

March 1, 2021

## Analysis of Survey Data prepared for Professional Fire Fighters of Wisconsin Charitable Foundation

### Survey Overview

In consultation with Rogers Behavioral Health, PFFW Charitable Foundation developed a 32-question survey which was made accessible to all professional and volunteer Fire and EMS professionals across the state of Wisconsin from December 4, 2020 to January 8, 2021. Full-time and volunteer firefighters and EMS responders completed this survey designed to provide insights on job-related critical stress and associated behavioral health needs. The survey included limited demographic information (race/ethnicity, gender, years of service) and inquired about critical incidents or traumatic events on the job, thoughts of self-harm, sleep issues, substance use, engagement with department or municipal support services, and perception of mental health stigma in the field. A brief psychological screening tool for depression, anxiety, and general psychological distress – the PHQ-4 – was also included.

Upon closing the survey, a total of 777 individuals responded. Further respondent delineation follows:

#### Employment Status:

Retired	12	1.5%
Part Time	29	3.7%
Volunteer	159	20.4%
Full Time	577	74.2%

#### Primary Department Type:

Private	21	2.7%
Municipal	756	97.3%

Services Provided:

EMS	18	2.3%
Fire	74	9.5%
Fire and EMS	685	88.2%

Years of Service:

2 years or less	50	6.4%
2 - 5 years	62	8.0%
5 - 10 years	96	12.4%
15 - 20 years	116	14.9%
10 - 15 years	131	16.9%
20 - 25 years	143	18.4%
> 25 years	179	23.0%

Gender:

Non-binary	2	0.3%
Female	79	10.2%
Male	696	89.6%

Race or Ethnicity:

Black or African American	7	0.9%
American Indian or Alaska Native	10	1.3%
White	748	96.3%
Hispanic, Latino or Spanish	18	2.3%
Middle Eastern or North African	2	0.3%
Asian	4	0.5%
Other	4	0.5%

Counties with 25 or more responses:

Waukesha	25	Racine	49
La Crosse	32	Marathon	51
Ozaukee	32	Winnebago	72
Rock	34	Milwaukee	109
Outagamie	48	Dane	122

Summary of Respondents experiencing Job-related Critical Stress:

Of the 777 respondents, 726 (93.4%) indicated they had experienced a job-related critical incident or traumatic event.

Of those indicating they had experienced job-related critical stress, complications experienced as the result of job-related critical stress are described in the following tables:

Employment Status

	All	Full-Time	Part-Time	Volunteer	NBC National Survey*
<b>Total Respondents</b>	777	577	29	159	6962
<b>Respondents that Experienced a Critical Incident / Traumatic Event</b>	726 (93.4%)	552 (95.7%)	17 (58.6%)	147 (89.7%)	(94.2%)
Change in view of job or future	40.7%	47.8%	20.7%	17.6%	49.4%
Sleep problems	51.9%	56.8%	55.2%	32.7%	71.1%
Family/relationship problems	46.1%	39.3%	27.6%	17.0%	59.1%
Thoughts of suicide or self-harm	9.7%	10.7%	6.9%	6.3%	19.2%
Substance abuse	16.3%	20.1%	0.0%	6.3%	26.7%
Easily angered or withdrawn	45.9%	52.5%	37.9%	24.5%	66.2%
None of the above	32.0%	24.8%	41.4%	55.3%	23.4%

\*<https://www.nbcnewyork.com/news/local/firefighters-mental-health-survey-ptsd/1809926/>

### Department Type

	All	Municipal	Private
<b>Total Respondents</b>	777	756	21
<b>Respondents that Experienced a Critical Incident / Traumatic Event</b>	93.4%	93.7%	85.7%
Change in view of job or future	40.7%	41.3%	19.0%
Sleep problems	51.9%	52.4%	33.3%
Family/relationship problems	46.1%	34.8%	14.3%
Thoughts of suicide or self-harm	9.7%	9.9%	0.0%
Substance abuse	16.3%	16.5%	9.5%
Easily angered or withdrawn	45.9%	46.3%	33.3%
None of the above	32.0%	31.1%	57.1%

NOTE that responses are limited to those indicating they had experienced job-related critical stress.

### Gender

	All	Male	Female
<b>Total Respondents</b>	777	696	79
<b>Respondents that Experienced a Critical Incident / Traumatic Event</b>	93.4%	94.4%	84.8%
Change in view of job or future	40.7%	40.9%	36.7%
Sleep problems	51.9%	52.0%	49.4%
Family/relationship problems	46.1%	35.1%	25.3%
Thoughts of suicide or self-harm	9.7%	9.9%	5.1%
Substance abuse	16.3%	17.2%	6.3%
Easily angered or withdrawn	45.9%	46.8%	36.7%
None of the above	32.0%	31.3%	36.7%

NOTE that responses are limited to those indicating they had experienced job-related critical stress.

### Years of Service

	All	2 Years or Less	2-5 Years	5-10 Years	10-15 Years	15-20 Years	20-25 Years	25+ Years
<b>Total Respondents</b>	777	50	62	96	131	116	143	179
<b>Respondents that Experienced a Critical Incident / Traumatic Event</b>	93.4%	74.0%	91.2%	92.7%	95.4%	95.7%	99.3%	92.2%
Change in view of job or future	40.7%	10.0%	27.4%	43.8%	50.4%	49.1%	47.6%	34.1%
Sleep problems	51.9%	24.0%	50.0%	54.2%	54.2%	59.5%	57.3%	48.0%
Family/relationship problems	46.1%	14.0%	19.4%	34.4%	42.0%	45.7%	42.0%	26.3%
Thoughts of suicide or self-harm	9.7%	2.0%	6.5%	9.4%	12.2%	13.8%	9.8%	8.4%
Substance abuse	16.3%	4.0%	6.5%	14.6%	21.4%	24.1%	22.4%	10.6%
Easily angered or withdrawn	45.9%	12.0%	45.2%	51.0%	54.2%	56.0%	53.1%	34.6%
None of the above	32.0%	66.0%	32.3%	26.0%	25.2%	21.6%	25.9%	41.3%

### Services Provided

	All	Fire	EMS	Fire and EMS
<b>Total Respondents</b>	777	74	18	685
<b>Respondents that Experienced a Critical Incident / Traumatic Event</b>	93.4%	82.4%	72.2%	95.2%
Change in view of job or future	40.7%	20.3%	16.7%	43.5%
Sleep problems	51.9%	27.0%	22.2%	55.3%
Family/relationship problems	46.1%	17.6%	11.1%	36.5%
Thoughts of suicide or self-harm	9.7%	5.4%	0.0%	10.4%
Substance abuse	16.3%	5.4%	5.6%	17.8%
Easily angered or withdrawn	45.9%	25.7%	11.1%	49.1%
None of the above	32.0%	56.8%	61.1%	28.3%

NOTE that responses are limited to those indicating they had experienced job-related critical stress.

Of the 75 respondents indicating thoughts of suicide or self-harm, 28 (37.3%) indicated they had these thoughts at least several days (or more frequently) over the past two weeks.

When asked if they or their department have experienced a co-worker's death that was determined, or likely to have been the result of suicide, 230 (29.6%) indicated yes.

## Refining the Data:

For purposes of focused data analysis, we further refined the responses from full-time professionals in the Fire or Fire and EMS service only. The following analysis applies to 571 respondents who met these criteria.

### Gender Identity and Critical Stress

Of those 571 responses, 529 (92.6 %) endorsed experiencing a critical incident or traumatic event. Further refined by gender this represents 90.0% of females and 95.6% of males in the subgroup.

When asked to indicate complications or challenges caused by these events, 141 (24.7%) selected "None of the above" (30.0% of females and 24.4% of males).

Two (100%) non-binary respondents, 3 (6.9%) females, and 57 (10.7%) males, endorsed having thoughts of self-harm, including suicide. It should be noted that in addition to the non-binary respondents endorsing thoughts of suicide and self-harm, they both endorsed every issue listed as well (Easily angered or withdrawn; Change in view of job or future; Sleep problems; Substance abuse; Family/relationship problems; Thoughts of suicide or self-harm). In comparison, only 1 (2.3%) female and 20 (3.8%) males experienced all those issues.

Overall, 73 (12.7%) of respondents endorsed experiencing just one of those problems as caused by a critical incident or traumatic event, with nearly identical rates between males and females. Combined with the 24.7% of respondents who selected "None of the above", this means that 62.6% of male and female firefighters who responded to this survey endorsed having none, or one of the listed complications believed to be related to on-the-job critical stress.

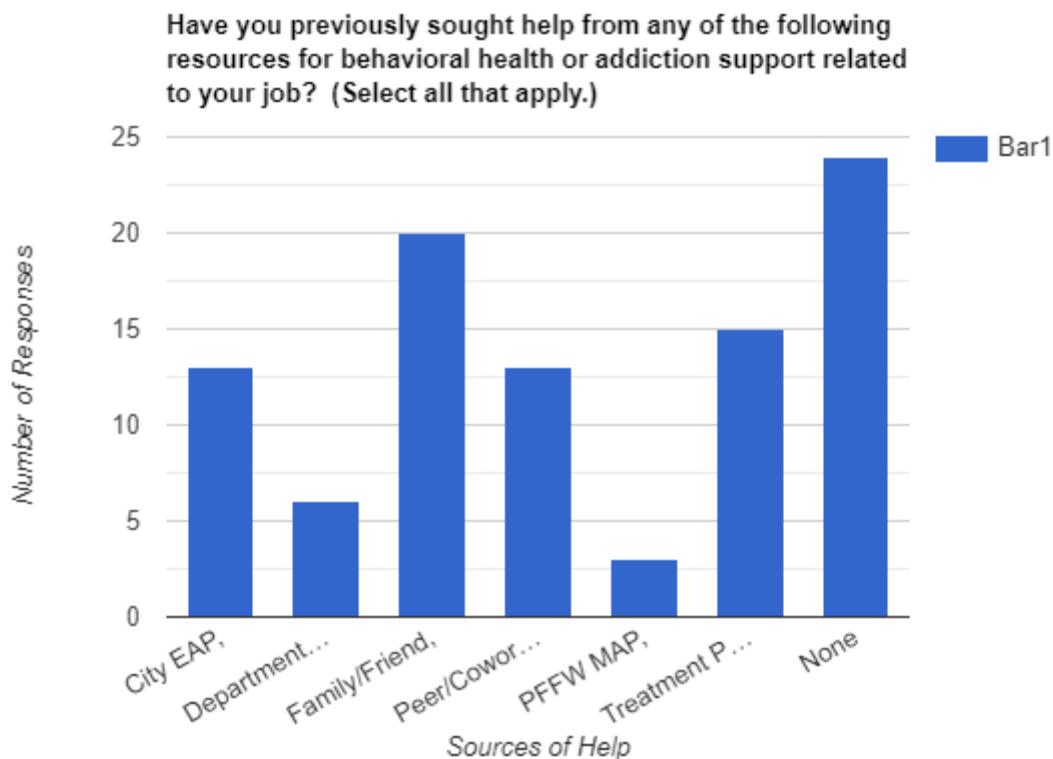
### Suicide and Self-Harm

The 62 full-time firefighters who endorsed having any thoughts of suicide or self-harm as a result of on-the-job experiences were asked to evaluate how often these were experienced in the two weeks prior to taking the survey. As previously stated, 10.7% of males and 6.9% of females endorsed having these thoughts at some point in their career. Geographically, the data did not reveal any counties or regions with a statistically significant difference in rate of thoughts of self-harm.

Frequency of thoughts of suicide or self-harm in the past 2 weeks.

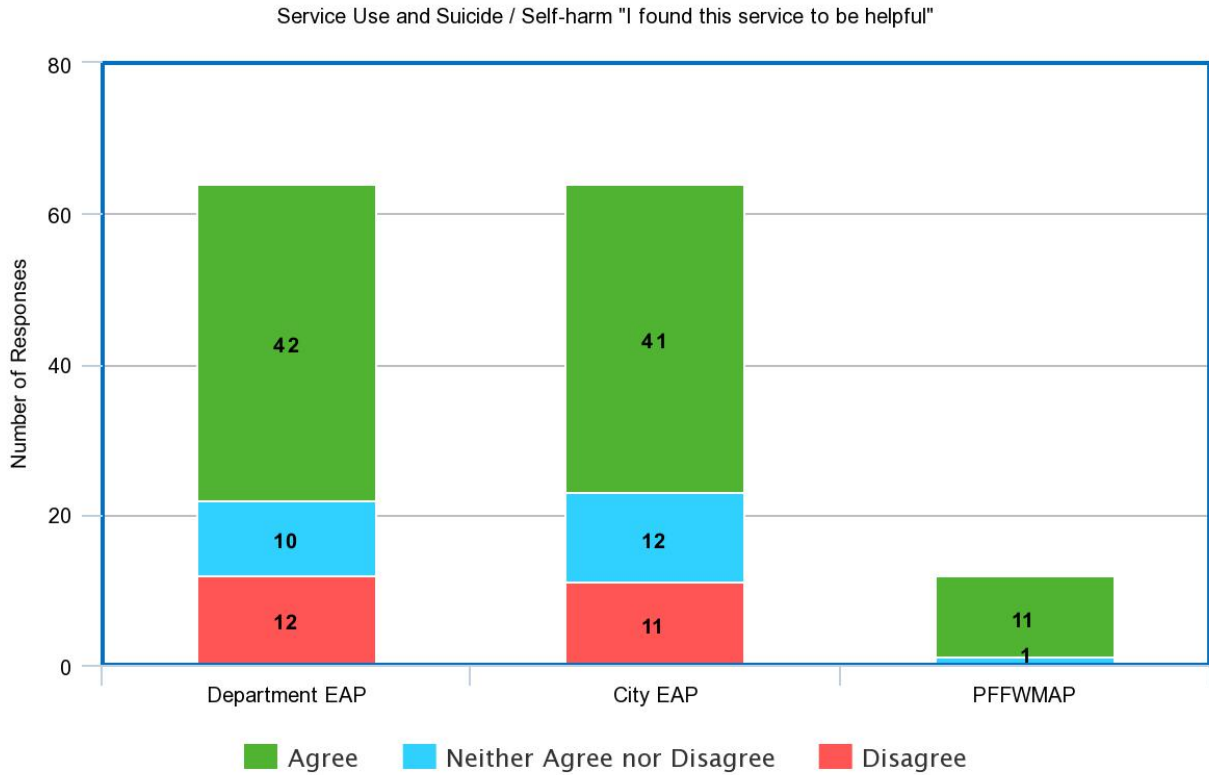
	Dane, Milwaukee, and Racine Counties	The Rest of the State
Nearly Every Day	3.8%	--
More than Half the Days	7.6%	5.5%
Several Days	30.7%	30.6%
Not at All	61.5%	63.8%

Of those 62 respondents who endorsed some form of suicidal thoughts and self-harm, 24 (38.7%) denied turning to City or Department EAPs, family/friends, peers/coworkers, the PFFW, or a treatment provider for help.



Family and Friends were the most common source for full-time firefighters with thoughts of suicide and self-harm who sought help, with treatment providers being the second most common. However, it should be noted that of those 15 who saw a treatment provider, only 5 saw one exclusively; the other 10 also received support from family/friends, peers/coworkers, EAPs, or the PFFW MAP.

Furthermore, respondents who endorsed thoughts of suicide / self-harm, whether full-time or part-time service (n=75) generally perceived the services to be helpful. Perception of the effectiveness of the City and Department EAPs as well as the PFFW MAP is shown below.



meta-chart.com

Although the PFFW MAP was the least used service among those with suicidal thoughts and self-harm urges, the response was more positive compared to the EAPs.

### Depression, Anxiety, and Sleep

Respondents answered the Patient Health Questionnaire–4 (PHQ-4) which provides a brief screening for depression, anxiety, and overall mental distress. For screening purposes, a total score of 6 or higher is considered at least moderate mental distress. Please note that this assessment, in the absence of a clinical evaluation, is not diagnostic and cannot be used to infer or imply any medical condition or clinical indication but is used for insight only and evaluated in terms of trends and demographics among respondents.



Depression and Anxiety

Anxiety: 79 (13.8%\*) of full-time firefighters screened positive for anxiety.

	Percent Screening positive for Anxiety
All Respondents	12.7%
Full-Time Firefighters	13.7%
Men (Full-time Firefighters)	11.6%
Women (Full-time Firefighters)	13.5%
Volunteer	9.4%

\*The Anxiety and Depression Association of America estimates 18.1% of adults in the U.S. have anxiety at some point every year.

Depression: In total, 66 of 571 full-time firefighters (11.5%\*) screened positive for depression, however men were more likely to have a positive screen for depression than women as indicated below.

	Percent Screening positive for Depression
All Respondents	10.7%
Full-Time Firefighters	11.4%
Men (Full-time Firefighters)	11.7%
Women (Full-time Firefighters)	7.5%
Volunteer	7.5%

\*The Anxiety and Depression Association of America estimates that 6.7% of adults in the U.S. have depression at some point every year.

Overlap: There were a total of 39 responses of full-time firefighters who screened positive for both depression and anxiety, for a total 106 of the 571 responses (18.6%) that screened positive for depression and/or anxiety.

Sleep

For the 571 responses of full-time fire-fighters, only 78 (13.7%) endorsed having “No sleep issues”. The results of responses by all full-time (577) and volunteer (159) – including most common responses - are

further delineated in the table below. Note: Percentages are listed as a percentage of the number in that column (group) (I.e., Depression, Anxiety) that endorsed that specific issue.

	<b>Full-Time (n=577)</b>	<b>Depression (n=66)</b>	<b>Anxiety (n=79)</b>		<b>Volunteer (n=159)</b>	<b>Depression(n=12)</b>	<b>Anxiety (n=15)</b>
<b>Difficulty Falling Asleep</b>	44.5%	74.2%	70.1%		25.8%	41.7%	46.7%
<b>Not Feeling Rested After a Night's Sleep</b>	67.8%	89.4%	88.6%		45.9%	91.7%	86.7%
<b>Difficulty Staying Awake</b>	14.4%	30.3%	30.4%		9.4%	50.0%	40.0%
<b>Use of Alcohol or Illegal substances to fall Asleep</b>	3.3%	34.8%	30.4%		3.1%	8.3%	33.3%
<b>Multiple Sleep Issues</b>	36.2%	95.5%	76.0%		43.3%	83.3%	80.0%
<b>No Sleep Issues</b>	13.8%	1.5%	1.3%		35.8%	0.0%	0.0%

*\*In America, 70% of adults report that they obtain insufficient sleep at least one night a month, and 11% report insufficient sleep every night. SOURCE: Centers for Disease Control and Prevention. Perceived Insufficient Rest or Sleep Among Adults—United States, 2008. Morbidity and Mortality Weekly Report 58:1179*

Although those with depression endorsed experiencing a higher rate of sleep problems, individuals with multiple sleep issues were common among both groups with “Difficulty falling asleep” being the most common issue. If the if those 106 responses are removed along with the additional 76 responses that identified having “No sleep issues” and remove them from the total number of responses discussing

sleep issues, that means 389 (68 %) of the full-time firefighters endorsed having some form of sleep issue while also screening negative for depression or anxiety.

## Distress and Stigma

Overall psychological distress is measured on the PHQ-4 with ranges of distress: “None” (0-2), “Mild” (3-5), “Moderate” (6-8), and “Severe” (9-12), i.e., the higher their score, the higher level of psychological distress. The breakdown by severity as a percentage of full-time firefighters is as follows:

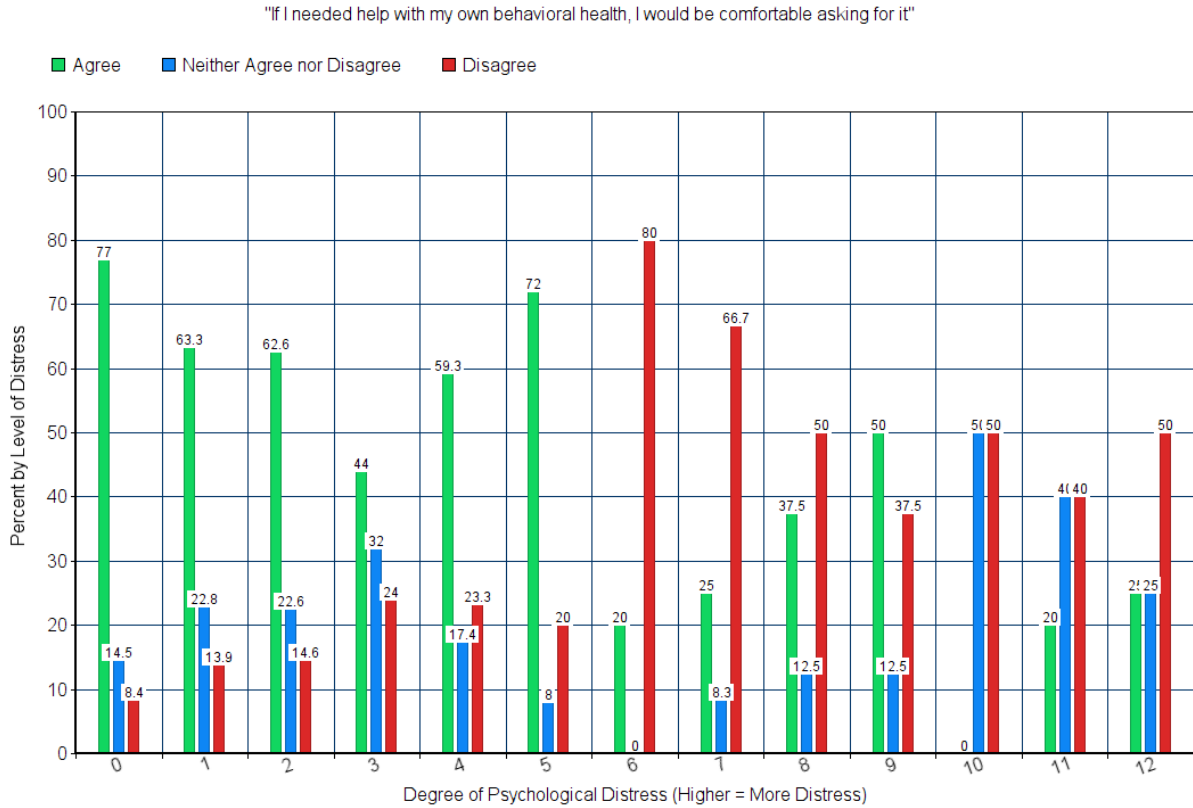
None: 60.4%

Mild: 28.2%

Moderate: 7.0%

Severe: 4.4%

Severity of psychological distress was compared to the question “If I needed help with my own behavioral health, I would be comfortable asking for it”. The results are shown on the bar graph on the following page. For simplicity, “Strongly Agree” has been merged with “Agree” and “Strongly Disagree” has been merged with “Disagree”.

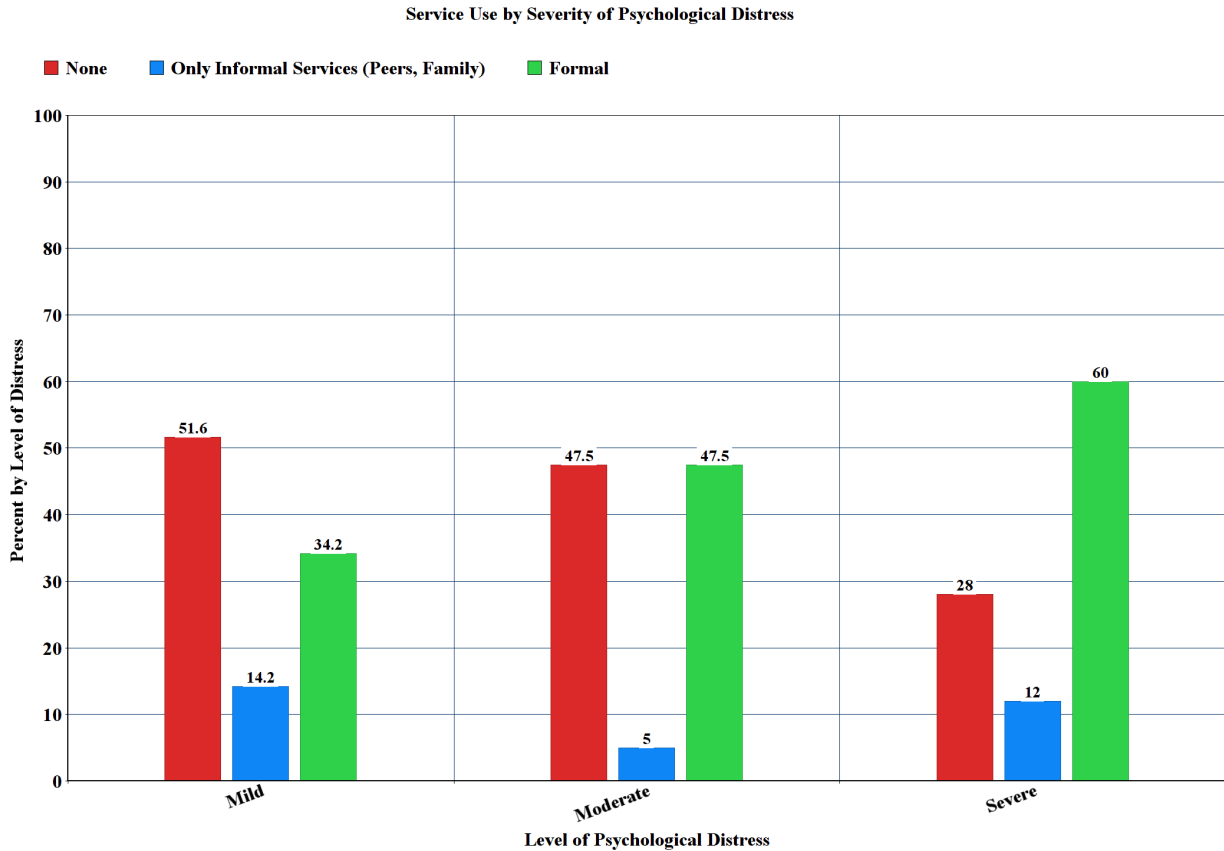


Of 226 respondents (39.6%) experiencing at least mild distress, trends in agreement to seek help would indicate that the more psychological distress a full-time firefighter is experiencing, the less comfortable they may be in asking for help. Comfort in asking for help was also compared to the individual's perception of how stigmatized behavioral health treatment is among firefighters: The more uncomfortable a firefighter is in asking for help with their behavioral health, the more likely they were to agree with the statement that most firefighters would view getting help as a sign of weakness.

When looking at perceived stigma for behavioral health treatment and their willingness to encourage co-workers who needed help to get it, there were very few (2) responses that indicated they would not encourage their co-workers to get assistance. In fact, of the 287 firefighters who agreed with the statement that most firefighters think getting treatment is a sign of weakness, only 3 (1% of those who felt others viewed it as a sign of weakness) indicated that they would discourage a co-worker from seeking help.

Level of comfort in asking for help was also compared to their responses that identified which, if any, services they turned to. On the following page, please note the label "Only informal" refers to those respondents who identified only turning to family, friends, peers, co-workers, or "Other". "Formal"

refers to those who identified turning to any combination of the following: City/County/District EAP, Department EAP, PFFW MAP, and treatment provider.



Despite identifying being less comfortable asking for help the more distress they are in, they were also more likely to have utilized formal services. It should be noted that although formal service use was more likely, 28% of those with severe psychological distress and 47.5% of those with moderate distress have not even talked to a family member, friend, or co-worker about it, let alone received any formal services for it.

For those who utilized EAP/MAP services and were experiencing at least mild psychological distress, there was a similar pattern between City/District EAP, Department EAP, and PFFW MAP: Approximately 2/3\* of those who utilized those services agreed\* that they were helpful, with higher psychological distress being associated with being more likely to identify those services as unhelpful.

\*Note that in the 2018 international firefighter survey conducted by NY I-Team 4, only 27% of firefighters who had used their employer EAP services found them helpful. <https://www.nbcnewyork.com/news/local/firefighters-mental-health-survey-ptsd/1809926/>

## Summary

Over a 6-week period, 777 Fire and EMS professionals and volunteers across Wisconsin provided invaluable insights to guide future understanding, programming and evaluation of behavioral health needs and support opportunities for fire fighters. While this data is limited due to anonymity, limited reach, and events of 2020 that make it difficult to generalize the information, we have identified some interesting themes and takeaways that can provide a basis for future discussion and research.

1. A vast majority of firefighters experience job-related critical stress that may lead to personal and health-related consequences including reduced optimism, sleep problems, relationship problems, substance or alcohol use and isolation.
2. Firefighters may have a better than normal tolerance for anxiety, but responses indicate that they may have a higher than average rate of depression, compared to general population.
3. A majority of firefighters report sleep concerns, the most common being not feeling rested after a night's sleep and difficulty falling asleep. These sleep concerns tend to be higher in firefighters screening positive for anxiety or depression.
4. Nearly half of respondents (48.8%) indicated that "Most Firefighters" view being treated for behavioral health problems as a sign of personal failure or weakness. However, almost all (98.3%) indicated that they would encourage a co-worker to seek help with behavioral health problems if they needed it. In addition, 65% indicated they would seek help for themselves if needed.
5. A majority of respondents said they would feel comfortable asking a family member, friend peer or co-worker for behavioral health assistance. Family/Friend and Peer/Co-worker are together the most highly leveraged resources for firefighters dealing with thoughts of self-harm or suicide.
6. Of firefighters utilizing EAP and MAP services, a majority (2/3) of them found the services to be helpful. A large majority of firefighters seeking support from their department's MAP indicated it was helpful.