

## Supplemental Online Content

Ridout KK, Alavi M, Ridout SJ. Emergency department encounters among youth with suicidal thoughts or behaviors during the COVID-19 pandemic. *JAMA Psychiatry*. Published online September 1, 2021. doi:10.1001/jamapsychiatry.2021.2457

**eAppendix.** Conditions and *International Classification of Diseases, Tenth Revision (ICD-10)* codes defined as suicidal thoughts and behaviors

**eTable.** Sample size, percentages, and 95% CIs for Table 3

This supplemental material has been provided by the authors to give readers additional information about their work.

**eAppendix. Conditions and *International Classification of Diseases, Tenth Revision (ICD-10)* codes defined as suicidal thoughts and behaviors**

Suicidal ideation:

R45.85 Symptoms and signs involving emotional state

Suicide attempts:

T14.91 Injury of unspecified body region

T36.xx2 (4) -T50.xx2(4) Poisoning by adverse effect of and underdosing of drugs medicaments and biological substance

T51.xx2 (4) -T65.xx2(4) Toxic effects of substances chiefly nonmedicinal

T71.xx2 (4) Asphyxiation

X71-X83 Intentional self-harm

**Conditions defined for mental health**

ICD10 Description F01.x -F09.x Mental disorders due to known physiological conditions

F10.x-F16, F18.x Mental and behavioral disorders due to psychoactive substance use

F20.x -F29.x Schizophrenia, schizotypal, delusional, and other non-mood psychotic disorders

F30.x-F34.x, F39.x Mood [affective] disorders

F40.x -F45.x, F48.x Anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders

F50.x-F5.x5, F59.x Behavioral syndromes associated with physiological disturbances and physical factors

F60.x, F6.x3-F66.x,F68.xF69.x Disorders of adult personality and behavior

F70.x -F73.x, F78.x-F79.x Intellectual disabilities

F80.x-F82.x,F84.x,F88.xF89.x Pervasive and specific developmental disorders

F90.x-F91.x,F93.xF95.x,F98.x Behavioral and emotional disorders - childhood and adolescence

F99.x Unspecified mental disorder

Z55.x -Z56.x, Z59.x-Z60.x, Z62.x-Z63.x, Z65.x, Z69.x,Z71.x-Z73.x,Z76.x Lifestyle

**eTable. Sample size, percentages, and 95% CIs for Table 3**

		January 1 <sup>st</sup> -March 9 <sup>th</sup>		March 10 <sup>th</sup> -May 31 <sup>st</sup>		June 1 <sup>st</sup> -August 31 <sup>st</sup>		September 1 <sup>st</sup> -December 15 <sup>th</sup>	
		2019	2020	2019	2020	2019	2020	2019	2020
		N=584	N=695	N=675	N=353	N=391	N=418	N=689	N=657
Patient Characteristic		N,% (95 CI)		N,% (95 CI)		N,% (95 CI)		N,% (95 CI)	
Age (years)	5-12	77,13.2%,(10.4,15.9)	105,15.1%,(12.4,17.8)	114,16.9%,(14.1,19.7)	53,15%,(11.3,18.7)	56,14.3%,(10.9,17.8)	63,15.1%,(11.6,18.5)	94,13.6%,(11.1,16.2)	104,15.8%,(13,18.6)
	13-17	507,86.8%,(84.1,89.6)	590,84.9%,(82.2,87.6)	561,83.1%,(80.3,85.9)	300,85%,(81.3,88.7)	335,85.7%,(82.2,89.1)	355,84.9%,(81.5,88.4)	595,86.4%,(83.8,88.9)	553,84.2%,(81.4,87)
Race/Ethnicity	Asian	59,10.1%,(7.7,12.5)	74,10.6%,(8.4,12.9)	67,9.9%,(7.7,12.2)	27,7.6%,(4.9,10.4)	25,6.4%,(4.8,8)	32,7.7%,(5.1,10.2)	64,9.3%,(7.1,11.5)	73,11.1%,(8.7,13.5)
	Black	61,10.4%,(8,12.9)	61,8.8%,(6.7,10.9)	67,9.9%,(7.7,12.2)	24,6.8%,(4.2,9.4)	36,9.2%,(6.3,12.1)	40,9.6%,(6.7,12.4)	60,8.7%,(6.6,10.8)	52,7.9%,(5.9,10)
	Hispanic	128,21.9%,(18.6,25.3)	125,18%,(15.1,20.8)	146,21.6%,(18.5,24.7)	61,17.3%,(13.3,21.2)	85,21.7%,(17.7,25.8)	84,20.1%,(16.3,23.9)	152,22.1%,(19,25.2)	143,21.8%,(18.6,24.9)
	Other	57,9.8%,(7.4,12.2)	85,12.2%,(9.8,14.7)	77,11.4%,(9,13.8)	33,9.3%,(6.3,12.4)	47,12%,(8.8,15.2)	44,10.5%,(7.6,13.5)	86,12.5%,(10,14.9)	81,12.3%,(9.8,14.8)
	Unknown	22,3.8%,(2.2,5.3)	27,3.9%,(2.4,5.3)	21,3.1%,(1.8,4.4)	16,4.5%,(2.4,6.7)	13,3.3%,(1.5,5.1)	12,2.9%,(1.3,4.5)	23,3.3%,(2,4.7)	29,4.4%,(2.8,6)
	White	257,44%,(40,48)	323,46.5%,(42.8,50.2)	297,44%,(40.3,47.7)	192,54.4%,(49.2,59.6)	185,47.3%,(42.4,52.3)	206,49.3%,(44.5,54.1)	304,44.1%,(40.4,47.8)	279,42.5%,(38.7,46.2)

Gender	Female	402,68.8%,(65.1,72.6)	481,69.2%,(65.8,72.6)	429,63.6%,(59.9,67.2)	245,69.4%,(64.6,74.2)	262,67%,(62.3,71.7)	280,67%,(62.5,71.5)	449,65.2%,(61.6,68.7)	477,72.6%,(69.2,76)
	Male	182,31.2%,(27.4,34.9)	214,30.8%,(27.4,34.2)	246,36.4%,(32.8,40.1)	108,30.6%,(25.8,35.4)	129,33%,(28.3,37.7)	138,33%,(28.5,37.5)	240,34.8%,(31.3,38.4)	180,27.4%,(24,30.8)
Acuity	Resuscitative/Emergent	558,95.5%,(93.9,97.2)	674,97%,(95.7,98.3)	650,96.3%,(94.9,97.7)	336,95.2%,(93,97.4)	371,94.9%,(92.7,97.1)	397,95%,(92.9,97.1)	659,95.6%,(94.1,97.2)	628,95.6%,(94,97.2)
	Urgent	22,3.8%,(2.2,5.3)	21,3%,(1.7,4.3)	22,3.3%,(1.9,4.6)	17,4.8%,(2.6,7)	20,5.1%,(2.9,7.3)	20,4.8%,(2.7,6.8)	27,3.9%,(2.5,5.4)	26,4%,(2.5,5.4)
	Nonurgent	4,0.7%,(0,1.4)	0,0%,(0,0)	3,0.4%,(0.1,0.9)	0,0%,(0,0)	0,0%,(0,0)	1,0.2%,(0.2,0.7)	3,0.4%,(0.1,0.9)	3,0.5%,(0.1,1)
Diagnosis at ED encounter	Suicide only	15,2.6%,(1.3,3.9)	10,1.4%,(0.6,2.3)	29,4.3%,(2.8,5.8)	6,1.7%,(0.4,3)	9,2.3%,(0.8,3.8)	10,2.4%,(0.9,3.9)	18,2.6%,(1.4,3.8)	14,2.1%,(1.3,2.8)
	Substance use	21,3.6%,(2.1,5.1)	31,4.5%,(2.9,6)	38,5.6%,(3.9,7.4)	24,6.8%,(4.2,9.4)	32,8.2%,(5.5,10.9)	31,7.4%,(4.9,9.9)	45,6.5%,(4.7,8.4)	34,5.2%,(3.5,6.9)
	Psychiatric	468,80.1%,(76.9,83.4)	573,82.4%,(79.6,85.3)	488,72.3%,(68.9,75.7)	274,77.6%,(73.3,82)	284,72.6%,(68.2,77.1)	326,78%,(74,82)	528,76.6%,(73.5,79.8)	537,81.7%,(78.8,84.7)
	Non-mental health	80,13.7%,(10.9,16.5)	81,11.7%,(9.3,14)	120,17.8%,(14.9,20.7)	49,13.9%,(10.3,17.5)	66,16.9%,(13.2,20.6)	51,12.2%,(9.1,15.3)	98,14.2%,(11.6,16.8)	72,11%,(8.6,13.3)
Insurance type	Kaiser Home Region	498,85.3%,(82.4,88.1)	596,85.8%,(83.2,88.4)	590,87.4%,(84.9,89.9)	295,83.6%,(79.7,87.4)	338,86.4%,(83.1,89.8)	358,85.6%,(82.3,89)	590,85.6%,(83,88.3)	576,87.7%,(85.2,90.2)
	Other	84,14.4%,(11.5,17.2)	93,13.4%,(10.9,15.9)	81,12%,(9.5,14.5)	56,15.9%,(12.1,19.7)	50,12.8%,(9.5,16.1)	57,13.6%,(10.3,16.9)	98,14.2%,(11.6,16.8)	78,11.9%,(9.4,14.3)

	No insurance listed	2,0.3%,(0.1,0.8)	6,0.9%,(0.2,1.6)	4,0.6%,(0,1.2)	2,0.6%,(0.2,1.3)	3,0.8%,(0.1,1.6)	3,0.7%,(0.1,1.5)	1,0.1%,(0.1,0.4)	3,0.5%,(0.1,1)
Disposition post ED	Home	295,50.5%,(46.5,54.6)	310,44.6%,(40.9,48.3)	371,55.0%,(51.2,58.7)	171,48.4%,(43.2,53.7)	191,48.8%,(43.9,53.8)	195,46.7%,(41.9,51.4)	342,49.6%,(45.9,53.4)	323,49.2%,(45.3,53)
	Inpatient	289,49.5%,(45.4,53.5)	385,55.4%,(51.7,59.1)	304,45%,(41.3,48.8)	182,51.6%,(46.3,56.8)	200,51.2%,(46.2,56.1)	223,53.3%,(48.6,58.1)	347,50.4%,(46.6,54.1)	334,50.8%,(47.5,47)
Mental health diagnosis in the last 2 years	No	22,3.8%,(2.2,5.3)	23,3.3%,(2,4.6)	22,3.3%,(1.9,4.6)	8,2.3%,(0.7,3.8)	17,4.3%,(2.3,6.4)	28,6.7%,(4.3,9.1)	16,2.3%,(1.2,3.4)	35,5.3%,(3.6,7)
	Yes	562,96.2%,(94.7,97.8)	672,96.7%,(95.4,98)	653,96.7%,(95.4,98.1)	345,97.7%,(96.2,99.3)	374,95.7%,(93.6,97.7)	390,93.3%,(90.9,95.7)	673,97.7%,(96.6,98.8)	622,94.7%,(93,96.4)
Mental health diagnosis in the last year	No	64,11%,(8.4,13.5)	61,8.8%,(6.7,10.9)	92,13.6%,(11,16.2)	38,10.8%,(7.5,14)	49,12.5%,(9.3,15.8)	76,18.2%,(14.5,21.9)	80,11.6%,(9.2,14)	143,21.8%,(18.6,24.9)
	Yes	520,89%,(86.5,91.6)	634,91.2%,(89.1,93.3)	583,86.4%,(83.8,89)	315,89.2%,(86,92.5)	342,87.5%,(84.2,90.7)	342,81.8%,(78.1,85.5)	609,88.4%,(86,90.8)	514,78.2%,(75.1,81.4)
ED visit for mental health in last 1 year	No	449,76.9%,(73.5,80.3)	534,76.8%,(73.7,80)	592,87.7%,(85.2,90.2)	301,85.3%,(81.6,89)	351,89.8%,(86.8,92.8)	383,91.6%,(89,94.3)	652,94.6%,(92.9,96.3)	623,94.8%,(93.1,96.5)

	Yes	135,23.1%,(19.7,26.5)	161,23.2%,(20,26.3)	83,12.3%,(9.8,14.8)	52,14.7%,(11,18.4)	40,10.2%,(7.2,13.2)	35,8.4%,(5.7,11)	37,5.4%,(3.7,7.1)	34,5.2%,(3.5,6.9)
Psychiatric inpatient in last 1 year	No	493,84.4%,(81.5,87.4)	586,84.3%,(81.6,87)	618,91.6%,(89.5,93.7)	323,91.5%,(88.6,94.4)	358,91.6%,(88.8,94.3)	393,94%,(91.7,96.3)	660,95.8%,(94.3,97.3)	631,96%,(94.6,97.5)
	Yes	91,15.6%,(12.6,18.5)	109,15.7%,(13,18.4)	57,8.4%,(6.3,10.5)	30,8.5%,(5.6,11.4)	33,8.4%,(5.7,11.2)	25,6%,(3.7,8.3)	29,4.2%,(2.7,5.7)	26,4%,(2.5,5.4)
Group therapy in last 1 year	No	424,72.6%,(69,76.2)	481,69.2%,(65.8,72.6)	510,75.6%,(72.3,78.8)	262,74.2%,(69.7,78.8)	305,78%,(73.9,82.1)	349,83.5%,(79.9,87.1)	517,75%,(71.8,78.3)	585,89%,(86.7,91.4)
	Yes	160,27.4%,(23.8,31)	214,30.8%,(27.4,34.2)	165,24.4%,(21.2,27.7)	91,25.8%,(21.2,30.3)	86,22%,(17.9,26.1)	69,16.5%,(12.9,20.1)	172,25%,(21.7,28.2)	72,11%,(8.6,13.3)
Group therapy in last 2 year	No	380,65.1%,(61.2,68.9)	441,63.5%,(59.9,67)	475,70.4%,(66.9,73.8)	230,65.2%,(60.2,70.1)	270,69.1%,(64.5,73.6)	312,74.6%,(70.5,78.8)	478,69.4%,(65.9,72.8)	518,78.8%,(75.7,82)
	Yes	204,34.9%,(31.1,38.8)	254,36.5%,(33,40.1)	200,29.6%,(26.2,33.1)	123,34.8%,(29.9,39.8)	121,30.9%,(26.4,35.5)	106,25.4%,(21.2,29.5)	211,30.6%,(27.2,34.1)	139,21.2%,(18,24.3)

ED=emergency department,CI=confidence interval. For diagnoses at ED encounter, all patients had a suicide diagnosis. Substance and psychiatric diagnoses in addition to the suicide code were pulled per patient encounter; if a patient had both a substance and psychiatric diagnosis at the time of the encounter they were grouped by the secondary diagnosis after suicide. Only first encounters in the given time frame were included for patients with one-year continuous Kaiser Permanente insurance. Other insurance was defined as non-Kaiser Permanente Northern California insurance.

Mental health diagnoses included psychiatric, substance use, and suicide-related codes found in eTable 1. “Other” race included individuals identifying as native American, islander, and multiracial.