce Infrastructure Order, as amended on April 10, 2020, and determine the specific employment that qualifies as essential under (a)(2)(A) of this section.

(f) The commission may adopt regulations necessary to implement this section.

(g) In this section,

(1) "commission" means the Alaska Commission on Postsecondary Education;

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(3) "half-time student" means

(A) an undergraduate or career education student who, during the semester, enrolls in and regularly attends classes at one or more public institutions of higher education for six to 11 semester credit hours or an equivalent of six to 11 semester credit hours; or

(B) a career education student who enrolls in and regularly attends classes for 15 hours a week.

* **Sec. 2.** The uncoded law of the State of Alaska is amended by adding a new section to read:

ESSENTIAL WORKER GRANT PROGRAM REPORT. On or before December 31 of each calendar year, the Alaska Commission on Postsecondary Education shall submit a

1 report to the senate secretary and chief clerk of the house of representatives and notify the
2 legislature that the report is available. The report must include

3 (1) student completion rates of the curricula, degrees, and programs described
4 in sec. 1(b)(2) of this Act;

5 (2) the amount of federal aid awarded to grant recipients under sec. 1 of this
6 Act;

7 (3) the effects of the grant program on the enrollment and finances of state-
8 supported postsecondary educational institutions;

9 (4) the overall success rate and financial effects of the grant program.

10 * **Sec. 3.** Section 1 of this Act is repealed June 30, 2025.

11 * **Sec. 4.** Section 2 of this Act is repealed June 30, 2026.

Fiscal Note

State of Alaska
2021 Legislative Session

Bill Version: SB 10
Fiscal Note Number: _____
() Publish Date: _____

Identifier: SB010-EED-ACPE-5-10-21(SRLS)
Title: FREE/REDUCED TUITION FOR ESSENTIAL
WORKER
Sponsor: BEGICH
Requester: Senate Rules

Department: Department of Education and Early Development
Appropriation: Alaska Commission on Postsecondary Education
Allocation: Program Administration & Operations
OMB Component Number: 2738

Expenditures/Revenues

Note: Amounts do not include inflation unless otherwise noted below.

(Thousands of Dollars)

	FY2022 Appropriation Requested	Included in Governor's FY2022 Request	Out-Year Cost Estimates				
OPERATING EXPENDITURES	FY 2022	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Personal Services	187.5	(187.5)	187.5	187.5	187.5		
Travel							
Services	16.0		10.0	10.0	5.0		
Commodities							
Capital Outlay	65.5						
Grants & Benefits	2,500.0		2,500.0	2,500.0	2,500.0		
Miscellaneous							
Total Operating	2,769.0	(187.5)	2,697.5	2,697.5	2,692.5	0.0	0.0

Fund Source (Operating Only)

1004 Gen Fund (UGF)	269.0		73.2	73.2	36.6		
1007 I/A Rcpts (Other)		(187.5)	124.3	124.3	155.9		
1269 CSLFRF (Fed)	2,500.0		2,500.0	2,500.0	2,500.0		
Total	2,769.0	(187.5)	2,697.5	2,697.5	2,692.5	0.0	0.0

Positions

Full-time							
Part-time							
Temporary							

Change in Revenues

None							
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Estimated SUPPLEMENTAL (FY2021) cost: 0.0 (separate supplemental appropriation required)

Estimated CAPITAL (FY2022) cost: 0.0 (separate capital appropriation required)

Does the bill create or modify a new fund or account? No
(Supplemental/Capital/New Fund - discuss reasons and fund source(s) in analysis section)

ASSOCIATED REGULATIONS

Does the bill direct, or will the bill result in, regulation changes adopted by your agency? Yes
If yes, by what date are the regulations to be adopted, amended or repealed? 07/31/21

Why this fiscal note differs from previous version/comments:

This fiscal note is modified by the Senate Rules Committee to utilize American Rescue Plan Act funding for grants, instead of Alaska Higher Education Investment Funds.

Prepared By: Senator Stevens
Senate Rules Committee

Phone: (907)465-4925
Date: 05/10/2021

FISCAL NOTE ANALYSIS

STATE OF ALASKA
2021 LEGISLATIVE SESSION

BILL NO. SB 10

Analysis

This bill establishes a grant program to be administered by the Alaska Commission on Postsecondary Education (ACPE), which provides essential workers with tuition and fees to attend a state-supported postsecondary educational institution. The bill provides for various eligibility criteria for award of an initial grant and identifies eligibility criteria to receive a grant for another term. Total amount of grants may not exceed \$10,000.0 for the length of the program with prioritization for payment of grants if insufficient funds are appropriated. Additionally, the bill defines "essential worker" and establishes guidelines and a timeframe for a report on the new program to the Legislature. This act is repealed January 1, 2025.

As COVID-19 continues to affect businesses and Alaska's economy negatively, this bill would support essential workers who are working currently or who were laid off temporarily or permanently during the federal public health emergency by offering grants for tuition and fees to attend state-supported educational institutions to improve their opportunity for employment.

Assumptions to implement the grant program outlined in this bill:

- Assumes grants would be funded through the American Rescue Plan Act funds and operating costs through Unrestricted General Funds (UGF).
- Personal services costs for FY2022 represent the cost for 1.5 FTE Financial Aid Operations Analyst/Financial Aid Specialist to oversee implementation and process awards and communicate with students and schools and Information Technology staff to support system setup and implementation. Total: \$187.5 UGF
- Personal services costs for FY2023 and FY2024 represent the costs of .6 FTE Financial Aid Operations Analyst/Financial Aid Specialist to administer the program. Total: \$63.2 UGF. Personal services costs for FY2025 reflect half that amount, \$31.6 UGF, with the program ending January 1, 2025.
- Personal services costs do not represent new positions, but reflect new duties to implement and administer the Essential Workers grant program. Since these new duties are not associated with the Alaska Student Loan Corporation (ASLC), they must be funded through a different fund source. The Governor's FY2022 budget includes \$187.5 Interagency Receipts for these positions to be funded from the Alaska Student Loan Corporation. This fiscal note reflects a change in funding source to support the new duties of these positions. For the fiscal years FY2023 through FY2025, the ASLC Receipts are added back to reflect the shift back to providing services for the Loan Corporation.
- Annual system maintenance cost in FY2022 through FY2024. Total: \$10.0 UGF. Maintenance costs for FY2025 reflect half that amount, \$5.0 UGF, with the program ending January 1, 2025.
- FY2022 cost to promulgate regulations to implement the new grant program. Total: \$6.0 UGF
- In FY2022, capital outlay is required for the system vendor of the Alaska Student Aid Portal to expand the system and implement the grant program. Total: \$65.5 UGF
- Total amount of grants may not exceed \$10,000.0 for the length of the program and the estimated amount is not to exceed \$2,500.0 each year.

Regulations will be required for ACPE to implement this grant program. The regulations would need to be finalized in July 2021 in order for ACPE, grantees, and postsecondary institutions to have time to prepare for grants to be disbursed in Fall 2021.

ORIGINAL RESEARCH

Association between SARS-CoV-2 infection, exposure risk and mental health among a cohort of essential retail workers in the USA

Fan-Yun Lan,^{1,2} Christian Suharlim,³ Stefanos N Kales,^{1,4} Justin Yang ^{1,5}

► Additional material is published online only. To view, please visit the journal online (<http://dx.doi.org/10.1136/oemed-2020-106774>).

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Received 8 June 2020

Revised 11 September 2020

Accepted 26 September 2020

ABSTRACT

Objectives To investigate SARS-CoV-2 (the virus causing COVID-19) infection and exposure risks among grocery retail workers, and to investigate their mental health state during the pandemic.

Methods This cross-sectional study was conducted in May 2020 in a single grocery retail store in Massachusetts, USA. We assessed workers' personal/occupational history and perception of COVID-19 by questionnaire. The health outcomes were measured by nasopharyngeal SARS-CoV-2 reverse transcriptase PCR (RT-PCR) results, General Anxiety Disorder-7 (GAD-7) and Patient Health Questionnaire-9 (PHQ-9).

Results Among 104 workers tested, 21 (20%) had positive viral assays. Seventy-six per cent positive cases were asymptomatic. Employees with direct customer exposure had an odds of 5.1 (95% CI 1.1 to 24.8) being tested positive for SARS-CoV-2 after adjustments. As to mental health, the prevalence of anxiety and depression (ie, GAD-7 score >4 or PHQ-9 score >4) was 24% and 8%, respectively. After adjusting for potential confounders, those able to practice social distancing consistently at work had odds of 0.3 (95% CI 0.1 to 0.9) and 0.2 (95% CI 0.03 to 0.99) screening positive for anxiety and depression, respectively. Workers commuting by foot, bike or private cars were less likely to screen positive for depression (OR 0.1, 95% CI 0.02 to 0.7).

Conclusions In this single store sample, we found a considerable asymptomatic SARS-CoV-2 infection rate among grocery workers. Employees with direct customer exposure were five times more likely to test positive for SARS-CoV-2. Those able to practice social distancing consistently at work had significantly lower risk of anxiety or depression.

INTRODUCTION

WHO declared COVID-19 as a pandemic on 11 March 2020.¹ Since then, accumulating evidence has shown the transmission capability of SARS-CoV-2, the virus causing COVID-19, not just from symptomatic patients but from asymptomatic carriers.²⁻⁴ Interventions have been implemented worldwide to minimise transmission, including social distancing, travel bans, stay-at-home orders and school and non-essential business closures.^{5,6} All measures are intended to reduce contact and to prevent transmission, especially when the index patients are in subclinical stage of SARS-CoV-2 infection.⁷ While most community residents benefit from these risk reduction policies, certain essential employees, such

Key messages

What is already known about this subject?

- The health of essential workers during the COVID-19 pandemic is of great public and media interests.
- Research, however, has largely focused on healthcare workers with relatively limited literature investigating non-healthcare essential workers.
- Previous studies suggested essential workers are not able to benefit from mitigation policies.
- Their occupational exposures increase their own risk to SARS-CoV-2 infection, and increase the risk of secondary transmissions to their colleagues, families and communities.

What are the new findings?

- The present study fills in the knowledge gap of COVID-19 impacts on grocery/retail market workers during the pandemic, from both physical and psychological perspectives.
- In this single store sample (n=104), we found an alarming infection rate of 20% positive SARS-CoV-2 RT-PCR assay result among these workers and the majority (76%) of them were asymptomatic at the time of testing.
- Furthermore, employees with direct customer exposure were five times more likely to test positive for SARS-CoV-2.
- Our study also found the inability to practice social distancing consistently at work was a significant risk factor for anxiety and depression.
- At the same time, commuting to work by public transportation/shared rides was significantly associated with depressive state.

as healthcare workers (HCWs), first responders and retail workers, continue to experience potential SARS-CoV-2 exposure risk due to the nature of their job.⁸ Furthermore, once essential workers are infected with SARS-CoV-2, they may become a significant transmission source for the community they serve.⁹

The psychological stress associated with working during the COVID-19 pandemic is also of great public interest.¹⁰ Studies have indicated pandemic awareness, infection fear and family concerns



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Key messages

How might this impact on policy or clinical practice in the foreseeable future?

- This is the first study to demonstrate the significant asymptomatic infection rate, exposure risks and associated psychological distress of grocery retail essential workers during the pandemic, which supports the policy recommendations that employers and government officials should take actions on implementing preventive strategies and administrative arrangements, such as methods to reduce interpersonal contact, repeat and routine SARS-CoV-2 employee testing, to ensure the health and safety of essential workers.
- Our significant mental health finding calls for action in providing comprehensive employee assistance services to help essential workers cope with the psychological distress during the COVID-19 pandemic.

contribute significantly to essential workers' mental distress during an emerging disease pandemic.^{11 12}

Pioneering COVID-19 studies on essential workers have largely focused on HCWs. Studies showed the attack rates of SARS-CoV-2 among HCWs in early outbreaks ranged from 0% to 14%, with fever and loss of smell/taste being the best predictors of the disease.^{13 14} In terms of mental health, about half of the HCWs included in one study reported anxiety and depressive symptoms with psychological stress risk factors including living in areas with higher prevalence or being frontline HCWs.¹⁵

While HCWs have been widely discussed in COVID-19-related research, there are relatively limited studies investigating other essential workers. A recent publication looking at six Asian countries showed that various non-HCWs were also affected during early COVID-19 transmission, with service and sales workers comprising 18% of possible work-related cases.⁹ While previous studies have reported SARS-CoV-2 cluster infections in supermarket settings,^{16 17} no study has examined the SARS-CoV-2 exposure risks or psychological stress among grocery retail essential employees. Therefore, we conducted this study aiming to investigate: 1) SARS-CoV-2 infection rate, transmission and exposure risks among grocery retail employees, 2) their use of personal protective equipment (PPE) and perception on COVID-19 and 3) their mental health state during the COVID-19 pandemic.

METHODS**Study design and study population**

This cross-sectional study is reported according to the Strengthening the Reporting of Observational Studies in Epidemiology guideline.¹⁸ We used secondary data from a COVID-19 testing tent site that included information collected from 104 adults employed at one grocery retail store in the greater Boston area of Massachusetts, USA as part of a city-mandated group testing. Clinical evaluation and nasopharyngeal swab sampling were conducted on each individual over three consecutive days in early May 2020. All workers older than 18 years sent by the store and presented for testing were included in this study (100% response rate).

SARS-CoV-2 RT-PCR specimen collection and testing

The specimens were collected using nasopharyngeal swab inside the designated COVID-19 testing tent. A trained physician

performed the swabbing procedure and transferred each specimen to a 3 mL vial with viral transport media. The samples were then transported to Quest Diagnostic laboratory in Marlborough, Massachusetts, where real-time, reverse-transcriptase-PCR (RT-PCR) diagnostic panels were conducted to detect SARS-CoV-2. All sampling, specimen storage, transportation and testing procedures followed the guidelines of the US Centers for Disease Control and Prevention.¹⁹

Questionnaire survey

As part of the group testing procedure, participants' basic demographic information, SARS-CoV-2-related exposure information, PPE usage and mental health surveys were collected through a paper-based questionnaire completed on site prior to testing.

The basic information section of questionnaire included age, sex, race/ethnicity and medical history including past medical problems, prescription medication history, smoking status, alcohol intake, recreational drug use history and primary care physician information. For past medical issues, participants responded to a checklist which included the following diseases: chronic obstructive pulmonary disease/emphysema, asthma, heart disease, high cholesterol, high blood pressure, diabetes, HIV, hepatitis C, cancer and other(s).

The following questions were included for employment history: most recent job position(s) at the store in the past month, full-time/part-time employment status, work hours per week (<20 hours, 20–39 hours, 40 hours and above), average length of shifts, additional employment(s) outside this retail store and transportation method(s) to work (by foot or bike, private car, public transportation, shared rides or others). Workers selected their job position(s) from the following choices: cashier, front end associate, cart attendant, janitorial crew, stocker, backroom, receiving, sales associate, fresh food associate, supervisor and/or specialised roles. Participants were given the choice to answer with free text for some other position if not listed as above. Employees were asked to identify any additional employment(s) in the following categories: healthcare, drivers and transport, services and sales, cleaning and domestic, public safety, restaurant/fast food, others.⁹

As to COVID-19-related information, participants indicated new-onset symptoms within the past 1–2 weeks as a yes or no to a checklist of 11 common COVID-19 symptoms, including fever/chills, headache, running nose, sore throat, cough (acute, new onset, dry or productive), shortness of breath, loss of taste or smell, diffuse body ache, fatigue/feeling run down, nausea, diarrhoea. If participants answered yes to any of the above symptom(s), they were asked to indicate symptom onset. Participants were asked if they had been exposed to anyone that has confirmed SARS-CoV-2 in the past 14 days. If they answered yes, they were asked of whom the exposure was (colleague, friend, family/relatives) and how many days ago the exposure occurred.

Information on mental health was recorded using two validated screening tools on depression and anxiety: Patient Health Questionnaire-9 (PHQ-9)²⁰ and General Anxiety Disorder-7 (GAD-7).²¹ For PHQ-9, a total score of no higher than 4 indicates no or minimal depression, with a total PHQ-9 score ranging from 0 to 27. The score of GAD-7 ranges from 0 to 21. A GAD-7 score of no higher than 4 indicates no or minimal anxiety. Participants were also asked to self-identify any history of depression and/or anxiety.

Social distancing, PPE usage, COVID-19 prevention knowledge score and COVID-19 pandemic perception score

Participants answered a Likert scale, from never (one) to always (five), for four questions that assessed employee's practice of social distancing and PPE use. Participants answered another Likert scale with six statements, from completely disagree (one) to completely agree (five), which captured the workers' knowledge on PPE and self-perceptions toward COVID-19 pandemic. Both employee's PPE knowledge and COVID-19 perception were then tabulated to a score ranging from 3 to 15. A complete list of questions is included in Online-Only Supplement 1.

Customer exposure categorisation

Employees' job position was classified into two categories: those with significant face-to-face, direct exposure to customers and those without significant customer exposure. Employees with direct customer exposure include cashier, front end associate, sales associate, fresh food associate, cart attendant, janitorial crew, supervisor and manager of all levels. Those without direct customer exposure include stocker, backroom, receiving and maintenance.

Study participants

The COVID-19 testing was conducted as part of a city-mandated group testing, independent to this research. The existing medical records collected for the city testing were de-identified at the primary clinical site prior to analysis. Therefore, the study of de-identified data received a non-human research determination by the Management Sciences for Health (SC#0012020).

Statistical analysis

We performed univariate analyses to compare the workers' characteristics by their SARS-CoV-2 RT-PCR testing results, anxiety and depression status. For binary variables, Pearson's χ^2 test with Yates' continuity correction was performed, while for variables with at least one cell count less than five, Fisher's exact test was conducted instead. As to continuous variables, data were examined by Q-Q plots and determined if they followed normal distribution beforehand. Then we performed parametric t-test or non-parametric Wilcoxon rank sum test, as appropriate.

Logistic regression models and models adjusting for potential confounders were further built. Due to the small sample size and event numbers, we used the inverse probability weighting (IPW) method to avoid inflated SEs of the parameter estimates.²² The IPW was calculated based on the selected variables determined from the univariate analyses results. Extreme weights (below the 5th and above the 95th percentile) were truncated as an additional sensitivity analysis. ORs with 95% CIs were presented.

We performed secondary sensitivity analysis according to employees' job titles. Employees' job position(s) were initially categorised into positions with greater direct customer exposure versus those without. In the sensitivity analysis, we categorised the jobs into supervisory positions vs non-supervisory positions.

All p values reported are two-tailed. A p value <0.05 was considered statistically significant. We used R software (V3.6.3) to conduct statistical analyses.

RESULTS

In table 1, we presented the characteristics of all tested employees stratified by SARS-CoV-2 RT-PCR assay results. Among the 104

Table 1 Characteristics of retail essential employees in a single grocery store in Massachusetts, USA by SARS-CoV-2 (the virus causing COVID-19) RT-PCR assay testing results

	Overall (N=104)	Positive SARS-CoV-2 RT-PCR assay (N=21)	Negative SARS-CoV-2 RT-PCR assay (N=83)	P value
Age, mean (SD)	49.0 (14.1)	49.2 (14.4)	49.0 (14.2)	0.954
Female, n (%)	49 (47.1%)	11 (52.4%)	38 (45.8%)	0.767
Non-Caucasian, n (%)	64 (61.5%)	14 (66.7%)	50 (60.2%)	0.283
Cigarette smoker, n (%)	25 (24.0%)	1 (4.8%)	24 (28.9%)	0.022*
Daily alcohol consumption, n (%)	8 (7.7%)	0	8 (9.6%)	0.354*
Marijuana use, n (%)	14 (13.5%)	2 (9.5%)	12 (14.5%)	0.730*
Self-reported exposure to SARS-CoV-2-positive individual(s) in the past 14 days, n (%)	24 (23.1%)	4 (19.0%)	20 (24.1%)	0.776*
Job positions with direct customer exposure at store†, n (%)	68 (65.4%)	19 (90.5%)	49 (59.0%)	0.009*
Full-time employment status, n (%)	73 (70.2%)	16 (76.2%)	57 (68.7%)	0.685
Residential area SARS-CoV-2 prevalence (per 100 000), geometric mean (geometric SD)	1106.0 (1.5)	1292.8 (1.63)	1063.2 (1.4)	0.179‡
Ability to practice social distancing consistently at work, count (%)	69 (66.3%)	13 (61.9%)	56 (67.5%)	0.930
Using gloves consistently at work, count (%)	80 (76.9%)	19 (90.5%)	61 (73.5%)	0.068*
Wearing face mask consistently at work, count (%)	95 (91.3%)	20 (95.2%)	75 (90.4%)	0.596*
Wearing face mask consistently outside of work, count (%)	81 (77.9%)	18 (85.7%)	63 (75.9%)	0.348*
Commute to work by foot, bike or private car	90 (86.5%)	19 (90.5%)	71 (85.5%)	0.730*
PPE knowledge score, median (IQR)	15 (14–15)	15 (14–15)	15 (14–15)	0.966 ‡
COVID-19 perception score, median (IQR)	12 (11–15)	13 (11–15)	12 (11–14)	0.510 ‡
GAD-7 score, median (IQR)	0 (0–4)	1 (0–4.5)	0 (0–4)	0.660‡
PHQ-9 score, median (IQR)	0 (0–2)	0 (0–1)	0 (0–2)	0.733‡
Employee has an assigned primary care provider, n (%)	77 (74.0%)	17 (81.0%)	60 (72.3%)	0.584*
Requested mental health support on survey, n (%)	14 (13.5%)	3 (14.3%)	11 (13.3%)	0.999*

*Statistics derived from Fisher's exact test.

†Direct customer exposure positions include cashier, front end associate, sales associate, fresh food associate, cart attendant, janitorial crew, supervisor and manager of all levels. These are in contrast to positions mainly dealing with consumer goods or the environment, such as stocker, backroom, receiving and maintenance.

‡Statistics derived from Wilcoxon rank sum test with continuity correction.

GAD-7, Generalised Anxiety Disorder 7-item scale; PHQ-9, Patient Health Questionnaire-9; PPE, personal protective equipment.

grocery retail employees that underwent testing and completed the survey, 47% were female with an average age of 49 years. The majority (62%) of employees in this retail store were non-Caucasian minorities. Twenty-one out of 104 employees tested positive for SARS-CoV-2 indicating a point prevalence of 20%. Among these SARS-CoV-2-positive employees, 91% of them had a job position with significant direct customer exposure compared with 59% among the SARS-CoV-2-negative employees ($p=0.009$). Seventy-six per cent of workers with positive tests were asymptomatic. Among the 25 smokers, only one tested positive for SARS-CoV-2 ($p=0.022$). We did not observe statistical difference of SARS-CoV-2 status associated with protective behaviour (social distancing, use of gloves and/or masks and avoid commuting by public transportation or shared rides), nor did we find significant differences in PPE knowledge, COVID-19 perception and mental health status between SARS-CoV-2-positive and SARS-CoV-2-negative employees.

Table 2 shows the distributions of workers' characteristics, comparing those with at least mild anxiety versus those reporting no or minimal anxiety. Ninety-nine out of 104 workers (95%) completed the GAD-7 questionnaire, with 24 workers (24%) reporting at least mild anxiety. We observed no statistical differences to anxiety by age, gender, smoking, alcohol consumption, marijuana use, possible SARS-CoV-2 exposure, job position, commuting method and PPE use. Only 46% of workers with anxiety reported they were able to practice social distancing consistently at work, whereas the majority (76%) of those without reported anxiety were able to do so at work ($p=0.009$). Employees screening positive for anxiety also reported less consistent mask use (63%) comparing with those screened negative for anxiety (84%), although this result did not reach statistical significance ($p=0.072$). The COVID-19 pandemic perception score, which mainly evaluated the extent of worries on getting oneself and one's family infected due to work, were equally high among employees who screened positive for anxiety by GAD-7 and those who did not (median score 13 vs 12, $p=0.09$).

As to depression, there were 8 out of 99 (8%) who screened positive for at least mild depression (table 3). Workers who

reported at least mild depression recorded higher proportion of possible SARS-CoV-2 exposure in the past 14 days compared with those without depression (63% vs 21%, $p=0.019$). Workers who screened positive for depression by PHQ-9 were less likely to practice social distancing consistently at work and more likely to commute by public transportation or shared rides, compared with those without depression (25% vs 73% and 50% vs 11%, $p=0.010$ and $p=0.013$, respectively).

Employees with direct customer exposure were five times more likely to test positive on SARS-CoV-2 RT-PCR assay comparing with those without direct customer exposures (OR 5.1, 95% CI 1.1 to 24.8) after adjusting for age, gender, smoking and SARS-CoV-2 community prevalence in workers' residential cities (table 4). While cigarette smokers had an 90% risk reduction in having positive SARS-CoV-2 RT-PCR assay result in the crude analysis (OR 0.1, 95% CI 0.01 to 0.6), this finding was not statistically significant after IPW adjustments. In addition, those reporting possible exposure in the past 14 days had an OR of 5.0 (95% CI 1.0 to 25.1) in screening positive for depression, after adjusting for age, gender, smoking, customer-facing jobs, SARS-CoV-2 community prevalence in workers' residential cities and workers' self-reported history of anxiety and depression. The ability to practice social distancing consistently at work was inversely associated with both anxiety and depression, with adjusted OR 0.3 (95% CI 0.1 to 0.9) and 0.2 (95% CI 0.03 to 0.99), respectively. Moreover, those commuting to work by foot, bike or private car demonstrated a 90% risk reduction in screening positive for depression (OR 0.1, 95% CI 0.02 to 0.7) after accounting for potential confounders. In the sensitivity analysis using truncated IPW, all significant results remained robust.

In further sensitivity analysis, we categorised the workers' jobs into supervisory positions and non-supervisory positions. There were 7 out of 21 (33%) SARS-CoV-2-positive employees with supervisory positions, while among those tested negative for SARS-CoV-2 only 7.2% held a supervisory position ($p=0.005$). After using truncated IPW to adjust for age, gender, smoking and SARS-CoV-2 community prevalence, those with supervisory positions had an OR of 6.0 (95% CI 1.5 to 24.9) of having positive SARS-CoV-2 testing results.

Table 2 Characteristics of retail essential employees in a single grocery store in Massachusetts, USA presented for SARS-CoV-2, the virus causing COVID-19, RT-PCR assay testing by Generalised Anxiety Disorder 7-item scale (GAD-7) screening score for anxiety

	At least mild anxiety (GAD-7 >4) (N=24)	No or minimal anxiety (GAD-7 score ≤4) (N=75)	P value
Age, mean (SD)	45.5 (13.7)	50.0 (14.2)	0.169
Female, n (%)	15 (62.5%)	32 (42.7%)	0.145
Smoker, n (%)	6 (25.0%)	18 (24.0%)	0.999
Daily alcohol consumption, n (%)	2 (8.3%)	6 (8.0%)	0.999*
Marijuana use, n (%)	6 (25.0%)	7 (9.3%)	0.103
Self-reported exposure to SARS-CoV-2-positive individual(s) in the past 14 days, n (%)	9 (37.5%)	15 (20.0%)	0.142
Job positions with direct customer exposure at store†, n (%)	16 (66.7%)	48 (64.0%)	0.999
Full-time employment status, n (%)	19 (79.2%)	49 (65.3%)	0.308
Ability to practice social distancing consistently at work, count (%)	11 (45.8%)	57 (76.0%)	0.009
Using gloves consistently at work, count (%)	19 (79.2%)	58 (77.3%)	0.886
Wearing face mask consistently at work, count (%)	22 (91.7%)	70 (93.3%)	0.999*
Wearing face mask consistently outside of work, count (%)	15 (62.5%)	63 (84.0%)	0.072
Commute to work by foot, bike, or private car	18 (75.0%)	67 (89.3%)	0.156
PPE knowledge score, median (IQR)	15 (14–15)	15 (14–15)	0.867‡
COVID-19 perception score, median (IQR)	13 (11.5–15)	12 (11–14.75)	0.090‡

*Statistics derived from Fisher's exact test.

†Direct customer exposure positions include cashier, front end associate, sales associate, fresh food associate, cart attendant, janitorial crew, supervisor and manager of all levels. These are in contrast to positions mainly dealing with consumer goods or the environment, such as stocker, backroom, receiving and maintenance.

‡Statistics derived from Wilcoxon rank sum test with continuity correction.

PPE, personal protective equipment; RT-PCR, reverse transcriptase PCR.

Table 3 Characteristics of retail essential employees in a single grocery store in Massachusetts, USA presented for SARS-CoV-2, the virus causing COVID-19, RT-PCR assay testing by Patient Health Questionnaire-9 (PHQ-9) screening score for depression

	At least mild depression (PHQ-9 score >4) (N=8)	No or minimal depression (PHQ-9 score ≤4) (N=91)	P value
Age, mean (SD)	40.3 (10.5)	49.7 (14.2)	0.070
Female, n (%)	6 (75.0%)	41 (45.1%)	0.145*
Smoker, n (%)	3 (37.5%)	21 (23.1%)	0.397*
Daily alcohol consumption, n (%)	2 (25.0%)	6 (6.6%)	0.125*
Marijuana use, n (%)	2 (25.0%)	11 (12.1%)	0.282*
Self-reported exposure to SARS-CoV-2-positive individual(s) in the past 14 days, n (%)	5 (62.5%)	19 (20.9%)	0.019*
Job positions with direct customer exposure at store†, n (%)	6 (75.0%)	58 (63.7%)	0.712*
Full-time employment status, n (%)	7 (87.5%)	61 (67.0%)	0.429*
Ability to practice social distancing consistently at work, count (%)	2 (25.0%)	66 (72.5%)	0.010*
Using gloves consistently at work, count (%)	6 (75.0%)	71 (78.0%)	0.667*
Wearing face mask consistently at work, count (%)	7 (87.5%)	85 (93.4%)	0.409*
Wearing face mask consistently outside of work, count (%)	4 (50.0%)	74 (81.3%)	0.133*
Commuting to work by foot, bike or private car	4 (50.0%)	81 (89.0%)	0.013*
PPE knowledge score, median (IQR)	14.5 (14–15)	15 (14–15)	0.885‡
COVID-19 perception score, median (IQR)	13 (12–14)	12 (11–15)	0.402‡

*Statistics derived from Fisher's exact test.

†Direct customer exposure positions include cashier, front end associate, sales associate, fresh food associate, cart attendant, janitorial crew, supervisor and manager of all levels. These are in contrast to positions mainly dealing with consumer goods or the environment, such as stocker, backroom, receiving and maintenance.

‡Statistics derived from Wilcoxon rank sum test with continuity correction.

PPE, personal protective equipment; RT-PCR, reverse transcriptase PCR.

DISCUSSION

Our current study presents multiple valuable COVID-19-related associations in a group of essential workers during the pandemic. First, the infection rate of 20% positive SARS-CoV-2 RT-PCR assay results at this grocery retail store was significantly higher than the surrounding communities. In addition, most of these employees were asymptomatic at time of testing. After IPW adjustments, employees with direct exposure to customers had more than five times increased odds to have a positive SARS-CoV-2 RT-PCR assay result. We also found the ability to practice social distancing at workplace was inversely correlated to workers' anxiety and depression status. Lastly, having a confirmed SARS-CoV-2 exposure history in past 14 days and

commuting to work by public transportation or shared rides was strongly associated with depressive mood. To the best of our knowledge, this study is the first to report the above associations in a cohort of grocery retail essential employees.

There is limited research discussing non-HCWs essential workers in this pandemic, particularly retail employees and their exposure to customers.⁹ The SARS-CoV-2 infection rate among these retail employees was significantly higher than of the local community around similar time period, which was 0.9%–1.3%.²³ Previous studies on HCWs suggested COVID-19 infections among HCWs were consistent with community exposure rather than work-related exposure, with the prevalence ranging from 0% to 14%.^{13 14} In fact, a pioneering study conducted in the

Table 4 Crude and inverse probability weighting (IPW) adjusted ORs of positive SARS-CoV-2 (the virus causing COVID-19) RT-PCR assay, positive Generalised Anxiety Disorder 7-item scale (GAD-7) and positive Patient Health Questionnaire-9 (PHQ-9) screenings by key risk factors among retail essential employees in a single grocery store in Massachusetts, USA

	Crude OR (95% CI)	IPW adjusted OR (95% CI)	Truncated IPW adjusted OR (95% CI)
Positive SARS-CoV-2 RT-PCR assay			
Job positions with direct customer exposure at store*	6.2 (1.6 to 40.6)	5.1 (1.1 to 24.8)†	5.3 (1.1 to 25.6)†
Cigarette smoker	0.1 (0.01 to 0.6)	0.2 (0.02 to 1.4)‡	0.2 (0.02 to 1.3)‡
Positive GAD-7 screening (GAD-7 >4)			
Ability to practice social distancing consistently at work	0.3 (0.1 to 0.7)	0.3 (0.1 to 0.9)§	0.3 (0.1 to 0.8)§
Positive PHQ-9 screening (PHQ-9 score >4)			
Self-reported exposure to SARS-CoV-2-positive individual(s) in the past 14 days	6.3 (1.4 to 33.1)	5.0 (1.0 to 25.1)§	5.0 (1.0 to 24.9)§
Ability to practice social distancing consistently at work	0.1 (0.02 to 0.6)	0.2 (0.03 to 0.99)§	0.2 (0.03 to 0.9)§
Commute to work by foot, bike or private car	0.1 (0.03 to 0.6)	0.1 (0.02 to 0.7)§	0.1 (0.03 to 0.7)§

*Direct customer exposure positions include cashier, front end associate, sales associate, fresh food associate, cart attendant, janitorial crew, supervisor and manager of all levels. These are in contrast to positions mainly dealing with consumer goods or the environment, such as stocker, backroom, receiving and maintenance.

†IPW adjusting for age, gender, smoking and SARS-CoV-2 community prevalence in workers' residential cities.

‡IPW adjusting for age, gender, job positions with direct customer exposure, and SARS-CoV-2 community prevalence of workers' residential cities.

§IPW adjusting for age, gender, smoking, customer-facing jobs, SARS-CoV-2 community prevalence of workers' residential cities and self-reported history of anxiety and/or depression.

RT-PCR, reverse transcriptase PCR; Truncated IPW, IPW with extreme weights (below 5th and above 95th percentile) truncated.

Netherlands investigated the viral genetic sequences of affected HCWs and found the infection was more likely to be acquired from the communities.²⁴ In our current study, we did not observe a difference in SARS-CoV-2 community prevalence among those tested positive versus negative employees, indicating the possibility of a true work-related SARS-CoV-2 exposure. In terms of exposure risk, >90% of employees with positive assay result had a position with significant direct exposure to customers. We also found that employees in supervisory positions, with exposure from both customers and colleagues, had increased SARS-CoV-2 exposure risk. Employees in supervisory positions may have more exposure due to frequent interpersonal contacts, therefore leading to their higher infection rates. Notably, most of the SARS-CoV-2-positive assay workers were asymptomatic at time of testing. As evidence has shown probable transmission from asymptomatic or mildly symptomatic carriers,^{3 25 26} these workers as a cluster carries significant risk to their customers, colleagues and families. Our findings further strengthens the retail cluster transmission observed in a previous study from China, which involved supermarket employees, clients and the families of affected cases, resulting in a infection rate of 9.2% among the market workers.¹⁷

In this cohort, cigarette smoking was found to be a protective factor of SARS-CoV-2 RT-PCR assay result in the crude analysis. Despite a lack of statistical significance after IPW adjustment, our finding echoes a recently published systematic review indicating lower smoking prevalence among patients with COVID-19 in comparison with the general population.²⁷ In that review, the authors pooled 13 Chinese studies on hospitalised patients with COVID-19 and found a prevalence of 6.5% of current smokers, which was around one-fourth of the smoking prevalence among the general population. The potential biological mechanism involving nicotinic receptors has been proposed in another study.²⁸ In fact, research has shown nicotinic receptor activity can promote SARS-CoV-2 transmission through co-expression of ACE2 receptor, the host receptor for the virus. Therefore, the competitive nature of nicotine and SARS-CoV-2, as a nicotinic agent, for the receptor may serve as a key to prevent the infection.²⁸ Our finding of fewer current smokers with a positive SARS-CoV-2 assay result, while in agreement with recent epidemiological studies, contradicts common perception and clinical recommendation on risks and effects of cigarette smoking on lung health warranting further research investigations.²⁹

While previous research has raised concerns on psychological distress due to COVID-19 in addition to physiological threats on essential workers,¹¹ most of them were focused on HCWs.^{10 15 30–32} The prevalence of anxiety among HCWs in other countries ranged from 20% to 65% during the COVID-19 pandemic.^{15 30 32} In our study, 24% of these workers had at least mild anxiety, suggesting non-HCWs essential employees experience similar level of psychological distress. Contrary to common beliefs on the association between sufficient PPE and employees' psychological distress,^{33 34} the inability to practice social distancing consistently at work was a significant risk factor for anxiety and depression in this essential worker cohort. While we are unable to discern the direction of the effect due to the cross-sectional nature of this study, these mental health findings support the need to implement further preventive strategies and to provide additional mental health assistance to essential employees.

Our current study has several limitations. First, our limited sample size may prevent identification of certain associations that may require larger statistical power, and incidental findings may by chance be observed in a small sample-sized study.

However, the large effect sizes (ie, ORs) are unlikely to be entirely biased by unmeasured confounding factors. Second, this is a cross-sectional study and therefore causal relationship could not be inferred. At the same time, survey collection was conducted prior to SARS-CoV-2 RT-PCR sampling, suggesting our major findings should be free of reverse causation and any recall bias would be minimised. Third, while a majority of the employees from this retail store were tested at this designated location, some employees received testing at other clinics due to insurance, scheduling and/or location convenience. As this was a city-mandated testing, employees were assigned by the retail headquarter to be tested at this location if they had not received or scheduled to receive SARS-CoV-2 testing. Selection was neither based on their exposure risk nor health outcome and therefore the current study should be free of selection bias. Lastly, since our data collection was largely based on self-reported questionnaire, we incur unavoidable risk of measurement error, misclassification and related information bias.

At the same time, our study enjoys several strengths. First, the SARS-CoV-2 RT-PCR assay samples were collected by nasopharyngeal approach which provides the highest test sensitivity among all methods³⁵ and the outcomes of interest were assessed by validated screening tools including GAD-7 and PHQ-9. The possibility of outcome misclassification was therefore minimised. Second, our secondary sensitivity analysis results were in accordance with the main analysis which further strengthened our findings. Third, our study participants were restricted to grocery retail employees from one store and such restriction could eliminate potential confounding factors such as socioeconomic status. Lastly, we included all workers that were scheduled and presented to the testing tent during group testing days without any exclusion criteria. As a result of our strengths, findings in this study may be generalised to grocery store employees working during the COVID-19 pandemic in similar settings.

In conclusion, in this cohort of grocery retail essential workers, 20% had a positive SARS-CoV-2 RT-PCR assay result and the majority (76%) of them were asymptomatic at time of testing. Employees with direct customer exposure were five times more likely to have a positive SARS-CoV-2 assay result. The ability to social distance consistently at work was a significant protective factor for anxiety and depression. Commuting to work by public transportation/shared rides and having an exposure to a confirmed case within the past 14 days were positively associated with depression. Further research is warranted to investigate these associations and their public health implications among essential employees.

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ANCHORAGE DAILY NEWS

Business/Economy

Union calls on state to treat Alaska grocery workers as 'first responders,' bolstering access to masks and tests

✎ Author: Alex DeMarban ⌚ Updated: March 25, 2020 📅 Published March 25, 2020

A food workers union is calling on Alaska's governor to designate grocery store workers as "first responders" to free up safety equipment to help protect the employees and customers from COVID-19.

The United Food and Commercial Workers Union Local 1496 in Alaska wrote a letter to Gov. Mike Dunleavy asking that the state's grocery store workers be treated like medical workers in a sense, said Buster Martin, the local union president.

The goal is to put them near the front of the line for testing for the virus and for receiving face masks and other protective gear, he said. The gear is in short supply in Alaska and nationally.

Grocery stores in Alaska and across the country have been swarming with customers as the response to the new coronavirus has escalated. Those workers should be prioritized for receiving personal protective equipment, after first responders like medical, police and emergency officials, Martin said.

The gear and testing for grocery workers would benefit the public, too, he said.

"If someone was found to be infected, they could stop working if they needed to," Martin said. "That makes everyone safer, because they're in touch with a lot of people."

The union sent a letter to the governor last week making the request, Martin said.

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Members of the union “are on the front lines of the coronavirus outbreak working around the clock to keep these businesses open and ensure that families in our communities have the essential food and supplies they need,” the letter says.

[Concerned shoppers empty shelves, but shippers say flow of goods to Alaska continues uninterrupted]

“Today, on behalf of UFCW Local 1496 and our 2,400 members, I am calling on you to do the right thing by recognizing Alaska’s grocery, retail workers as first responders,” the letter says.

Jeff Turner, a spokesman for Dunleavy, said the governor’s office had not replied to the letter as of Wednesday.

“First responders are individuals certified to provide medical care in emergencies before more highly trained medical personnel arrive on the scene, like a firefighter or EMT,” Turner said in an emailed statement.

Other states have moved to step up support for grocery store workers during the pandemic.

The Vermont governor has classified grocery store workers as essential personnel alongside medical workers and emergency responders, boosting child care support. The Colorado governor sent a letter to grocery stores urging them to provide workers with gloves, masks, face screens and protective gear.

Dunleavy has taken steps to address a “growing shortage” of protective gear for medical workers, including by requiring that elective dental and surgical procedures be postponed. The state is also taking steps so that personal protective equipment will be produced in Alaska, the governor said at a press conference on Tuesday.

The union has also urged stores to increase support for workers amid the virus outbreak, and the stores are responding, Martin said.

Carrs Safeway has provided a temporary \$2-an-hour raise to employees, he said.

Fred Meyer provided a temporary payroll bonus of \$150 for part-time workers and \$300 for full-time workers, he said.

[Amazon workers test positive for COVID-19 at 10 U.S. warehouses]

Among other steps, the store chains plan to install Plexiglas protection to help separate cashiers from the public, Martin said.

Fred Meyer has also supported the call for securing protective gear for grocery store workers.

“We are advocating to government officials at all levels for help securing a priority place in line for all grocery workers — after health care workers — to have access to protective masks and gloves,” Fred Meyer’s parent company, Kroger, said on Twitter on Wednesday.

Carrs and Fred Meyer are also providing additional sick leave protections to ensure workers are paid if they come down with the virus, Martin said.

Alaska Commercial Co., which has grocery stores in rural Alaska, has given its employees a \$2-an-hour raise between March 8 and April 4, about a 15% increase, said Dan McConnell, president of the company.

The company is planning to provide masks and face shields for its workers, he said.

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Comments



Workforce Reports provide new insight



Process technology graduates earn on average \$73,854 their first year after graduation, with wages increasing 78.3% over the next five years.

The workforce reports help UA illustrate graduate outcomes and employment success to demonstrate the value of postsecondary education and evaluate core program success.

Workforce Training a Critical Mission

The university is the most comprehensive provider of career and technical education training in Alaska. With more than 200 programs linked to jobs in the state, students have opportunities to earn everything from certifications to associate, bachelors, and graduate degrees. These programs are in high-demand fields and are needed to stabilize Alaska's economic recovery and future growth.

Workforce development is a critical part of the University of Alaska mission. Working with our stakeholders, UA can expand partnerships to benefit these key workforce sectors and provide even more opportunities for current students and future graduates.

Quantifying Education Outcomes

The workforce development and institutional research offices, partnered with the Research and Analysis Section in the Alaska Department of Labor and Workforce Development to create the reports that demonstrate UA graduate outcomes in nine key fields -- administration and finance, aviation, construction, fisheries and marine science, health, information technology, mining, oil and gas, and teacher education. Each report answers key questions related to the largest and fastest growing occupations that require some postsecondary education and highlights important employment indicators such as average wages earned, where UA grads work in Alaska, what industries they work in, and how they help boost the Alaska hire rate. The reports can be found at www.alaska.edu/research/wd/reports.php.

The economic value of training and education is abundantly clear in the data and demonstrates the success of our core programs and how we are contributing to Alaska's high-demand industries and economy. Postsecondary trained Alaskans retain employment at higher rates than other Alaskans. Median earnings, for example, jump from \$35,328 for high school graduates to \$44,619 for Alaskans with an associate degree, \$57,708 for those with a bachelor's degree, and \$77,402 for holders of graduate or professional degrees. More education and training also correlate strongly with lower unemployment rates.

Alaska Trained for Alaska's Needs

Alaska's six economic regions are each unique in their local economies and in their mix of occupations. UA uses labor market information to expand or build programs that benefit high-demand and regional needs and works with stakeholders to strengthen partnerships to benefit these key workforce sectors. Through its three separately accredited universities, thirteen community campuses, and distance delivered programs, UA works to ensure that Alaskans have access to attain the knowledge and skills needed for employment and to advance their careers.



Industry Workforce Report Highlights

Administration & Finance

- More than 81% of graduates from accounting programs are working the first year after graduation.
- Graduates from Master of Public Administration earn more than \$100,000 in average wages five years after graduating.
- Over the last 10 years, 5,815 people graduated from programs that prepare for administration and finance careers with average earnings over \$63,000 within five years of graduation.

Aviation

- Over a third of the UA aviation students found employment in the transportation and warehousing industry, which employs most of Alaska's aviation workers such as pilots and aircraft maintenance. Other aviation graduates found employment in educational services and other industries.
- The professional piloting programs have trained nearly 367 students. Nearly 62% of these students obtained employment in Alaska within a year of training.

Construction

- Over the last 10 years, 1,968 graduates have been trained in programs leading to employment in carpentry, heavy truck driving, construction management, civil engineering, surveying, welding and other construction jobs. Their average earnings are over \$70,000 within five years of graduation.
- While only 15% of construction program graduates work directly in the construction industry, just over a quarter of graduates also work in closely related industries such as architecture and engineering.

Fisheries & Marine Science

- More than 76% of graduates in marine sciences and an average of 70% of graduates in fisheries are working in Alaska one year after graduating.
- Over the last 10 years, 975 people have graduated from programs that prepare for jobs in fisheries, fisheries technology or marine biology.

Health

- UA offers 50 programs that prepare for clinical and behavioral health careers, one of the fastest growing and largest industry sectors in Alaska.
- More than 82% of graduates from the 31 programs related to clinical health careers are working in health care and social assistance the first year after graduation.
- More than 81% of clinical psychology graduates are working in Alaska within one year of graduation.

Information Technology

- More than 80% of computer and networking technology graduates work in Alaska one year following graduation.
- IT occupations are spread throughout many of the industries in Alaska. For example, 44% of graduates became computer programmers in the public administration industry sector.

Mining

- Almost 90% of power technology program graduates are employed in Alaska one year after graduation.
- Wages of graduates from the 44 key programs important to the industry are significantly higher wages than the Alaska average, exceeding \$104,000 within 5 years of graduation.

Oil & Gas

- The data show a strong demand for process technology graduates (90% find work within a year of graduating) and impressively high earnings (\$73,854 to start and more than \$130,000 by their fifth year), and they are hired into a variety of occupations and by a number of industries including oil and gas, mining, and construction.

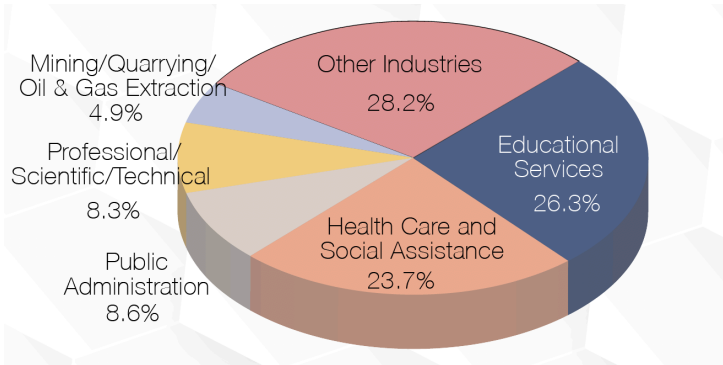
Teacher Education

- Over 10 years, 77.5% of the students who found jobs the first year after graduating from an education program worked in local government education.
- University of Alaska education programs focused on meeting demand in an industry that has hired thousands in Alaska over the last several years.



Industry Workforce Report Highlights

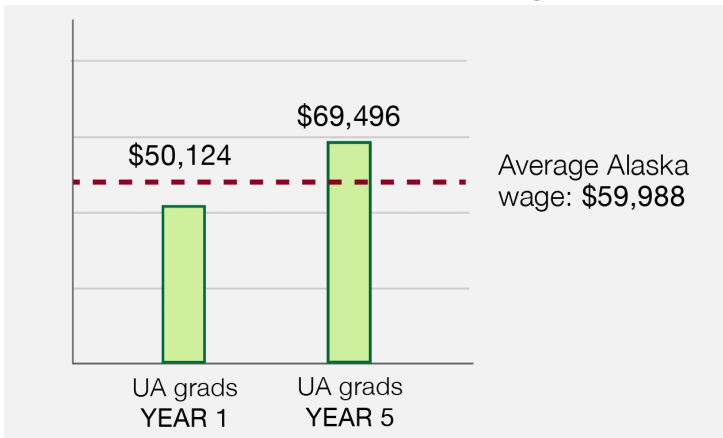
UA Graduates Working in Alaska within a year of Graduating



Aggregate of all 17,725 UA graduates included in the 9 industry workforce reports

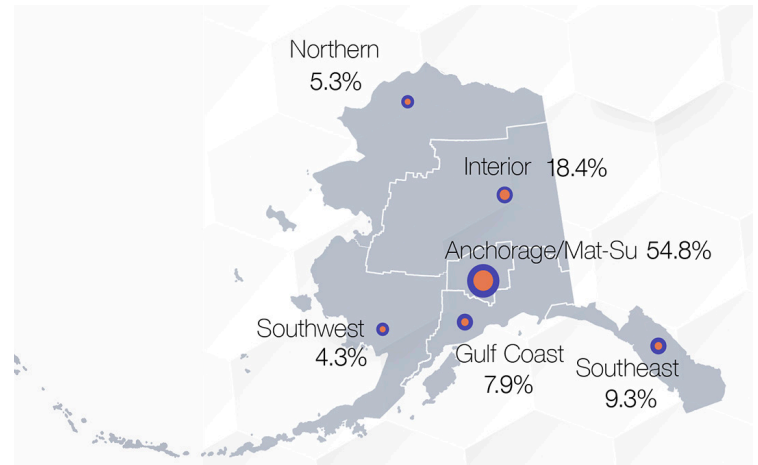
- 26.3% Educational Services
- 23.7% Health Care and Social Assistance
- 8.6% Public Administration
- 8.3% Professional/Scientific/Technical
- 4.9% Mining/Quarrying/Oil & Gas Extraction
- 28.2% Other Industries

UA Graduates Earn Good Wages



An analysis of all 17,725 UA graduates included in the 9 industry workforce reports shows average first year wages of \$50,124 and average fifth year wages of \$69,496.

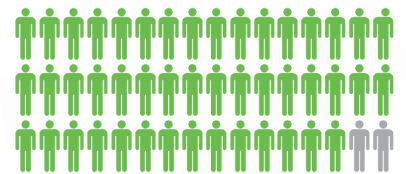
UA Graduates Work Across Alaska



- Generally, areas with higher population density have more working graduates, but the actual percentages vary by industry.
- There are more graduates working in urban areas in industries like finance & administration, education and IT, but industries including fisheries and marine science, oil & gas, and mining show an increased percentage of graduates working in rural regions.

UA Graduates Increase Alaska Hire Rates

96.3%
of working graduates
are Alaska residents



- The average residency rate for Alaska workers is 79.3%
- The average for the graduates included in the workforce reports is 96.3%.
- These reports demonstrate a high percentage of UA graduates remain in Alaska and help to increase the overall percentage of Alaska residents working in these high-demand industries.