

## Geographic impact of COVID-19 in BLS surveys by industry

*Using microdata from the Current Employment Statistics survey and the Current Population Survey, I illustrate how the local spread of coronavirus disease 2019 (COVID-19) has differentially affected industry employment. Industries that are not very telework friendly are more likely to have job loss related to its spread. In addition, COVID-19's spread appears to be most correlated with temporary job loss, which could partially explain employment numbers improving slightly in May and June 2020.*

The novel coronavirus disease 2019 (COVID-19) pandemic has brought historically high numbers of job loss and unemployment claims in a very short time. Every locality and every sector have been affected, although the impacts have been varied. There are many possible explanations for the variation:

- Consumers staying home to avoid infection
- Employers closing down for safety reasons
- Government-mandated business closures
- Government-mandated orders to stay home
- Loss of demand because of income uncertainty
- Local occupational composition
- Supply-chain issues

The local spread of the virus affects both the decision of individuals to avoid public spaces and the government's mandates to limit visits to businesses. This fact is important because it emphasizes the economic value to the local labor market in controlling the spread of the virus.

This article uses microdata from the most recent Current Employment Statistics (CES) survey and Current Population Survey (CPS) to provide descriptive evidence on how the local incidence of the virus has affected employment across localities and industries. In a companion working paper, the impacts of the local incidence of the virus on employment are directly estimated, separate from impacts from government mandates and the broad national effect.[1] The working paper shows that a larger portion of the employment decline in leisure and hospitality and other services is unrelated to the spread of the virus. Construction employment, on the other hand,



### Michael Dalton

[Dalton.Michael@bls.gov](mailto:Dalton.Michael@bls.gov)

Michael Dalton is a research economist in the Office of Employment and Unemployment Statistics, U.S. Bureau of Labor Statistics.

is more tied to the local spread of the virus. Using current data, the present article expands results by identifying trends in the economy that are relevant for future business and policy decisions.

## Data

Establishment-level results are from the CES survey, focusing on responding establishments in April, May, and June from 2019 and 2020. The CES survey collects data from 145,000 businesses and government agencies representing 697,000 worksites. The survey asks about employment, hours, and payroll in the pay period encompassing the 12th of the month. I use the longitudinal aspect of the survey to estimate employment changes within establishments since February. In addition, to identify the county that each establishment is in, I use confidential information about the address of the establishment to match county-level information about incidence of COVID-19.

Household-level results are from the CPS, focusing on responding households in April and May from years 2019 and 2020.<sup>[2]</sup> The CPS is a monthly survey of about 60,000 households that collects employment status during the week of the 12th of the month, among many other labor force and demographic pieces of information. This survey also has a longitudinal aspect that allows me to estimate the percentage of transitions out of employment since February. I primarily focus on transitions into being “on temporary layoff.” Lastly, I rely on the confidential information to identify the county of residence for each respondent.

For COVID-19 data, I use the published *New York Times* data,<sup>[3]</sup> which tracks the number of cases by day and county. Figure 1 shows the number of cases per 100,000 residents in each county as of Saturday, June 13, 2020, which was the last day of the week that included the 12th of the month. The map shows counties that were particularly hard hit in the northeast, southeast, southwest, and around the Great Lakes. The heterogeneity in spread across climates and population densities show this virus is not geographically isolated.



County and state	Number of cases per county
Maricopa County, AZ	466
Graham County, AZ	129
Pima County, AZ	397
Pinal County, AZ	399
Apache County, AZ	2750
Cochise County, AZ	157
Coconino County, AZ	1012
Gila County, AZ	110
Greenlee County, AZ	130
La Paz County, AZ	1079
Mohave County, AZ	293
Navajo County, AZ	2410
Santa Cruz County, AZ	2166
Yavapai County, AZ	177
Yuma County, AZ	1606
Los Angeles County, CA	734
Orange County, CA	280
San Diego County, CA	303
San Francisco County, CA	361
Santa Clara County, CA	177
Alameda County, CA	281
Contra Costa County, CA	183
Fresno County, CA	274
Humboldt County, CA	79
Madera County, CA	131
Marin County, CA	282
Napa County, CA	135
Placer County, CA	103
Riverside County, CA	485
Sacramento County, CA	121
San Benito County, CA	219
San Joaquin County, CA	226
San Luis Obispo County, CA	120
San Mateo County, CA	355
Santa Cruz County, CA	97
Shasta County, CA	28
Solano County, CA	160
Sonoma County, CA	155
Stanislaus County, CA	212
Tulare County, CA	580
Ventura County, CA	186
Yolo County, CA	125
Alpine County, CA	85
Amador County, CA	24
Butte County, CA	34
Calaveras County, CA	57
Colusa County, CA	33
Del Norte County, CA	164

See footnotes at end of table.

County and state	Number of cases per county
El Dorado County, CA	62
Glenn County, CA	85
Imperial County, CA	2382
Inyo County, CA	124
Kern County, CA	382
Kings County, CA	1150
Lake County, CA	48
Mendocino County, CA	43
Merced County, CA	160
Mono County, CA	261
Monterey County, CA	217
Nevada County, CA	53
Plumas County, CA	20
San Bernardino County, CA	352
Santa Barbara County, CA	465
Siskiyou County, CA	33
Sutter County, CA	88
Tehama County, CA	20
Tuolumne County, CA	14
Yuba County, CA	49
Mariposa County, CA	88
Trinity County, CA	22
Lassen County, CA	26
Sierra County, CA	31
Modoc County, CA	0
Cook County, IL	1628
Cumberland County, IL	91
DuPage County, IL	916
Kane County, IL	1383
Lake County, IL	1284
McHenry County, IL	592
Sangamon County, IL	191
St. Clair County, IL	596
Woodford County, IL	65
Adams County, IL	67
Alexander County, IL	206
Bond County, IL	68
Boone County, IL	960
Bureau County, IL	66
Calhoun County, IL	20
Carroll County, IL	123
Champaign County, IL	360
Christian County, IL	101
Clark County, IL	73
Clay County, IL	14
Clinton County, IL	548
Coles County, IL	264
Crawford County, IL	86

See footnotes at end of table.

County and state	Number of cases per county
De Witt County, IL	24
DeKalb County, IL	470
Douglas County, IL	175
Effingham County, IL	23
Fayette County, IL	99
Ford County, IL	156
Franklin County, IL	30
Fulton County, IL	32
Gallatin County, IL	36
Greene County, IL	50
Grundy County, IL	258
Hamilton County, IL	24
Hancock County, IL	94
Henderson County, IL	109
Henry County, IL	143
Iroquois County, IL	461
Jackson County, IL	520
Jasper County, IL	474
Jefferson County, IL	265
Jersey County, IL	122
Jo Daviess County, IL	150
Johnson County, IL	151
Kankakee County, IL	1079
Kendall County, IL	790
Knox County, IL	210
LaSalle County, IL	155
Lawrence County, IL	24
Lee County, IL	244
Livingston County, IL	95
Logan County, IL	33
Macon County, IL	187
Macoupin County, IL	96
Madison County, IL	263
Marion County, IL	139
Marshall County, IL	40
Mason County, IL	123
Massac County, IL	45
McDonough County, IL	319
McLean County, IL	142
Menard County, IL	173
Mercer County, IL	110
Monroe County, IL	331
Montgomery County, IL	136
Morgan County, IL	295
Moultrie County, IL	88
Ogle County, IL	432
Peoria County, IL	207
Perry County, IL	192

See footnotes at end of table.

County and state	Number of cases per county
Piatt County, IL	66
Pike County, IL	12
Pulaski County, IL	958
Randolph County, IL	830
Richland County, IL	25
Rock Island County, IL	527
Saline County, IL	28
Schuyler County, IL	172
Shelby County, IL	72
Stark County, IL	50
Stephenson County, IL	478
Tazewell County, IL	66
Union County, IL	966
Vermilion County, IL	54
Wabash County, IL	100
Warren County, IL	717
Washington County, IL	129
Wayne County, IL	54
Whiteside County, IL	277
Will County, IL	901
Williamson County, IL	124
Winnebago County, IL	925
Brown County, IL	144
Cass County, IL	550
Edwards County, IL	30
Hardin County, IL	23
Pope County, IL	22
Putnam County, IL	17
White County, IL	20
Edgar County, IL	5
Scott County, IL	0
Suffolk County, MA	2673
Barnstable County, MA	688
Berkshire County, MA	442
Bristol County, MA	1442
Essex County, MA	2096
Middlesex County, MA	1541
Norfolk County, MA	1321
Worcester County, MA	1498
Dukes County, MA	254
Franklin County, MA	495
Hampden County, MA	1394
Hampshire County, MA	583
Nantucket County, MA	128
Plymouth County, MA	1713
Bexar County, TX	248
Bell County, TX	195
Brazoria County, TX	354

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Collin County, TX	211
Dallas County, TX	588
El Paso County, TX	474
Fort Bend County, TX	407
Galveston County, TX	425
Gregg County, TX	233
Harris County, TX	405
Hays County, TX	428
Montgomery County, TX	276
Smith County, TX	129
Tarrant County, TX	401
Travis County, TX	436
Anderson County, TX	174
Andrews County, TX	189
Angelina County, TX	356
Aransas County, TX	26
Armstrong County, TX	105
Atascosa County, TX	94
Austin County, TX	120
Bandera County, TX	34
Bastrop County, TX	395
Bee County, TX	97
Blanco County, TX	105
Bosque County, TX	38
Bowie County, TX	400
Brazos County, TX	401
Brown County, TX	157
Burleson County, TX	239
Burnet County, TX	143
Caldwell County, TX	250
Calhoun County, TX	215
Callahan County, TX	96
Cameron County, TX	266
Camp County, TX	847
Carson County, TX	97
Cass County, TX	112
Castro County, TX	521
Chambers County, TX	302
Cherokee County, TX	106
Clay County, TX	47
Colorado County, TX	158
Comal County, TX	176
Comanche County, TX	86
Concho County, TX	24
Cooke County, TX	60
Coryell County, TX	397
Crane County, TX	731
Crosby County, TX	66

See footnotes at end of table.

County and state	Number of cases per county
Dallam County, TX	522
Dawson County, TX	325
DeWitt County, TX	139
Deaf Smith County, TX	1094
Delta County, TX	38
Denton County, TX	259
Dickens County, TX	82
Dimmit County, TX	10
Donley County, TX	761
Duval County, TX	42
Eastland County, TX	38
Ector County, TX	199
Ellis County, TX	299
Erath County, TX	95
Falls County, TX	78
Fannin County, TX	159
Fayette County, TX	175
Floyd County, TX	248
Franklin County, TX	255
Freestone County, TX	76
Frio County, TX	372
Gaines County, TX	80
Gillespie County, TX	24
Goliad County, TX	97
Gonzales County, TX	833
Gray County, TX	493
Grayson County, TX	358
Grimes County, TX	1019
Guadalupe County, TX	125
Hale County, TX	210
Hamilton County, TX	129
Hansford County, TX	374
Hardin County, TX	267
Harrison County, TX	408
Hemphill County, TX	26
Henderson County, TX	102
Hidalgo County, TX	125
Hill County, TX	103
Hockley County, TX	122
Hood County, TX	68
Hopkins County, TX	117
Howard County, TX	51
Hunt County, TX	215
Hutchinson County, TX	203
Jack County, TX	44
Jackson County, TX	142
Jasper County, TX	95
Jefferson County, TX	489

See footnotes at end of table.

County and state	Number of cases per county
Jim Wells County, TX	42
Johnson County, TX	170
Jones County, TX	3123
Karnes County, TX	27
Kaufman County, TX	319
Kendall County, TX	105
Kerr County, TX	40
Kleberg County, TX	62
Knox County, TX	27
La Salle County, TX	58
Lamar County, TX	327
Lamb County, TX	129
Lampasas County, TX	46
Lavaca County, TX	114
Lee County, TX	211
Leon County, TX	65
Liberty County, TX	160
Limestone County, TX	163
Live Oak County, TX	78
Llano County, TX	21
Lubbock County, TX	304
Lynn County, TX	321
Madison County, TX	146
Marion County, TX	180
Martin County, TX	63
Mason County, TX	823
Matagorda County, TX	213
Maverick County, TX	295
McCulloch County, TX	36
McLennan County, TX	67
Medina County, TX	480
Midland County, TX	147
Milam County, TX	170
Mitchell County, TX	21
Montague County, TX	46
Moore County, TX	3986
Morris County, TX	232
Motley County, TX	83
Nacogdoches County, TX	502
Navarro County, TX	182
Newton County, TX	42
Nueces County, TX	99
Oldham County, TX	195
Orange County, TX	130
Palo Pinto County, TX	50
Panola County, TX	908
Parker County, TX	96
Pecos County, TX	690

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Polk County, TX	143
Potter County, TX	2300
Rains County, TX	46
Randall County, TX	622
Red River County, TX	723
Roberts County, TX	215
Robertson County, TX	102
Rockwall County, TX	260
Rusk County, TX	131
Sabine County, TX	138
San Augustine County, TX	620
San Jacinto County, TX	76
San Patricio County, TX	63
Scurry County, TX	165
Shelby County, TX	892
Sherman County, TX	923
Starr County, TX	167
Stephens County, TX	52
Swisher County, TX	267
Taylor County, TX	263
Terry County, TX	103
Titus County, TX	2187
Tom Green County, TX	86
Trinity County, TX	151
Tyler County, TX	74
Upshur County, TX	94
Uvalde County, TX	91
Val Verde County, TX	43
Van Zandt County, TX	87
Victoria County, TX	227
Walker County, TX	2756
Waller County, TX	197
Washington County, TX	647
Webb County, TX	270
Wharton County, TX	223
Wichita County, TX	75
Wilbarger County, TX	52
Willacy County, TX	244
Williamson County, TX	204
Wilson County, TX	121
Winkler County, TX	56
Wise County, TX	95
Wood County, TX	126
Yoakum County, TX	114
Young County, TX	81
Zapata County, TX	100
Zavala County, TX	111
Archer County, TX	33

See footnotes at end of table.

County and state	Number of cases per county
Bailey County, TX	475
Brewster County, TX	43
Briscoe County, TX	61
Brooks County, TX	14
Childress County, TX	85
Cochran County, TX	32
Coke County, TX	120
Coleman County, TX	34
Collingsworth County, TX	164
Cottle County, TX	266
Fisher County, TX	50
Garza County, TX	93
Glasscock County, TX	163
Hartley County, TX	214
Haskell County, TX	68
Houston County, TX	653
Jim Hogg County, TX	75
Kimble County, TX	22
Lipscomb County, TX	212
Nolan County, TX	26
Ochiltree County, TX	518
Parmer County, TX	1169
Reeves County, TX	87
Refugio County, TX	68
Runnels County, TX	19
Shackelford County, TX	30
Wheeler County, TX	277
Baylor County, TX	27
Crockett County, TX	134
Hall County, TX	60
Hardeman County, TX	97
Hudspeth County, TX	374
Irion County, TX	63
Kinney County, TX	28
Mills County, TX	20
Presidio County, TX	26
Reagan County, TX	59
Real County, TX	30
San Saba County, TX	33
Schleicher County, TX	29
Somervell County, TX	24
Ward County, TX	38
Borden County, TX	0
Culberson County, TX	0
Edwards County, TX	0
Foard County, TX	0
Jeff Davis County, TX	0
Kenedy County, TX	0

See footnotes at end of table.

County and state	Number of cases per county
Kent County, TX	0
King County, TX	0
Loving County, TX	0
McMullen County, TX	0
Menard County, TX	0
Sterling County, TX	0
Stonewall County, TX	0
Sutton County, TX	0
Terrell County, TX	0
Throckmorton County, TX	0
Upton County, TX	0
Snohomish County, WA	500
Chelan County, WA	380
Clark County, WA	148
Columbia County, WA	25
Grant County, WA	360
Grays Harbor County, WA	27
Island County, WA	232
Jefferson County, WA	104
King County, WA	451
Kitsap County, WA	70
Kittitas County, WA	225
Klickitat County, WA	221
Pierce County, WA	302
Skagit County, WA	391
Spokane County, WA	171
Thurston County, WA	76
Walla Walla County, WA	201
Whatcom County, WA	219
Yakima County, WA	2263
Adams County, WA	481
Asotin County, WA	92
Benton County, WA	721
Clallam County, WA	41
Cowlitz County, WA	103
Douglas County, WA	471
Ferry County, WA	13
Franklin County, WA	1323
Lewis County, WA	50
Lincoln County, WA	19
Mason County, WA	64
Okanogan County, WA	180
Pacific County, WA	53
Pend Oreille County, WA	23
San Juan County, WA	95
Skamania County, WA	27
Stevens County, WA	34
Wahkiakum County, WA	101

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Whitman County, WA	65
Garfield County, WA	0
Dane County, WI	191
Fond du Lac County, WI	255
Milwaukee County, WI	996
Pierce County, WI	127
Racine County, WI	1016
Sheboygan County, WI	127
Waukesha County, WI	229
Winnebago County, WI	303
Adams County, WI	34
Ashland County, WI	19
Barron County, WI	52
Bayfield County, WI	20
Brown County, WI	991
Buffalo County, WI	52
Calumet County, WI	176
Chippewa County, WI	101
Clark County, WI	144
Columbia County, WI	99
Crawford County, WI	156
Dodge County, WI	477
Door County, WI	140
Douglas County, WI	45
Dunn County, WI	66
Eau Claire County, WI	134
Florence County, WI	45
Grant County, WI	207
Green County, WI	204
Green Lake County, WI	126
Iowa County, WI	72
Iron County, WI	34
Jackson County, WI	103
Jefferson County, WI	185
Juneau County, WI	90
Kenosha County, WI	807
Kewaunee County, WI	180
La Crosse County, WI	96
Lafayette County, WI	244
Manitowoc County, WI	52
Marathon County, WI	59
Marinette County, WI	93
Marquette County, WI	58
Menominee County, WI	71
Monroe County, WI	67
Oconto County, WI	117
Oneida County, WI	39
Outagamie County, WI	187

See footnotes at end of table.

County and state	Number of cases per county
Ozaukee County, WI	234
Polk County, WI	81
Portage County, WI	101
Price County, WI	14
Richland County, WI	78
Rock County, WI	524
Rusk County, WI	61
Sauk County, WI	139
Sawyer County, WI	54
Shawano County, WI	148
St. Croix County, WI	132
Trempealeau County, WI	194
Vilas County, WI	37
Walworth County, WI	461
Washburn County, WI	19
Washington County, WI	220
Waupaca County, WI	135
Waushara County, WI	65
Wood County, WI	23
Burnett County, WI	13
Forest County, WI	365
Lincoln County, WI	24
Pepin County, WI	13
Vernon County, WI	81
Langlade County, WI	25
Taylor County, WI	10
Baldwin County, AL	206
Elmore County, AL	649
Jefferson County, AL	371
Limestone County, AL	240
Montgomery County, AL	1170
Tuscaloosa County, AL	644
Autauga County, AL	614
Barbour County, AL	827
Bibb County, AL	449
Blount County, AL	181
Bullock County, AL	2547
Butler County, AL	2482
Calhoun County, AL	167
Chambers County, AL	1321
Cherokee County, AL	189
Chilton County, AL	307
Choctaw County, AL	1212
Clarke County, AL	697
Clay County, AL	215
Cleburne County, AL	134
Coffee County, AL	557
Colbert County, AL	470

See footnotes at end of table.

County and state	Number of cases per county
Conecuh County, AL	643
Coosa County, AL	390
Covington County, AL	320
Crenshaw County, AL	791
Cullman County, AL	321
Dale County, AL	346
Dallas County, AL	1029
DeKalb County, AL	443
Escambia County, AL	258
Etowah County, AL	293
Fayette County, AL	232
Franklin County, AL	2249
Geneva County, AL	172
Greene County, AL	1316
Hale County, AL	1466
Henry County, AL	572
Houston County, AL	298
Jackson County, AL	237
Lamar County, AL	247
Lauderdale County, AL	250
Lawrence County, AL	186
Lee County, AL	483
Lowndes County, AL	3266
Macon County, AL	573
Madison County, AL	147
Marengo County, AL	984
Marion County, AL	448
Marshall County, AL	918
Mobile County, AL	649
Monroe County, AL	507
Morgan County, AL	468
Perry County, AL	642
Pickens County, AL	714
Pike County, AL	939
Randolph County, AL	611
Russell County, AL	533
Shelby County, AL	325
St. Clair County, AL	209
Sumter County, AL	1896
Talladega County, AL	194
Tallapoosa County, AL	1125
Walker County, AL	821
Washington County, AL	501
Wilcox County, AL	1868
Winston County, AL	474
Anchorage municipality, AK	116
Bethel Census Area, AK	29
Fairbanks North Star Borough, AK	96

See footnotes at end of table.

County and state	Number of cases per county
Juneau Borough, AK	128
Kenai Peninsula Borough, AK	208
Ketchikan Gateway Borough, AK	148
Kodiak Island Borough, AK	29
Matanuska-Susitna Borough, AK	49
Nome Census Area, AK	53
Petersburg Census Area, AK	79
Prince of Wales-Outer Ketchikan Census Area, AK	72
Southeast Fairbanks Census Area, AK	57
Yukon-Koyukuk Census Area, AK	18
Sitka Borough, AK	124
Valdez-Cordova Census Area, AK	135
Aleutians East Borough, AK	32
Aleutian West Census Area, AK	72
Bristol Bay Borough, AK	201
Dillingham Census Area, AK	21
Haines Borough, AK	40
Lake and Peninsula Borough, AK	123
North Slope Borough, AK	11
Northwest Arctic Borough, AK	53
Wrangell City and Boro County, AK	84
Denali Borough, AK	0
Skagway-Hoonah-Angoon Census Area, AK	0
Yakutat Borough, AK	0
Jefferson County, AR	811
Pulaski County, AR	331
Arkansas County, AR	37
Ashley County, AR	183
Baxter County, AR	34
Benton County, AR	615
Boone County, AR	24
Bradley County, AR	295
Carroll County, AR	255
Chicot County, AR	364
Clark County, AR	196
Clay County, AR	112
Cleburne County, AR	289
Cleveland County, AR	219
Columbia County, AR	110
Conway County, AR	89
Craighead County, AR	365
Crawford County, AR	82
Crittenden County, AR	1016
Cross County, AR	420
Dallas County, AR	37
Desha County, AR	154
Drew County, AR	135
Faulkner County, AR	130

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Franklin County, AR	33
Garland County, AR	168
Grant County, AR	134
Greene County, AR	169
Hempstead County, AR	150
Hot Spring County, AR	115
Howard County, AR	276
Independence County, AR	106
Izard County, AR	139
Jackson County, AR	89
Johnson County, AR	329
Lafayette County, AR	144
Lawrence County, AR	517
Lee County, AR	4614
Lincoln County, AR	6983
Logan County, AR	81
Lonoke County, AR	102
Madison County, AR	681
Marion County, AR	12
Miller County, AR	159
Mississippi County, AR	196
Monroe County, AR	86
Nevada County, AR	822
Newton County, AR	36
Ouachita County, AR	50
Perry County, AR	153
Phillips County, AR	165
Pike County, AR	62
Poinsett County, AR	203
Polk County, AR	247
Pope County, AR	397
Prairie County, AR	80
Randolph County, AR	156
Saline County, AR	156
Scott County, AR	18
Searcy County, AR	85
Sebastian County, AR	115
Sevier County, AR	2509
Sharp County, AR	290
St. Francis County, AR	2728
Stone County, AR	89
Union County, AR	485
Van Buren County, AR	173
Washington County, AR	842
White County, AR	73
Woodruff County, AR	41
Yell County, AR	1303
Fulton County, AR	73

See footnotes at end of table.

County and state	Number of cases per county
Little River County, AR	258
Montgomery County, AR	21
Calhoun County, AR	0
Adams County, CO	844
Arapahoe County, CO	837
Boulder County, CO	362
Clear Creek County, CO	187
Denver County, CO	1050
Douglas County, CO	278
Eagle County, CO	1194
El Paso County, CO	309
Gunnison County, CO	1181
Jefferson County, CO	460
Larimer County, CO	214
Mesa County, CO	45
Pitkin County, CO	379
Pueblo County, CO	218
Routt County, CO	272
Summit County, CO	914
Weld County, CO	1049
Alamosa County, CO	751
Archuleta County, CO	66
Baca County, CO	317
Broomfield County, CO	472
Chaffee County, CO	438
Costilla County, CO	397
Crowley County, CO	1133
Custer County, CO	47
Delta County, CO	246
Elbert County, CO	234
Fremont County, CO	62
Garfield County, CO	321
Gilpin County, CO	110
Grand County, CO	101
Hinsdale County, CO	356
Huerfano County, CO	45
Kit Carson County, CO	363
La Plata County, CO	164
Lake County, CO	520
Las Animas County, CO	39
Lincoln County, CO	55
Logan County, CO	2783
Mineral County, CO	281
Moffat County, CO	58
Montezuma County, CO	231
Montrose County, CO	470
Morgan County, CO	2294
Otero County, CO	117

See footnotes at end of table.

County and state	Number of cases per county
Ouray County, CO	180
Park County, CO	142
Phillips County, CO	338
Prowers County, CO	127
Rio Blanco County, CO	15
Rio Grande County, CO	442
Saguache County, CO	1588
San Miguel County, CO	326
Teller County, CO	163
Washington County, CO	914
Yuma County, CO	468
Bent County, CO	46
Cheyenne County, CO	272
Conejos County, CO	61
San Juan County, CO	143
Dolores County, CO	0
Jackson County, CO	0
Kiowa County, CO	0
Sedgwick County, CO	0
Fairfield County, CT	1775
Hartford County, CT	1252
Litchfield County, CT	758
New Haven County, CT	1394
Middlesex County, CT	738
New London County, CT	437
Tolland County, CT	580
Windham County, CT	391
New Castle County, DE	791
Kent County, DE	957
Sussex County, DE	2232
District of Columbia	1614
Alachua County, FL	215
Broward County, FL	507
Charlotte County, FL	331
Clay County, FL	225
Collier County, FL	757
Duval County, FL	227
Hillsborough County, FL	285
Lee County, FL	426
Manatee County, FL	419
Miami-Dade County, FL	867
Nassau County, FL	123
Okaloosa County, FL	174
Orange County, FL	256
Osceola County, FL	301
Palm Beach County, FL	639
Pasco County, FL	108
Pinellas County, FL	229

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Santa Rosa County, FL	188
Sarasota County, FL	195
Seminole County, FL	168
St. Johns County, FL	157
Volusia County, FL	185
Baker County, FL	111
Bay County, FL	84
Bradford County, FL	182
Brevard County, FL	100
Calhoun County, FL	451
Citrus County, FL	99
Columbia County, FL	262
DeSoto County, FL	998
Dixie County, FL	365
Escambia County, FL	323
Flagler County, FL	213
Franklin County, FL	26
Gadsden County, FL	647
Gilchrist County, FL	153
Glades County, FL	854
Gulf County, FL	50
Hamilton County, FL	1831
Hardee County, FL	682
Hendry County, FL	1576
Hernando County, FL	78
Highlands County, FL	172
Holmes County, FL	156
Indian River County, FL	143
Jackson County, FL	639
Jefferson County, FL	217
Lafayette County, FL	135
Lake County, FL	152
Leon County, FL	168
Levy County, FL	245
Liberty County, FL	2606
Madison County, FL	395
Marion County, FL	94
Martin County, FL	775
Monroe County, FL	175
Okeechobee County, FL	415
Polk County, FL	235
Putnam County, FL	249
St. Lucie County, FL	299
Sumter County, FL	285
Suwannee County, FL	448
Taylor County, FL	235
Union County, FL	251
Wakulla County, FL	114

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Walton County, FL	265
Washington County, FL	366
Bartow County, GA	541
Charlton County, GA	312
Cherokee County, GA	474
Cobb County, GA	517
Coweta County, GA	400
DeKalb County, GA	622
Fayette County, GA	244
Floyd County, GA	381
Fulton County, GA	554
Gordon County, GA	448
Gwinnett County, GA	638
Henry County, GA	411
Lee County, GA	1315
Lowndes County, GA	566
Polk County, GA	395
Appling County, GA	1119
Atkinson County, GA	836
Bacon County, GA	1568
Baker County, GA	1072
Baldwin County, GA	925
Banks County, GA	587
Barrow County, GA	551
Ben Hill County, GA	578
Berrien County, GA	342
Bibb County, GA	343
Bleckley County, GA	413
Brantley County, GA	369
Brooks County, GA	573
Bryan County, GA	281
Bulloch County, GA	135
Burke County, GA	536
Butts County, GA	1027
Calhoun County, GA	2181
Camden County, GA	145
Candler County, GA	155
Carroll County, GA	553
Catoosa County, GA	353
Chatham County, GA	232
Chattahoochee County, GA	2228
Chattooga County, GA	131
Clarke County, GA	292
Clay County, GA	1634
Clayton County, GA	550
Clinch County, GA	1177
Coffee County, GA	779
Colquitt County, GA	1444

See footnotes at end of table.

County and state	Number of cases per county
Columbia County, GA	239
Cook County, GA	413
Crawford County, GA	269
Crisp County, GA	1032
Dade County, GA	289
Dawson County, GA	528
Decatur County, GA	801
Dodge County, GA	248
Dooly County, GA	1314
Dougherty County, GA	1938
Douglas County, GA	492
Early County, GA	2316
Echols County, GA	3917
Effingham County, GA	165
Elbert County, GA	422
Emanuel County, GA	186
Evans County, GA	64
Fannin County, GA	274
Forsyth County, GA	338
Franklin County, GA	620
Gilmer County, GA	594
Glynn County, GA	234
Grady County, GA	548
Greene County, GA	538
Habersham County, GA	1371
Hall County, GA	1525
Hancock County, GA	2132
Haralson County, GA	198
Harris County, GA	612
Hart County, GA	163
Heard County, GA	355
Houston County, GA	301
Irwin County, GA	377
Jackson County, GA	430
Jasper County, GA	403
Jeff Davis County, GA	358
Jefferson County, GA	319
Jenkins County, GA	528
Johnson County, GA	772
Jones County, GA	178
Lamar County, GA	431
Lanier County, GA	953
Laurens County, GA	242
Liberty County, GA	150
Lincoln County, GA	213
Long County, GA	159
Lumpkin County, GA	357
Macon County, GA	739

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Madison County, GA	260
Marion County, GA	709
McDuffie County, GA	334
McIntosh County, GA	133
Meriwether County, GA	568
Miller County, GA	735
Mitchell County, GA	1821
Monroe County, GA	481
Montgomery County, GA	230
Morgan County, GA	224
Murray County, GA	341
Muscogee County, GA	520
Newton County, GA	415
Oconee County, GA	390
Oglethorpe County, GA	483
Paulding County, GA	282
Peach County, GA	311
Pickens County, GA	221
Pierce County, GA	682
Pike County, GA	386
Pulaski County, GA	383
Putnam County, GA	514
Quitman County, GA	557
Rabun County, GA	190
Randolph County, GA	2461
Richmond County, GA	332
Rockdale County, GA	397
Schley County, GA	359
Screven County, GA	425
Seminole County, GA	550
Spalding County, GA	489
Stephens County, GA	581
Stewart County, GA	1023
Sumter County, GA	1542
Talbot County, GA	655
Tattnall County, GA	180
Taylor County, GA	292
Telfair County, GA	309
Terrell County, GA	2340
Thomas County, GA	807
Tift County, GA	960
Toombs County, GA	371
Towns County, GA	306
Treutlen County, GA	247
Troup County, GA	1093
Turner County, GA	1680
Twiggs County, GA	233
Union County, GA	248

See footnotes at end of table.

County and state	Number of cases per county
Upson County, GA	1086
Walker County, GA	319
Walton County, GA	387
Ware County, GA	735
Warren County, GA	326
Washington County, GA	354
Wayne County, GA	116
Webster County, GA	500
Wheeler County, GA	310
White County, GA	457
Whitfield County, GA	560
Wilcox County, GA	1275
Wilkes County, GA	340
Wilkinson County, GA	763
Worth County, GA	1181
Glascocock County, GA	32
Taliaferro County, GA	116
Honolulu County, HI	51
Kauai County, HI	31
Hawaii County, HI	44
Maui County, HI	78
Kalawao County, HI	0
Ada County, ID	227
Blaine County, ID	2409
Teton County, ID	108
Adams County, ID	101
Bannock County, ID	76
Bingham County, ID	53
Bonner County, ID	17
Bonneville County, ID	76
Camas County, ID	90
Canyon County, ID	188
Caribou County, ID	72
Cassia County, ID	593
Custer County, ID	46
Elmore County, ID	126
Fremont County, ID	30
Gem County, ID	102
Gooding County, ID	382
Idaho County, ID	18
Jefferson County, ID	46
Jerome County, ID	921
Kootenai County, ID	71
Latah County, ID	19
Lincoln County, ID	672
Madison County, ID	77
Minidoka County, ID	503
Nez Perce County, ID	214

See footnotes at end of table.

County and state	Number of cases per county
Owyhee County, ID	69
Payette County, ID	119
Power County, ID	115
Twin Falls County, ID	620
Valley County, ID	30
Washington County, ID	539
Lemhi County, ID	13
Benewah County, ID	205
Franklin County, ID	109
Bear Lake County, ID	0
Boise County, ID	0
Boundary County, ID	0
Butte County, ID	0
Clark County, ID	0
Clearwater County, ID	0
Lewis County, ID	0
Oneida County, ID	0
Shoshone County, ID	0
Adams County, IN	73
Boone County, IN	664
Hendricks County, IN	886
Howard County, IN	566
Johnson County, IN	856
LaPorte County, IN	420
Marion County, IN	1188
Noble County, IN	682
St. Joseph County, IN	570
Wells County, IN	192
Allen County, IN	613
Bartholomew County, IN	721
Benton County, IN	418
Blackford County, IN	235
Brown County, IN	236
Carroll County, IN	486
Cass County, IN	4106
Clark County, IN	520
Clay County, IN	208
Clinton County, IN	780
Crawford County, IN	261
Daviess County, IN	376
DeKalb County, IN	246
Dearborn County, IN	360
Decatur County, IN	975
Delaware County, IN	342
Dubois County, IN	568
Elkhart County, IN	1050
Fayette County, IN	531
Floyd County, IN	449

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Fountain County, IN	133
Franklin County, IN	546
Fulton County, IN	254
Gibson County, IN	66
Grant County, IN	465
Greene County, IN	549
Hamilton County, IN	463
Hancock County, IN	540
Harrison County, IN	508
Henry County, IN	414
Huntington County, IN	137
Jackson County, IN	991
Jasper County, IN	248
Jay County, IN	296
Jefferson County, IN	167
Jennings County, IN	498
Knox County, IN	94
Kosciusko County, IN	383
LaGrange County, IN	671
Lake County, IN	835
Lawrence County, IN	384
Madison County, IN	473
Marshall County, IN	610
Martin County, IN	145
Miami County, IN	450
Monroe County, IN	136
Montgomery County, IN	695
Morgan County, IN	444
Newton County, IN	618
Ohio County, IN	212
Orange County, IN	675
Owen County, IN	171
Parke County, IN	144
Perry County, IN	486
Pike County, IN	47
Porter County, IN	362
Posey County, IN	69
Pulaski County, IN	395
Putnam County, IN	419
Randolph County, IN	344
Ripley County, IN	378
Rush County, IN	385
Scott County, IN	596
Shelby County, IN	1346
Spencer County, IN	119
Starke County, IN	223
Steuben County, IN	301
Sullivan County, IN	196

See footnotes at end of table.

County and state	Number of cases per county
Switzerland County, IN	226
Tippecanoe County, IN	278
Tipton County, IN	176
Union County, IN	346
Vanderburgh County, IN	181
Vermillion County, IN	74
Vigo County, IN	185
Wabash County, IN	271
Warren County, IN	176
Warrick County, IN	292
Washington County, IN	198
Wayne County, IN	385
White County, IN	982
Whitley County, IN	183
Carroll County, IA	197
Dallas County, IA	1541
Harrison County, IA	261
Johnson County, IA	487
Pottawattamie County, IA	540
Adair County, IA	143
Allamakee County, IA	844
Appanoose County, IA	124
Audubon County, IA	212
Benton County, IA	176
Black Hawk County, IA	1396
Boone County, IA	365
Bremer County, IA	305
Buchanan County, IA	167
Buena Vista County, IA	7734
Butler County, IA	148
Cass County, IA	100
Cedar County, IA	292
Cerro Gordo County, IA	95
Chickasaw County, IA	121
Clarke County, IA	948
Clay County, IA	396
Clayton County, IA	193
Clinton County, IA	136
Crawford County, IA	3591
Delaware County, IA	152
Des Moines County, IA	166
Dickinson County, IA	786
Dubuque County, IA	410
Fayette County, IA	134
Franklin County, IA	412
Greene County, IA	225
Grundy County, IA	185
Guthrie County, IA	529

See footnotes at end of table.

County and state	Number of cases per county
Hamilton County, IA	753
Hancock County, IA	238
Hardin County, IA	245
Henry County, IA	362
Howard County, IA	125
Iowa County, IA	208
Jackson County, IA	71
Jasper County, IA	760
Jefferson County, IA	267
Jones County, IA	199
Keokuk County, IA	143
Kossuth County, IA	109
Lee County, IA	106
Linn County, IA	481
Louisa County, IA	3118
Lyon County, IA	259
Madison County, IA	217
Mahaska County, IA	478
Marion County, IA	129
Marshall County, IA	2315
Mills County, IA	153
Mitchell County, IA	65
Monona County, IA	465
Montgomery County, IA	84
Muscatine County, IA	1343
O'Brien County, IA	445
Osceola County, IA	758
Page County, IA	100
Plymouth County, IA	784
Polk County, IA	1189
Poweshiek County, IA	502
Scott County, IA	246
Shelby County, IA	386
Sioux County, IA	1050
Story County, IA	266
Tama County, IA	2403
Taylor County, IA	1156
Union County, IA	80
Van Buren County, IA	145
Wapello County, IA	1892
Warren County, IA	418
Washington County, IA	958
Webster County, IA	253
Winnebago County, IA	110
Winneshiek County, IA	114
Woodbury County, IA	2935
Worth County, IA	53
Wright County, IA	2154

See footnotes at end of table.

County and state	Number of cases per county
Calhoun County, IA	207
Cherokee County, IA	480
Davis County, IA	377
Emmet County, IA	369
Floyd County, IA	123
Fremont County, IA	54
Humboldt County, IA	326
Ida County, IA	254
Monroe County, IA	590
Palo Alto County, IA	138
Pocahontas County, IA	410
Sac County, IA	357
Wayne County, IA	62
Adams County, IA	174
Decatur County, IA	47
Lucas County, IA	270
Ringgold County, IA	156
Butler County, KS	62
Franklin County, KS	189
Johnson County, KS	192
Wyandotte County, KS	1086
Atchison County, KS	148
Barber County, KS	21
Barton County, KS	173
Bourbon County, KS	53
Chase County, KS	143
Chautauqua County, KS	109
Cherokee County, KS	56
Clay County, KS	82
Cloud County, KS	52
Coffey County, KS	605
Cowley County, KS	107
Crawford County, KS	46
Dickinson County, KS	30
Doniphan County, KS	252
Douglas County, KS	74
Ellis County, KS	49
Finney County, KS	4182
Ford County, KS	5486
Geary County, KS	76
Gove County, KS	37
Greenwood County, KS	149
Hamilton County, KS	1152
Harvey County, KS	43
Jackson County, KS	765
Jefferson County, KS	120
Jewell County, KS	130
Kearny County, KS	1157

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Labette County, KS	125
Leavenworth County, KS	1451
Linn County, KS	114
Lyon County, KS	1380
Marion County, KS	55
McPherson County, KS	134
Miami County, KS	27
Mitchell County, KS	63
Montgomery County, KS	59
Morris County, KS	84
Morton County, KS	186
Neosho County, KS	36
Osage County, KS	61
Osborne County, KS	52
Ottawa County, KS	66
Phillips County, KS	35
Pottawatomie County, KS	162
Pratt County, KS	21
Reno County, KS	87
Republic County, KS	80
Riley County, KS	104
Rooks County, KS	135
Saline County, KS	59
Scott County, KS	304
Sedgwick County, KS	148
Seward County, KS	4026
Shawnee County, KS	247
Sherman County, KS	116
Smith County, KS	52
Stafford County, KS	23
Stanton County, KS	403
Stevens County, KS	542
Sumner County, KS	37
Wabaunsee County, KS	440
Wilson County, KS	11
Woodson County, KS	181
Anderson County, KS	12
Brown County, KS	100
Cheyenne County, KS	73
Clark County, KS	1490
Edwards County, KS	165
Ellsworth County, KS	46
Grant County, KS	230
Gray County, KS	383
Harper County, KS	33
Haskell County, KS	517
Kiowa County, KS	118
Meade County, KS	656

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Nemaha County, KS	197
Norton County, KS	53
Rice County, KS	40
Sheridan County, KS	78
Comanche County, KS	106
Hodgeman County, KS	261
Lane County, KS	229
Ness County, KS	129
Pawnee County, KS	43
Trego County, KS	33
Washington County, KS	17
Allen County, KS	0
Decatur County, KS	0
Elk County, KS	0
Graham County, KS	0
Greeley County, KS	0
Kingman County, KS	0
Lincoln County, KS	0
Logan County, KS	0
Marshall County, KS	0
Rawlins County, KS	0
Rush County, KS	0
Russell County, KS	0
Thomas County, KS	0
Wallace County, KS	0
Wichita County, KS	0
Bourbon County, KY	120
Fayette County, KY	363
Harrison County, KY	297
Jefferson County, KY	448
Montgomery County, KY	140
Nelson County, KY	111
Adair County, KY	541
Allen County, KY	666
Anderson County, KY	117
Ballard County, KY	170
Barren County, KY	154
Bath County, KY	86
Boone County, KY	454
Boyd County, KY	89
Boyle County, KY	106
Bracken County, KY	165
Breathitt County, KY	22
Breckinridge County, KY	115
Bullitt County, KY	176
Butler County, KY	1915
Caldwell County, KY	92
Calloway County, KY	153

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Campbell County, KY	229
Carroll County, KY	157
Carter County, KY	65
Casey County, KY	63
Christian County, KY	210
Clark County, KY	205
Clinton County, KY	49
Crittenden County, KY	75
Cumberland County, KY	73
Daviess County, KY	365
Edmonson County, KY	576
Fleming County, KY	28
Floyd County, KY	48
Franklin County, KY	195
Gallatin County, KY	664
Garrard County, KY	59
Grant County, KY	215
Graves County, KY	466
Grayson County, KY	532
Green County, KY	27
Greenup County, KY	43
Hancock County, KY	128
Hardin County, KY	126
Hart County, KY	198
Henderson County, KY	283
Henry County, KY	169
Hopkins County, KY	488
Jackson County, KY	467
Jessamine County, KY	169
Johnson County, KY	26
Kenton County, KY	432
Knott County, KY	24
Knox County, KY	35
Larue County, KY	106
Laurel County, KY	49
Lawrence County, KY	32
Leslie County, KY	53
Letcher County, KY	16
Lewis County, KY	94
Lincoln County, KY	61
Livingston County, KY	95
Logan County, KY	727
Lyon County, KY	217
Madison County, KY	92
Marion County, KY	212
Marshall County, KY	130
Martin County, KY	23
Mason County, KY	91

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
McCracken County, KY	178
McCreary County, KY	71
McLean County, KY	262
Meade County, KY	84
Menifee County, KY	159
Mercer County, KY	75
Monroe County, KY	265
Morgan County, KY	43
Muhlenberg County, KY	1594
Nicholas County, KY	56
Ohio County, KY	776
Oldham County, KY	187
Owsley County, KY	42
Pendleton County, KY	94
Perry County, KY	80
Pike County, KY	72
Powell County, KY	32
Pulaski County, KY	113
Rockcastle County, KY	82
Rowan County, KY	56
Russell County, KY	216
Scott County, KY	114
Shelby County, KY	637
Simpson County, KY	341
Spencer County, KY	152
Taylor County, KY	65
Todd County, KY	185
Trigg County, KY	119
Trimble County, KY	57
Union County, KY	113
Warren County, KY	1097
Washington County, KY	119
Wayne County, KY	48
Webster County, KY	264
Whitley County, KY	48
Woodford County, KY	192
Carlisle County, KY	98
Clay County, KY	60
Fulton County, KY	176
Harlan County, KY	38
Hickman County, KY	102
Magoffin County, KY	30
Metcalfe County, KY	69
Owen County, KY	37
Bell County, KY	14
Elliott County, KY	13
Estill County, KY	34
Lee County, KY	13

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Wolfe County, KY	14
Robertson County, KY	0
Bossier Parish, LA	422
Caddo Parish, LA	1110
Jefferson Parish, LA	1928
Lafourche Parish, LA	1005
Orleans Parish, LA	2145
St. Charles Parish, LA	1243
St. John the Baptist Parish, LA	1936
St. Tammany Parish, LA	826
Terrebonne Parish, LA	708
Acadia Parish, LA	934
Allen Parish, LA	815
Ascension Parish, LA	868
Assumption Parish, LA	1123
Avoyelles Parish, LA	437
Beauregard Parish, LA	376
Bienville Parish, LA	1198
Calcasieu Parish, LA	384
Caldwell Parish, LA	780
Cameron Parish, LA	161
Catahoula Parish, LA	1249
Claiborne Parish, LA	442
Concordia Parish, LA	504
De Soto Parish, LA	1013
East Baton Rouge Parish, LA	953
East Carroll Parish, LA	2861
East Feliciana Parish, LA	1110
Evangeline Parish, LA	262
Franklin Parish, LA	1998
Grant Parish, LA	260
Iberia Parish, LA	627
Iberville Parish, LA	1827
Jackson Parish, LA	971
Jefferson Davis Parish, LA	415
La Salle Parish, LA	510
Lafayette Parish, LA	514
Lincoln Parish, LA	486
Livingston Parish, LA	410
Madison Parish, LA	2158
Morehouse Parish, LA	547
Natchitoches Parish, LA	483
Ouachita Parish, LA	1135
Plaquemines Parish, LA	989
Pointe Coupee Parish, LA	956
Rapides Parish, LA	860
Red River Parish, LA	572
Richland Parish, LA	786

See footnotes at end of table.

County and state	Number of cases per county
Sabine Parish, LA	243
St. Bernard Parish, LA	1582
St. Helena Parish, LA	518
St. James Parish, LA	1394
St. Landry Parish, LA	429
St. Martin Parish, LA	652
St. Mary Parish, LA	646
Tangipahoa Parish, LA	858
Tensas Parish, LA	419
Union Parish, LA	1800
Vermilion Parish, LA	136
Vernon Parish, LA	97
Washington Parish, LA	1119
Webster Parish, LA	587
West Baton Rouge Parish, LA	849
West Carroll Parish, LA	896
West Feliciana Parish, LA	1466
Winn Parish, LA	1378
Androscoggin County, ME	389
Cumberland County, ME	502
Aroostook County, ME	14
Franklin County, ME	120
Hancock County, ME	24
Kennebec County, ME	111
Knox County, ME	55
Lincoln County, ME	61
Oxford County, ME	54
Penobscot County, ME	66
Sagadahoc County, ME	85
Somerset County, ME	48
Waldo County, ME	142
Washington County, ME	3
York County, ME	222
Piscataquis County, ME	6
Anne Arundel County, MD	843
Baltimore County, MD	885
Carroll County, MD	590
Charles County, MD	864
Harford County, MD	411
Montgomery County, MD	1397
Prince George's County, MD	2055
Allegany County, MD	249
Baltimore City, MD	1069
Calvert County, MD	421
Caroline County, MD	853
Cecil County, MD	435
Dorchester County, MD	494
Frederick County, MD	968

See footnotes at end of table.

County and state	Number of cases per county
Garrett County, MD	33
Howard County, MD	828
Kent County, MD	956
Queen Anne's County, MD	374
Somerset County, MD	298
St. Mary's County, MD	550
Talbot County, MD	283
Washington County, MD	387
Wicomico County, MD	1023
Worcester County, MD	494
Bay County, MI	349
Charlevoix County, MI	89
Ingham County, MI	293
Kent County, MI	736
Leelanau County, MI	55
Macomb County, MI	865
Monroe County, MI	374
Montcalm County, MI	129
Oakland County, MI	940
St. Clair County, MI	318
Washtenaw County, MI	600
Wayne County, MI	1194
Alcona County, MI	192
Allegan County, MI	254
Alpena County, MI	389
Antrim County, MI	59
Arenac County, MI	239
Baraga County, MI	11
Barry County, MI	154
Benzie County, MI	29
Berrien County, MI	564
Branch County, MI	2115
Calhoun County, MI	356
Cass County, MI	218
Cheboygan County, MI	99
Chippewa County, MI	10
Clare County, MI	78
Clinton County, MI	249
Crawford County, MI	448
Delta County, MI	57
Dickinson County, MI	27
Eaton County, MI	238
Emmet County, MI	83
Genesee County, MI	604
Gladwin County, MI	78
Gogebic County, MI	30
Grand Traverse County, MI	47
Gratiot County, MI	228

See footnotes at end of table.

County and state	Number of cases per county
Hillsdale County, MI	383
Houghton County, MI	22
Huron County, MI	181
Ionia County, MI	286
Iosco County, MI	433
Isabella County, MI	137
Jackson County, MI	1281
Kalamazoo County, MI	380
Kalkaska County, MI	181
Lake County, MI	61
Lapeer County, MI	588
Lenawee County, MI	924
Livingston County, MI	314
Luce County, MI	60
Mackinac County, MI	72
Manistee County, MI	97
Marquette County, MI	88
Mason County, MI	132
Mecosta County, MI	58
Menominee County, MI	37
Midland County, MI	182
Missaukee County, MI	155
Montmorency County, MI	51
Muskegon County, MI	426
Newaygo County, MI	260
Oceana County, MI	403
Ogemaw County, MI	147
Osceola County, MI	89
Oscoda County, MI	93
Otsego County, MI	542
Ottawa County, MI	356
Presque Isle County, MI	90
Roscommon County, MI	102
Saginaw County, MI	576
Sanilac County, MI	102
Schoolcraft County, MI	47
Shiawassee County, MI	374
St. Joseph County, MI	286
Tuscola County, MI	375
Van Buren County, MI	265
Wexford County, MI	58
Alger County, MI	10
Iron County, MI	17
Keweenaw County, MI	46
Ontonagon County, MI	0
Anoka County, MN	519
Carver County, MN	295
Dakota County, MN	422

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Hennepin County, MN	874
Olmsted County, MN	537
Ramsey County, MN	763
Renville County, MN	70
Stearns County, MN	1394
Wright County, MN	301
Aitkin County, MN	80
Becker County, MN	151
Beltrami County, MN	47
Benton County, MN	494
Big Stone County, MN	247
Blue Earth County, MN	252
Brown County, MN	73
Carlton County, MN	226
Cass County, MN	39
Chisago County, MN	145
Clay County, MN	859
Clearwater County, MN	35
Cottonwood County, MN	890
Crow Wing County, MN	144
Dodge County, MN	294
Douglas County, MN	136
Faribault County, MN	179
Fillmore County, MN	96
Freeborn County, MN	697
Goodhue County, MN	201
Houston County, MN	26
Isanti County, MN	130
Itasca County, MN	129
Jackson County, MN	448
Kandiyohi County, MN	1288
Kittson County, MN	22
Koochiching County, MN	68
Lac qui Parle County, MN	41
Le Sueur County, MN	188
Lincoln County, MN	102
Lyon County, MN	770
Mahnomen County, MN	111
Martin County, MN	686
McLeod County, MN	147
Meeker County, MN	210
Mille Lacs County, MN	107
Mower County, MN	1634
Murray County, MN	493
Nicollet County, MN	290
Nobles County, MN	7569
Norman County, MN	248
Otter Tail County, MN	145

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Pine County, MN	319
Pipestone County, MN	156
Polk County, MN	212
Red Lake County, MN	98
Redwood County, MN	62
Rice County, MN	1073
Rock County, MN	237
Roseau County, MN	38
Scott County, MN	405
Sherburne County, MN	302
Sibley County, MN	164
St. Louis County, MN	61
Steele County, MN	478
Swift County, MN	194
Todd County, MN	1494
Traverse County, MN	141
Wabasha County, MN	97
Waseca County, MN	172
Washington County, MN	330
Watonwan County, MN	874
Wilkin County, MN	213
Winona County, MN	163
Yellow Medicine County, MN	86
Chippewa County, MN	442
Grant County, MN	100
Kanabec County, MN	80
Lake County, MN	9
Marshall County, MN	127
Morrison County, MN	163
Pennington County, MN	359
Pope County, MN	91
Wadena County, MN	72
Cook County, MN	19
Hubbard County, MN	24
Stevens County, MN	10
Lake of the Woods County, MN	0
Copiah County, MS	1348
Forrest County, MS	905
Leflore County, MS	1089
Pearl River County, MS	396
Adams County, MS	697
Alcorn County, MS	78
Amite County, MS	533
Attala County, MS	1677
Benton County, MS	195
Bolivar County, MS	542
Calhoun County, MS	521
Carroll County, MS	1151

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Chickasaw County, MS	949
Choctaw County, MS	761
Claiborne County, MS	1437
Clarke County, MS	986
Clay County, MS	838
Coahoma County, MS	558
Covington County, MS	1037
DeSoto County, MS	442
Franklin County, MS	370
George County, MS	155
Greene County, MS	354
Grenada County, MS	717
Hancock County, MS	228
Harrison County, MS	179
Hinds County, MS	515
Holmes County, MS	2422
Humphreys County, MS	853
Itawamba County, MS	423
Jackson County, MS	251
Jasper County, MS	1131
Jefferson County, MS	686
Jefferson Davis County, MS	673
Jones County, MS	1257
Kemper County, MS	1597
Lafayette County, MS	361
Lamar County, MS	517
Lauderdale County, MS	998
Lawrence County, MS	889
Leake County, MS	2029
Lee County, MS	352
Lincoln County, MS	918
Lowndes County, MS	520
Madison County, MS	921
Marion County, MS	517
Marshall County, MS	272
Monroe County, MS	787
Montgomery County, MS	860
Neshoba County, MS	2955
Newton County, MS	1478
Noxubee County, MS	1836
Oktibbeha County, MS	736
Panola County, MS	349
Perry County, MS	441
Pike County, MS	554
Pontotoc County, MS	237
Prentiss County, MS	257
Quitman County, MS	584
Rankin County, MS	378

See footnotes at end of table.

County and state	Number of cases per county
Scott County, MS	2434
Sharkey County, MS	163
Simpson County, MS	425
Smith County, MS	1061
Stone County, MS	191
Sunflower County, MS	397
Tallahatchie County, MS	260
Tate County, MS	443
Tippah County, MS	418
Tishomingo County, MS	235
Tunica County, MS	594
Union County, MS	357
Walthall County, MS	648
Warren County, MS	508
Washington County, MS	481
Wayne County, MS	1798
Webster County, MS	1063
Wilkinson County, MS	860
Winston County, MS	771
Yalobusha County, MS	1081
Yazoo County, MS	1236
Issaquena County, MS	0
Greene County, MO	79
Henry County, MO	72
St. Louis County, MO	551
Adair County, MO	312
Andrew County, MO	202
Atchison County, MO	53
Barry County, MO	28
Bates County, MO	70
Benton County, MO	73
Bollinger County, MO	73
Boone County, MO	128
Buchanan County, MO	879
Butler County, MO	96
Caldwell County, MO	74
Callaway County, MO	81
Camden County, MO	86
Cape Girardeau County, MO	137
Carter County, MO	80
Cass County, MO	112
Cedar County, MO	64
Chariton County, MO	77
Christian County, MO	37
Clark County, MO	14
Clay County, MO	133
Clinton County, MO	96
Cole County, MO	75

See footnotes at end of table.

County and state	Number of cases per county
Cooper County, MO	51
Crawford County, MO	32
Dallas County, MO	36
Daviess County, MO	83
DeKalb County, MO	62
Dunklin County, MO	172
Franklin County, MO	164
Gasconade County, MO	13
Gentry County, MO	801
Harrison County, MO	100
Holt County, MO	20
Howard County, MO	30
Howell County, MO	50
Iron County, MO	19
Jackson County, MO	121
Jasper County, MO	98
Jefferson County, MO	196
Johnson County, MO	152
Lafayette County, MO	255
Lewis County, MO	69
Lincoln County, MO	166
Linn County, MO	86
Livingston County, MO	46
Macon County, MO	45
Madison County, MO	25
Maries County, MO	22
Marion County, MO	28
McDonald County, MO	303
Miller County, MO	16
Moniteau County, MO	314
Montgomery County, MO	98
Morgan County, MO	44
New Madrid County, MO	185
Newton County, MO	122
Nodaway County, MO	64
Oregon County, MO	37
Osage County, MO	36
Pemiscot County, MO	557
Perry County, MO	443
Pettis County, MO	201
Phelps County, MO	13
Pike County, MO	167
Platte County, MO	109
Polk County, MO	26
Pulaski County, MO	203
Ralls County, MO	49
Randolph County, MO	39
Ray County, MO	106

See footnotes at end of table.

County and state	Number of cases per county
Reynolds County, MO	30
Ripley County, MO	78
Saline County, MO	1160
Scotland County, MO	165
Scott County, MO	355
Shelby County, MO	16
St. Charles County, MO	248
St. Clair County, MO	20
St. Francois County, MO	61
St. Louis City, MO	687
Ste. Genevieve County, MO	77
Stoddard County, MO	394
Stone County, MO	22
Taney County, MO	29
Vernon County, MO	57
Warren County, MO	92
Washington County, MO	52
Webster County, MO	50
Worth County, MO	184
Wright County, MO	74
Audrain County, MO	478
Carroll County, MO	108
Dent County, MO	6
Laclede County, MO	25
Lawrence County, MO	18
Mississippi County, MO	494
Schuyler County, MO	23
Sullivan County, MO	1147
Barton County, MO	8
Douglas County, MO	22
Grundy County, MO	117
Knox County, MO	48
Mercer County, MO	132
Monroe County, MO	34
Putnam County, MO	20
Shannon County, MO	71
Texas County, MO	4
Dade County, MO	0
Hickory County, MO	0
Ozark County, MO	0
Wayne County, MO	0
Gallatin County, MT	209
Lewis and Clark County, MT	30
Missoula County, MT	37
Silver Bow County, MT	32
Yellowstone County, MT	73
Beaverhead County, MT	11
Big Horn County, MT	342

See footnotes at end of table.

County and state	Number of cases per county
Broadwater County, MT	71
Carbon County, MT	60
Cascade County, MT	21
Deer Lodge County, MT	32
Flathead County, MT	41
Glacier County, MT	45
Golden Valley County, MT	339
Hill County, MT	6
Jefferson County, MT	26
Lake County, MT	31
Liberty County, MT	43
Lincoln County, MT	36
Madison County, MT	104
Meagher County, MT	53
Musselshell County, MT	22
Park County, MT	51
Pondera County, MT	33
Ravalli County, MT	37
Richland County, MT	31
Roosevelt County, MT	67
Stillwater County, MT	22
Toole County, MT	545
Wheatland County, MT	46
Custer County, MT	26
Rosebud County, MT	11
Blaine County, MT	0
Carter County, MT	0
Chouteau County, MT	0
Daniels County, MT	0
Dawson County, MT	0
Fallon County, MT	0
Fergus County, MT	0
Garfield County, MT	0
Granite County, MT	0
Judith Basin County, MT	0
McCone County, MT	0
Mineral County, MT	0
Petroleum County, MT	0
Phillips County, MT	0
Powder River County, MT	0
Powell County, MT	0
Prairie County, MT	0
Sanders County, MT	0
Sheridan County, MT	0
Sweet Grass County, MT	0
Teton County, MT	0
Treasure County, MT	0
Valley County, MT	0

See footnotes at end of table.

County and state	Number of cases per county
Wibaux County, MT	0
Cass County, NE	238
Douglas County, NE	1108
Adams County, NE	886
Antelope County, NE	120
Box Butte County, NE	27
Buffalo County, NE	384
Burt County, NE	131
Butler County, NE	608
Cherry County, NE	18
Cheyenne County, NE	100
Clay County, NE	367
Colfax County, NE	6144
Cuming County, NE	372
Custer County, NE	357
Dakota County, NE	8274
Dawson County, NE	3470
Dodge County, NE	1693
Franklin County, NE	186
Furnas County, NE	181
Gage County, NE	202
Gosper County, NE	636
Hall County, NE	2693
Hamilton County, NE	669
Howard County, NE	717
Johnson County, NE	115
Kearney County, NE	185
Kimball County, NE	262
Knox County, NE	115
Lancaster County, NE	513
Lincoln County, NE	146
Madison County, NE	972
Merrick County, NE	459
Morrill County, NE	218
Nance County, NE	107
Nemaha County, NE	55
Otoe County, NE	76
Phelps County, NE	218
Pierce County, NE	83
Platte County, NE	1992
Polk County, NE	222
Red Willow County, NE	45
Saline County, NE	3648
Sarpy County, NE	555
Saunders County, NE	269
Scotts Bluff County, NE	465
Seward County, NE	185
Stanton County, NE	343

See footnotes at end of table.

County and state	Number of cases per county
Washington County, NE	198
Wayne County, NE	271
Webster County, NE	157
York County, NE	263
Boone County, NE	127
Cedar County, NE	90
Dawes County, NE	11
Dixon County, NE	650
Fillmore County, NE	153
Frontier County, NE	36
Greeley County, NE	118
Hitchcock County, NE	34
Holt County, NE	10
Jefferson County, NE	119
Keith County, NE	24
Nuckolls County, NE	22
Richardson County, NE	12
Sherman County, NE	127
Thomas County, NE	155
Thurston County, NE	937
Valley County, NE	164
Banner County, NE	145
Boyd County, NE	48
Chase County, NE	25
Garden County, NE	194
Garfield County, NE	49
Sioux County, NE	153
Thayer County, NE	19
Arthur County, NE	0
Blaine County, NE	0
Brown County, NE	0
Deuel County, NE	0
Dundy County, NE	0
Grant County, NE	0
Harlan County, NE	0
Hayes County, NE	0
Hooker County, NE	0
Keya Paha County, NE	0
Logan County, NE	0
Loup County, NE	0
McPherson County, NE	0
Pawnee County, NE	0
Perkins County, NE	0
Rock County, NE	0
Sheridan County, NE	0
Wheeler County, NE	0
Carson City, NV	208
Clark County, NV	438

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Washoe County, NV	464
Churchill County, NV	40
Douglas County, NV	83
Elko County, NV	76
Humboldt County, NV	472
Lyon County, NV	175
Mineral County, NV	84
Nye County, NV	166
White Pine County, NV	30
Lander County, NV	398
Lincoln County, NV	37
Pershing County, NV	74
Storey County, NV	25
Esmeralda County, NV	0
Eureka County, NV	0
Grafton County, NH	85
Rockingham County, NH	478
Belknap County, NH	123
Carroll County, NH	102
Cheshire County, NH	78
Coos County, NH	18
Hillsborough County, NH	730
Merrimack County, NH	267
Strafford County, NH	226
Sullivan County, NH	57
Bergen County, NJ	2078
Burlington County, NJ	1084
Camden County, NJ	1360
Essex County, NJ	2339
Hudson County, NJ	2951
Mercer County, NJ	1998
Middlesex County, NJ	2023
Monmouth County, NJ	1383
Morris County, NJ	1334
Ocean County, NJ	1599
Passaic County, NJ	3314
Union County, NJ	3045
Atlantic County, NJ	901
Cape May County, NJ	688
Cumberland County, NJ	1696
Gloucester County, NJ	833
Hunterdon County, NJ	809
Salem County, NJ	1067
Somerset County, NJ	1470
Sussex County, NJ	772
Warren County, NJ	1106
Bernalillo County, NM	254
Sandoval County, NM	468

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Santa Fe County, NM	119
Socorro County, NM	308
Catron County, NM	54
Chaves County, NM	85
Cibola County, NM	683
Colfax County, NM	51
Curry County, NM	159
Dona Ana County, NM	314
Eddy County, NM	85
Grant County, NM	54
Guadalupe County, NM	427
Lea County, NM	63
Lincoln County, NM	24
Los Alamos County, NM	33
Luna County, NM	108
McKinley County, NM	4051
Otero County, NM	1025
Quay County, NM	44
Rio Arriba County, NM	149
Roosevelt County, NM	267
San Juan County, NM	1602
San Miguel County, NM	54
Taos County, NM	97
Torrance County, NM	324
Valencia County, NM	115
Harding County, NM	144
Sierra County, NM	33
Union County, NM	110
Hidalgo County, NM	61
De Baca County, NM	0
Mora County, NM	0
Albany County, NY	663
Broome County, NY	323
Delaware County, NY	183
Dutchess County, NY	1361
Herkimer County, NY	198
Monroe County, NY	449
Nassau County, NY	3074
Orange County, NY	2837
Rockland County, NY	4303
Saratoga County, NY	234
Schenectady County, NY	467
Suffolk County, NY	2720
Tioga County, NY	268
Tompkins County, NY	170
Ulster County, NY	953
Westchester County, NY	3609
Bronx County, NY	3094

See footnotes at end of table.

County and state	Number of cases per county
Kings County, NY	1711
New York County, NY	2702
Queens County, NY	1921
Richmond County, NY	9141
Allegany County, NY	110
Cattaraugus County, NY	126
Cayuga County, NY	129
Chautauqua County, NY	79
Chemung County, NY	155
Chenango County, NY	273
Clinton County, NY	119
Columbia County, NY	683
Cortland County, NY	85
Erie County, NY	735
Essex County, NY	122
Franklin County, NY	48
Fulton County, NY	418
Genesee County, NY	353
Greene County, NY	508
Hamilton County, NY	103
Jefferson County, NY	70
Lewis County, NY	74
Livingston County, NY	187
Madison County, NY	453
Montgomery County, NY	205
Niagara County, NY	533
Oneida County, NY	533
Onondaga County, NY	535
Ontario County, NY	213
Orleans County, NY	609
Oswego County, NY	100
Otsego County, NY	128
Putnam County, NY	1289
Rensselaer County, NY	321
Schoharie County, NY	165
Schuyler County, NY	65
Seneca County, NY	179
St. Lawrence County, NY	191
Steuben County, NY	258
Sullivan County, NY	1844
Warren County, NY	391
Washington County, NY	383
Wayne County, NY	140
Wyoming County, NY	216
Yates County, NY	154
Brunswick County, NC	206
Cabarrus County, NC	385
Chatham County, NC	1235

See footnotes at end of table.

County and state	Number of cases per county
Craven County, NC	246
Forsyth County, NC	607
Harnett County, NC	341
Johnston County, NC	476
Mecklenburg County, NC	746
Onslow County, NC	88
Wake County, NC	331
Wayne County, NC	1196
Alamance County, NC	463
Alexander County, NC	129
Alleghany County, NC	269
Anson County, NC	315
Ashe County, NC	158
Beaufort County, NC	107
Bertie County, NC	630
Bladen County, NC	534
Buncombe County, NC	184
Burke County, NC	777
Caldwell County, NC	289
Carteret County, NC	69
Caswell County, NC	426
Catawba County, NC	258
Cherokee County, NC	109
Chowan County, NC	128
Clay County, NC	85
Cleveland County, NC	155
Columbus County, NC	714
Cumberland County, NC	274
Currituck County, NC	68
Dare County, NC	65
Davidson County, NC	381
Davie County, NC	325
Duplin County, NC	1966
Durham County, NC	989
Edgecombe County, NC	431
Franklin County, NC	365
Gaston County, NC	235
Gates County, NC	197
Granville County, NC	1097
Greene County, NC	543
Guilford County, NC	406
Halifax County, NC	435
Haywood County, NC	110
Henderson County, NC	406
Hertford County, NC	604
Hoke County, NC	635
Iredell County, NC	263
Jackson County, NC	142

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Jones County, NC	256
Lee County, NC	1004
Lenoir County, NC	481
Lincoln County, NC	160
Macon County, NC	545
Martin County, NC	384
McDowell County, NC	316
Mitchell County, NC	103
Montgomery County, NC	712
Moore County, NC	338
Nash County, NC	289
New Hanover County, NC	165
Northampton County, NC	747
Orange County, NC	339
Pamlico County, NC	114
Pasquotank County, NC	322
Pender County, NC	247
Perquimans County, NC	216
Person County, NC	185
Pitt County, NC	276
Polk County, NC	268
Randolph County, NC	641
Richmond County, NC	431
Robeson County, NC	746
Rockingham County, NC	139
Rowan County, NC	623
Rutherford County, NC	326
Sampson County, NC	1148
Scotland County, NC	296
Stanly County, NC	248
Stokes County, NC	194
Surry County, NC	444
Transylvania County, NC	48
Tyrrell County, NC	113
Union County, NC	343
Vance County, NC	898
Warren County, NC	615
Washington County, NC	257
Watauga County, NC	84
Wilkes County, NC	782
Wilson County, NC	611
Yadkin County, NC	607
Camden County, NC	60
Graham County, NC	68
Hyde County, NC	34
Madison County, NC	24
Swain County, NC	279
Yancey County, NC	135

See footnotes at end of table.

County and state	Number of cases per county
Avery County, NC	34
Ward County, ND	75
Barnes County, ND	81
Bowman County, ND	32
Burke County, ND	254
Burleigh County, ND	196
Cass County, ND	1360
Divide County, ND	48
Dunn County, ND	311
Eddy County, ND	210
Emmons County, ND	113
Foster County, ND	30
Grand Forks County, ND	512
Grant County, ND	84
McHenry County, ND	37
McIntosh County, ND	36
McKenzie County, ND	330
McLean County, ND	100
Morton County, ND	229
Mountrail County, ND	560
Oliver County, ND	54
Pierce County, ND	69
Ramsey County, ND	70
Richland County, ND	221
Rolette County, ND	50
Sargent County, ND	104
Sioux County, ND	72
Slope County, ND	413
Stark County, ND	260
Stutsman County, ND	242
Walsh County, ND	144
Williams County, ND	116
Benson County, ND	45
Mercer County, ND	71
Nelson County, ND	32
Pembina County, ND	81
Ransom County, ND	220
Renville County, ND	121
Traill County, ND	185
Wells County, ND	190
Bottineau County, ND	62
Dickey County, ND	57
Griggs County, ND	41
Kidder County, ND	82
LaMoure County, ND	217
Sheridan County, ND	76
Steele County, ND	51
Adams County, ND	0

See footnotes at end of table.

County and state	Number of cases per county
Billings County, ND	0
Cavalier County, ND	0
Golden Valley County, ND	0
Hettinger County, ND	0
Logan County, ND	0
Towner County, ND	0
Belmont County, OH	662
Butler County, OH	293
Cuyahoga County, OH	402
Franklin County, OH	604
Lorain County, OH	261
Stark County, OH	228
Summit County, OH	305
Trumbull County, OH	310
Tuscarawas County, OH	430
Adams County, OH	49
Allen County, OH	224
Ashland County, OH	53
Ashtabula County, OH	376
Athens County, OH	36
Auglaize County, OH	183
Brown County, OH	85
Carroll County, OH	128
Champaign County, OH	85
Clark County, OH	291
Clermont County, OH	120
Clinton County, OH	124
Columbiana County, OH	849
Coshocton County, OH	138
Crawford County, OH	279
Darke County, OH	419
Defiance County, OH	102
Delaware County, OH	226
Erie County, OH	271
Fairfield County, OH	246
Fayette County, OH	152
Fulton County, OH	122
Gallia County, OH	29
Geauga County, OH	354
Greene County, OH	82
Guernsey County, OH	110
Hamilton County, OH	390
Hancock County, OH	82
Hardin County, OH	287
Harrison County, OH	63
Henry County, OH	71
Highland County, OH	76
Hocking County, OH	248

See footnotes at end of table.

County and state	Number of cases per county
Holmes County, OH	205
Huron County, OH	124
Jackson County, OH	48
Jefferson County, OH	100
Knox County, OH	51
Lake County, OH	150
Lawrence County, OH	51
Licking County, OH	183
Logan County, OH	105
Lucas County, OH	548
Madison County, OH	387
Mahoning County, OH	664
Marion County, OH	4066
Medina County, OH	230
Meigs County, OH	25
Mercer County, OH	595
Miami County, OH	375
Monroe County, OH	560
Montgomery County, OH	175
Morgan County, OH	40
Morrow County, OH	316
Muskingum County, OH	66
Noble County, OH	41
Ottawa County, OH	280
Paulding County, OH	71
Perry County, OH	64
Pickaway County, OH	3812
Pike County, OH	31
Portage County, OH	218
Preble County, OH	99
Putnam County, OH	293
Richland County, OH	198
Ross County, OH	101
Sandusky County, OH	167
Scioto County, OH	26
Seneca County, OH	51
Shelby County, OH	99
Union County, OH	119
Van Wert County, OH	35
Warren County, OH	239
Washington County, OH	191
Wayne County, OH	265
Williams County, OH	154
Wood County, OH	255
Wyandot County, OH	212
Vinton County, OH	164
Jackson County, OK	113
Oklahoma County, OK	217

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Tulsa County, OK	253
Adair County, OK	423
Alfalfa County, OK	18
Atoka County, OK	56
Beaver County, OK	532
Beckham County, OK	32
Bryan County, OK	113
Caddo County, OK	591
Canadian County, OK	128
Carter County, OK	120
Cherokee County, OK	92
Choctaw County, OK	671
Cleveland County, OK	213
Comanche County, OK	268
Cotton County, OK	81
Craig County, OK	106
Creek County, OK	150
Custer County, OK	149
Delaware County, OK	258
Dewey County, OK	42
Garfield County, OK	76
Garvin County, OK	73
Grady County, OK	221
Grant County, OK	44
Greer County, OK	1058
Harper County, OK	27
Haskell County, OK	47
Jefferson County, OK	62
Johnston County, OK	37
Kay County, OK	140
Kingfisher County, OK	80
Kiowa County, OK	64
Latimer County, OK	54
Le Flore County, OK	38
Lincoln County, OK	64
Logan County, OK	55
Love County, OK	233
Major County, OK	80
Marshall County, OK	95
Mayes County, OK	136
McClain County, OK	327
McCurtain County, OK	431
McIntosh County, OK	79
Murray County, OK	44
Muskogee County, OK	104
Noble County, OK	78
Nowata County, OK	237
Okfuskee County, OK	49

See footnotes at end of table.

County and state	Number of cases per county
Okmulgee County, OK	72
Osage County, OK	223
Ottawa County, OK	116
Pawnee County, OK	247
Payne County, OK	125
Pittsburg County, OK	94
Pontotoc County, OK	56
Pottawatomie County, OK	96
Rogers County, OK	109
Seminole County, OK	122
Sequoyah County, OK	47
Stephens County, OK	98
Texas County, OK	4690
Tillman County, OK	288
Wagoner County, OK	230
Washington County, OK	683
Woods County, OK	56
Woodward County, OK	45
Blaine County, OK	75
Cimarron County, OK	40
Pushmataha County, OK	60
Washita County, OK	17
Coal County, OK	101
Hughes County, OK	21
Ellis County, OK	0
Harmon County, OK	0
Roger Mills County, OK	0
Clackamas County, OR	127
Deschutes County, OR	87
Douglas County, OR	27
Jackson County, OR	40
Klamath County, OR	72
Linn County, OR	107
Marion County, OR	366
Multnomah County, OR	203
Polk County, OR	164
Umatilla County, OR	224
Washington County, OR	163
Benton County, OR	74
Clatsop County, OR	124
Columbia County, OR	43
Coos County, OR	51
Crook County, OR	38
Curry County, OR	31
Grant County, OR	13
Hood River County, OR	362
Jefferson County, OR	308
Josephine County, OR	28

See footnotes at end of table.

County and state	Number of cases per county
Lane County, OR	25
Lincoln County, OR	430
Malheur County, OR	109
Morrow County, OR	125
Sherman County, OR	57
Tillamook County, OR	24
Union County, OR	54
Wallowa County, OR	57
Wasco County, OR	155
Yamhill County, OR	93
Baker County, OR	6
Harney County, OR	13
Lake County, OR	51
Gilliam County, OR	0
Wheeler County, OR	0
Allegheny County, PA	170
Bucks County, PA	867
Chester County, PA	659
Cumberland County, PA	308
Delaware County, PA	1233
Monroe County, PA	793
Montgomery County, PA	983
Northampton County, PA	1086
Philadelphia County, PA	1595
Pike County, PA	840
Washington County, PA	75
Wayne County, PA	239
Adams County, PA	285
Armstrong County, PA	96
Beaver County, PA	358
Bedford County, PA	92
Berks County, PA	1046
Blair County, PA	43
Bradford County, PA	75
Butler County, PA	140
Cambria County, PA	42
Cameron County, PA	39
Carbon County, PA	394
Centre County, PA	108
Clarion County, PA	78
Clearfield County, PA	64
Clinton County, PA	161
Columbia County, PA	559
Crawford County, PA	39
Dauphin County, PA	599
Elk County, PA	19
Erie County, PA	161
Fayette County, PA	70

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Forest County, PA	91
Franklin County, PA	563
Fulton County, PA	108
Greene County, PA	78
Huntingdon County, PA	521
Indiana County, PA	105
Jefferson County, PA	40
Juniata County, PA	434
Lackawanna County, PA	746
Lancaster County, PA	716
Lawrence County, PA	95
Lebanon County, PA	870
Lehigh County, PA	1127
Luzerne County, PA	880
Lycoming County, PA	147
McKean County, PA	30
Mercer County, PA	98
Mifflin County, PA	126
Montour County, PA	350
Northumberland County, PA	235
Perry County, PA	154
Potter County, PA	74
Schuylkill County, PA	459
Snyder County, PA	149
Somerset County, PA	51
Sullivan County, PA	47
Susquehanna County, PA	390
Tioga County, PA	48
Union County, PA	180
Venango County, PA	31
Warren County, PA	12
Westmoreland County, PA	133
Wyoming County, PA	127
York County, PA	266
Beaufort County, SC	349
Charleston County, SC	290
Kershaw County, SC	697
Lancaster County, SC	312
Lexington County, SC	418
Spartanburg County, SC	330
Abbeville County, SC	248
Aiken County, SC	142
Allendale County, SC	384
Anderson County, SC	169
Bamberg County, SC	256
Barnwell County, SC	239
Berkeley County, SC	205
Calhoun County, SC	198

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Cherokee County, SC	164
Chester County, SC	350
Chesterfield County, SC	608
Clarendon County, SC	935
Colleton County, SC	489
Darlington County, SC	505
Dillon County, SC	624
Dorchester County, SC	179
Edgefield County, SC	219
Fairfield County, SC	939
Florence County, SC	579
Georgetown County, SC	249
Greenville County, SC	616
Greenwood County, SC	392
Hampton County, SC	237
Horry County, SC	385
Jasper County, SC	218
Laurens County, SC	194
Lee County, SC	1212
Marion County, SC	287
Marlboro County, SC	798
McCormick County, SC	107
Newberry County, SC	253
Oconee County, SC	102
Orangeburg County, SC	357
Pickens County, SC	236
Richland County, SC	557
Saluda County, SC	795
Sumter County, SC	553
Union County, SC	155
Williamsburg County, SC	819
York County, SC	271
Beadle County, SD	2495
Bon Homme County, SD	113
Charles Mix County, SD	329
Davison County, SD	164
McCook County, SD	142
Minnehaha County, SD	2046
Aurora County, SD	1218
Brookings County, SD	81
Brown County, SD	849
Clark County, SD	244
Clay County, SD	469
Codington County, SD	165
Corson County, SD	247
Deuel County, SD	23
Fall River County, SD	85
Faulk County, SD	804

See footnotes at end of table.

County and state	Number of cases per county
Hamlin County, SD	169
Hughes County, SD	123
Hutchinson County, SD	109
Hyde County, SD	211
Jerauld County, SD	1931
Lake County, SD	125
Lawrence County, SD	50
Lincoln County, SD	591
Lyman County, SD	879
Marshall County, SD	86
Meade County, SD	130
Miner County, SD	126
Moody County, SD	308
Oglala Lakota County, SD	N/A
Pennington County, SD	374
Roberts County, SD	394
Sanborn County, SD	552
Spink County, SD	78
Sully County, SD	73
Todd County, SD	489
Turner County, SD	300
Union County, SD	757
Walworth County, SD	92
Yankton County, SD	258
Buffalo County, SD	2458
Day County, SD	228
Douglas County, SD	133
Grant County, SD	177
Hand County, SD	175
McPherson County, SD	122
Stanley County, SD	371
Tripp County, SD	124
Ziebach County, SD	71
Brule County, SD	171
Custer County, SD	24
Dewey County, SD	38
Edmunds County, SD	98
Gregory County, SD	23
Hanson County, SD	90
Jackson County, SD	165
Kingsbury County, SD	97
Mellette County, SD	49
Bennett County, SD	0
Butte County, SD	0
Campbell County, SD	0
Haakon County, SD	0
Harding County, SD	0
Jones County, SD	0

See footnotes at end of table.

County and state	Number of cases per county
Perkins County, SD	0
Potter County, SD	0
Campbell County, TN	59
Davidson County, TN	1088
Hamilton County, TN	531
Jefferson County, TN	84
Knox County, TN	133
Rutherford County, TN	638
Shelby County, TN	707
Sullivan County, TN	44
Williamson County, TN	368
Anderson County, TN	80
Bedford County, TN	841
Benton County, TN	49
Bledsoe County, TN	4769
Blount County, TN	84
Bradley County, TN	275
Cannon County, TN	246
Carroll County, TN	123
Carter County, TN	35
Cheatham County, TN	391
Chester County, TN	70
Claiborne County, TN	47
Clay County, TN	127
Cocke County, TN	73
Coffee County, TN	178
Crockett County, TN	123
Cumberland County, TN	234
DeKalb County, TN	219
Decatur County, TN	119
Dickson County, TN	268
Dyer County, TN	224
Fayette County, TN	440
Fentress County, TN	78
Franklin County, TN	151
Gibson County, TN	137
Giles County, TN	75
Grainger County, TN	84
Greene County, TN	77
Grundy County, TN	234
Hamblen County, TN	118
Hardeman County, TN	789
Hardin County, TN	119
Hawkins County, TN	60
Haywood County, TN	192
Henderson County, TN	65
Henry County, TN	105
Hickman County, TN	247

See footnotes at end of table.

County and state	Number of cases per county
Houston County, TN	119
Humphreys County, TN	97
Jackson County, TN	172
Johnson County, TN	132
Lake County, TN	8810
Lauderdale County, TN	219
Lawrence County, TN	143
Lewis County, TN	41
Lincoln County, TN	132
Loudon County, TN	404
Macon County, TN	854
Madison County, TN	185
Marion County, TN	174
Marshall County, TN	131
Maury County, TN	184
McMinn County, TN	316
McNairy County, TN	104
Meigs County, TN	247
Monroe County, TN	193
Montgomery County, TN	188
Moore County, TN	79
Morgan County, TN	86
Obion County, TN	176
Overton County, TN	168
Perry County, TN	341
Polk County, TN	172
Putnam County, TN	813
Rhea County, TN	717
Roane County, TN	59
Robertson County, TN	919
Scott County, TN	63
Sequatchie County, TN	156
Sevier County, TN	255
Smith County, TN	209
Stewart County, TN	105
Sumner County, TN	669
Tipton County, TN	820
Trousdale County, TN	18501
Unicoi County, TN	289
Union County, TN	42
Van Buren County, TN	72
Warren County, TN	80
Washington County, TN	73
Wayne County, TN	376
Weakley County, TN	86
White County, TN	178
Wilson County, TN	449
Pickett County, TN	79

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Hancock County, TN	15
Davis County, UT	211
Salt Lake County, UT	698
Summit County, UT	1228
Washington County, UT	437
Weber County, UT	178
Box Elder County, UT	154
Cache County, UT	857
Carbon County, UT	61
Duchesne County, UT	54
Emery County, UT	64
Garfield County, UT	77
Grand County, UT	130
Iron County, UT	364
Juab County, UT	107
Kane County, UT	56
Millard County, UT	56
Morgan County, UT	169
San Juan County, UT	2380
Sanpete County, UT	75
Sevier County, UT	106
Tooele County, UT	278
Uintah County, UT	55
Utah County, UT	494
Wasatch County, UT	1458
Piute County, UT	129
Rich County, UT	44
Beaver County, UT	0
Daggett County, UT	0
Wayne County, UT	0
Bennington County, VT	180
Chittenden County, VT	363
Washington County, VT	69
Windsor County, VT	97
Addison County, VT	179
Caledonia County, VT	51
Essex County, VT	48
Franklin County, VT	214
Grand Isle County, VT	115
Lamoille County, VT	118
Orange County, VT	31
Orleans County, VT	48
Rutland County, VT	94
Windham County, VT	191
Alexandria City, VA	1525
Arlington County, VA	1118
Chesterfield County, VA	680
Fairfax County, VA	1196

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Hanover County, VA	369
Harrisonburg City, VA	1732
James City County, VA	345
Loudoun County, VA	1063
Prince Edward County, VA	689
Prince William County, VA	1619
Spotsylvania County, VA	614
Virginia Beach City, VA	198
Accomack County, VA	2982
Albemarle County, VA	278
Alleghany County, VA	172
Amelia County, VA	299
Amherst County, VA	83
Appomattox County, VA	227
Augusta County, VA	194
Bedford County, VA	121
Botetourt County, VA	142
Bristol City, VA	22
Brunswick County, VA	264
Buchanan County, VA	75
Buckingham County, VA	3027
Buena Vista City, VA	180
Campbell County, VA	42
Caroline County, VA	371
Carroll County, VA	549
Charles City County, VA	400
Charlotte County, VA	238
Charlottesville City, VA	340
Chesapeake City, VA	293
Clarke County, VA	264
Colonial Heights City, VA	661
Craig County, VA	116
Culpeper County, VA	1664
Cumberland County, VA	468
Danville City, VA	146
Dinwiddie County, VA	382
Emporia City, VA	1603
Essex County, VA	466
Fairfax City, VA	297
Falls Church City, VA	454
Fauquier County, VA	583
Floyd County, VA	59
Fluvanna County, VA	393
Franklin County, VA	77
Franklin City, VA	513
Frederick County, VA	547
Fredericksburg City, VA	828
Galax City, VA	2741

See footnotes at end of table.

<b>County and state</b>	<b>Number of cases per county</b>
Giles County, VA	29
Gloucester County, VA	98
Goochland County, VA	525
Greene County, VA	245
Greensville County, VA	2744
Halifax County, VA	97
Hampton City, VA	170
Henrico County, VA	728
Henry County, VA	366
Hopewell City, VA	611
Isle of Wight County, VA	437
King George County, VA	369
King William County, VA	207
King and Queen County, VA	346
Lancaster County, VA	97
Lee County, VA	35
Lexington City, VA	114
Louisa County, VA	296
Lunenburg County, VA	155
Lynchburg City, VA	122
Madison County, VA	316
Manassas City, VA	3435
Mathews County, VA	56
Mecklenburg County, VA	691
Middlesex County, VA	128
Montgomery County, VA	102
Nelson County, VA	120
New Kent County, VA	244
Newport News City, VA	198
Norfolk City, VA	265
Northampton County, VA	2107
Northumberland County, VA	211
Nottoway County, VA	410
Orange County, VA	370
Page County, VA	1044
Petersburg City, VA	555
Pittsylvania County, VA	94
Poquoson City, VA	91
Portsmouth City, VA	393
Powhatan County, VA	182
Prince George County, VA	453
Pulaski County, VA	86
Radford City, VA	49
Rappahannock County, VA	231
Richmond County, VA	3145
Richmond City, VA	876
Roanoke County, VA	145
Roanoke City, VA	255

See footnotes at end of table.

County and state	Number of cases per county
Rockbridge County, VA	85
Rockingham County, VA	814
Russell County, VA	28
Salem City, VA	173
Scott County, VA	30
Shenandoah County, VA	1212
Smyth County, VA	56
Southampton County, VA	835
Stafford County, VA	680
Staunton City, VA	253
Suffolk City, VA	403
Surry County, VA	184
Sussex County, VA	1473
Tazewell County, VA	20
Warren County, VA	609
Washington County, VA	106
Waynesboro City, VA	252
Westmoreland County, VA	487
Williamsburg City, VA	348
Winchester City, VA	1004
Wise County, VA	65
Wythe County, VA	144
York County, VA	139
Covington City, VA	67
Grayson County, VA	425
Highland County, VA	86
Norton City, VA	51
Patrick County, VA	168
Bath County, VA	0
Bland County, VA	0
Dickenson County, VA	0
Martinsville City, VA	0
Fremont County, WY	758
Sheridan County, WY	65
Albany County, WY	72
Big Horn County, WY	94
Campbell County, WY	89
Carbon County, WY	138
Converse County, WY	173
Crook County, WY	71
Goshen County, WY	38
Hot Springs County, WY	270
Johnson County, WY	210
Laramie County, WY	213
Lincoln County, WY	83
Natrona County, WY	115
Niobrara County, WY	81
Park County, WY	18

See footnotes at end of table.

County and state	Number of cases per county
Sublette County, WY	29
Sweetwater County, WY	91
Teton County, WY	488
Uinta County, WY	336
Washakie County, WY	445
Platte County, WY	12
Weston County, WY	14
Bristol County, RI	463
Kent County, RI	665
Newport County, RI	325
Providence County, RI	1908
Washington County, RI	404
Barbour County, WV	60
Berkeley County, WV	371
Boone County, WV	69
Braxton County, WV	21
Brooke County, WV	21
Cabell County, WV	74
Fayette County, WV	117
Grant County, WV	134
Greenbrier County, WV	37
Hampshire County, WV	163
Hancock County, WV	65
Hardy County, WV	285
Harrison County, WV	67
Jackson County, WV	483
Jefferson County, WV	387
Kanawha County, WV	127
Lewis County, WV	49
Lincoln County, WV	23
Logan County, WV	57
Marion County, WV	96
Marshall County, WV	115
Mason County, WV	55
McDowell County, WV	27
Mercer County, WV	22
Mineral County, WV	181
Mingo County, WV	45
Monongalia County, WV	149
Monroe County, WV	67
Morgan County, WV	108
Nicholas County, WV	27
Ohio County, WV	122
Pendleton County, WV	169
Pleasants County, WV	53
Preston County, WV	72
Putnam County, WV	76
Raleigh County, WV	29

See footnotes at end of table.

County and state	Number of cases per county
Randolph County, WV	480
Roane County, WV	67
Summers County, WV	7
Taylor County, WV	59
Tucker County, WV	70
Tyler County, WV	33
Upshur County, WV	29
Wayne County, WV	245
Wetzel County, WV	54
Wirt County, WV	70
Wood County, WV	63
Wyoming County, WV	21
Calhoun County, WV	26
Clay County, WV	107
Gilmer County, WV	115
Pocahontas County, WV	241
Ritchie County, WV	19
Doddridge County, WV	0
Webster County, WV	0

Source: *New York Times*.

## Results

In this section, I present results on employment patterns for the CES survey and CPS separately.

### Analysis of Current Employment Statistics microdata

The key measure that I focus on in this article is the change in establishment employment from February to the month of the survey. I choose February because the vast majority of economic impacts did not occur until after February 12 (the reference period for that month’s survey). I calculate the percentage change in employment as

$$\Delta emp_{it} = \frac{emp_{it} - emp_{i, Feb}}{emp_{it}}, \quad (1)$$

where

$$\overline{emp}_{it} = \frac{emp_{it} + emp_{i, Feb}}{2}.$$

Equation (1) shows that the change in employment,  $\Delta emp_{it}$ , for establishment  $i$  in month  $t$  is the difference in employment relative to February, divided by  $\overline{emp}_{it}$ , the average employment for the 2 months. Dividing by the average employment bounds the percentage change to between  $-2$  and  $2$ , which will reduce the effect of potential outliers in the data, and it allows for any establishments with zero employment in February to be included. When averaging across establishments in a group, I weight each observation  $i$  by the sample weight.

For figure 2, I alter equation (1) slightly, by summing across establishments in both the same metropolitan statistical area (MSA) and industry with a reported employment in both February and June 2020.<sup>[4]</sup> Therefore, for each MSA, I use equation (2):

$$\Delta emp_{mj} = \frac{\sum_{i \in m} 1(i \in j) \times (emp_{i, June} - emp_{i, Feb}) \times \omega_i}{emp_{mj}}, \quad (2)$$

where

$$\overline{emp}_{mj} = \frac{\sum_{i \in m} 1(i \in j) \times (emp_{i, June} + emp_{i, Feb}) \times \omega_i}{2}.$$

$\Delta emp_{mj}$  is the change in employment for MSA  $m$  in industry  $j$  from February 2020 to June 2020. This formula is calculated as the difference in summed employment for all establishments, with reported employment for both February 2020 and June 2020 in that MSA ( $i \in m$ ) and in that industry ( $i \in j$ ), and is weighted by the sample weight in June,  $\omega_i$ .

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Calculated with equation (2), major industry employment estimates by MSAs are shown in figure 2.<sup>[5]</sup> Figure 2 reveals that the employment effects of the pandemic are varied by both geography and industry.

Across all industries, the northeast (New York, in particular) has had large declines in employment. In many industries, the southwest also has had large declines in employment. In addition, several industries, including manufacturing, have seen employment decline notably in locations around the Great Lakes. These geographic areas are worth pointing out because they also had some of the highest incidences of COVID-19 in the country.

Industries with a sufficient sample size consistently reveal large drops in employment across all MSAs. Retail trade is notable because the declines were minimal, with the main exception of the northeast.<sup>[6]</sup> Leisure and hospitality,

construction, and health care appear to have the most similar geographic distributions of high job loss in figure 2 and high incidence in figure 1.

To more clearly illustrate the relationship between incidence of COVID-19 and employment, figure 3 plots average employment change relative to local incidence of COVID-19. To calculate the employment change for each establishment, I use equation (1). I then calculate the average employment change across establishments for each grouping of county virus incidence. The x-axis plots groups of establishments on the basis of the number of new cases of COVID-19 per 100,000 residents in the county in the 4 weeks before and including the reference period of the survey, as shown in the following:

- For June data, the number of new cases in the 4 weeks leading up to June 13
- For May data, the number of new cases in the 4 weeks leading up to May 16
- For April data, the number of new cases in the 4 weeks leading up to April 18

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April, May, and June 2019 are also included in figure 3 as dashed lines, mapped to the same county incidence rates as their corresponding month in 2020. Each establishment is weighted with the use of the accompanying sample weights from the CES, and 95-percent confidence intervals are shown for each plot with the triangles.

COVID-19 incidence is likely correlated with certain geographic characteristics (population density, climate). The 2019 data are included to illustrate that neither seasonal nor geographic trends explain the observed correlations between incidence of the virus and employment decline. Direct comparison with the same month in the previous year prior to the pandemic illustrates how much seasonal patterns may explain employment patterns. In addition, comparing the same grouped geographies with trends prior to the pandemic also rules out that the observed employment trends during the pandemic can be explained by common geographic characteristics.

Employment growth was minimal for the months for 2019, consistent across all COVID-19 incidence groups, as illustrated by the flat lines depicted in figure 3. However, April, May, and June 2020 depict a clear pattern that the higher the local incidence of COVID-19, the bigger the decline in employment beginning in February for the establishment. Employment in May and June 2020 improved slightly compared with employment in April 2020, although the decline in employment from February is still very large.

Figure 4 is similar to figure 3 but is broken down by industry. Both leisure and hospitality and other services show the largest shifts downward in their curves, meaning the biggest declines in employment in all months in 2020. From the 2019 data, finance and insurance is the only industry with no apparent change in employment.

Choose an industry: ▾

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Leisure and hospitality, retail trade, construction, transportation and warehousing, management services, other services, and wholesale trade industries have the most apparent downward trend for all months in 2020. Manufacturing has a slight downward trend for April 2020 but not for May or June 2020.

In a working paper published in 2020, Jonathan I. Dingel and Brent Neiman identify industries in order of telework friendliness.<sup>[7]</sup> The order of friendliness from least to greatest is as follows:

- Leisure and hospitality
- Retail trade
- Construction
- Transportation and warehousing
- Manufacturing
- Health care
- Management services
- Other services
- Public administration
- Real estate
- Wholesale trade
- Information
- Finance and insurance
- Professional services
- Educational services

Combined with the results about telework in Dingel and Neiman, figure 4 data illustrate that the least telework-friendly industries have the steepest decline in employment. A job that must be done in a certain location and away from home often means that workers must interact directly with customers or interact with other employees. Higher incidence of the virus in a county can influence customers' decisions (choosing not to leave home or go to an establishment), and it can influence government decisions about what businesses can remain open. Being able to work from home allows one to maintain his or her job even when the government orders the establishment closed. Working from home also means that workers can continue to meet demand while minimizing in-person interactions with customers and other coworkers. Employees in industries with limited telework capabilities will face reduced demand and increased restrictions from government mandates as the local incidence of the virus grows. With such limitations, employees in these industries are at elevated risk for job loss and income uncertainty in the short and medium terms.

## Analysis of Current Population Survey microdata

I now move the analysis to the household survey microdata. For the CPS, the sample will be conditional on respondents who were employed in February. I then estimate the proportion of that sample that is on temporary layoff in April and May for both 2019 and 2020.<sup>[8]</sup> I weight all results by using the standard-person weights in the CPS.

Figure 5 shows similar patterns to figure 3. The proportion of the population that moved from employed to temporary layoff in 2019 was relatively flat. However, in 2020, this proportion rises, corresponding to the rise in the number of COVID-19 cases. Both April and May 2020 show a large upward shift, matching the national trend in

large employment losses. The key result is that transitions from employment to temporary layoff increase as the number of COVID-19 cases increases for both April and May, matching patterns observed in the CES.

#### [View Chart Data](#)

As a comparison with figure 5, figure 6 plots the percentage of transitions to not working for all respondents, excluding those on temporary layoff. This definition accounts for all unemployed and not in the labor force designations not covered by figure 5. In figure 6, plots of percentage of employment transitions for May 2020 are flatter compared with percentage plots of employment transitions in figure 5, although the trend shown for April 2020 in both figures is similar. This finding helps illustrate a key point of this analysis: job loss (in particular, temporary layoffs) is likely tied to the local spread of the virus. These results do not preclude many of these temporary layoffs eventually becoming permanent layoffs or preclude structural economic changes in response to a particularly intense local spread of the virus. However, these results do show that job losers whose unemployment is tied to the incidence of the virus may return to work because they have an anticipated date to

return to their job. Reducing the spread of the virus not only keeps these layoffs from happening but may also hasten the return of laid-off individuals who have a recall date.

[View Chart Data](#)

Figure 7 shows the same analysis as figure 5 but is broken down by industry. In the CPS, the industries that have more transitions to temporary layoff as the number of COVID-19 cases grows are construction, transportation and warehousing, and management services for April and May 2020. Leisure and hospitality and other services show an upward trend only for May 2020, and retail trade, real estate, and health care show an upward trend only for April 2020. The results are similar to the results shown in figure 4 in that figure 7 depicts that less telework-friendly industries, as defined in Dingel and Neiman,[9] trend toward more job loss when the local incidence of the virus is higher.

Choose an industry: ▾

[View Chart Data](#)

## Conclusion

Using the most recent BLS data, this article provides graphical evidence for limiting the spread of the virus in order to improve local labor markets. Layoffs have increased in response to higher incidence of the virus and have

disproportionately affected employment in industries that are less telework friendly, such as construction and transportation and warehousing.

Although employment improved slightly in May and June 2020, job loss continues to be historically high. For industries such as construction and transportation and warehousing, the concern is that as the virus continues to spread, employees in these industries may face the prospect of additional layoffs. The first-order effect of the pandemic on workers' employment status is clear, but the potential second-order effect of income uncertainty leading to even more reduced demand will also affect the local economy. Evidence shows that during the Great Recession, increased uncertainty likely led to a worsening of the Great Recession, partially because of reduced demand.<sup>[10]</sup> In addition, researchers have found that increased job uncertainty leads to reduced demand.<sup>[11]</sup> As shown in a recent press release from the U.S. Bureau of Economic Analysis, savings dramatically increased in April 2020. One potential explanation is that individuals are choosing to save in response to future economic uncertainty.<sup>[12]</sup> These considerations should be kept in mind as decisions surrounding opening up businesses are made.

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NOTES

<sup>1</sup> Michael Dalton, "Labor market effects of local spread of COVID-19," Working Paper 524 (U.S. Bureau of Labor Statistics, June 2020), <https://www.bls.gov/osmr/research-papers/2020/pdf/ec200060.pdf>.

<sup>2</sup> Because of the sample design of the Current Population Survey (CPS), in which households are interviewed for 4 consecutive months, no respondents in June are also interviewed in February. For this reason, the most recent survey responses used are for May.

<sup>3</sup> "Coronavirus in the U.S.: latest map and case count," *New York Times*, updated July 27, 2020, <https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html>.

<sup>4</sup> Counties are grouped by metropolitan statistical area (MSA) and non-MSA designation. Additional information can be found at "Occupational Employment Statistics: May 2019 metropolitan and nonmetropolitan area definitions" (U.S. Bureau of Labor Statistics, May 2019), [https://www.bls.gov/oes/current/msa\\_def.htm](https://www.bls.gov/oes/current/msa_def.htm).

<sup>5</sup> An MSA is shown in figure 2 only if it has at least five establishments in that industry responding to the survey.

<sup>6</sup> This finding differs slightly from published estimates from the Current Employment Statistics (CES). This difference is because many retail establishments were rotated out of the sample in April and a new rotation of establishments entered the sample. The published estimates from the CES are based on the new sample that only began being interviewed in April, whereas the estimates presented here are on a subset of the sample that was interviewed in both June and February.

<sup>7</sup> Jonathan I. Dingel and Brent Neiman, "How many jobs can be done at home?" Working Paper 26948 (National Bureau of Economic Research, April 2020, revised June 2020), <https://www.nber.org/papers/w26948>.

[8](#) Households in the CPS are only interviewed for 4 consecutive months. As a result, the final consecutive interview will be in May for a household interviewed in February. In order to ensure a comparison with a month prior to most of the impacts of the pandemic in the United States, the analytical sample is restricted to having an interview in February. As a result, the most recent household interviews that can be included are in May.

[9](#) Dingel and Neiman, “How many jobs can be done at home?”

[10](#) Susanto Basu and Brent Bundick, “Uncertainty shocks in a model of effective demand,” *Econometrica*, vol. 85, no. 3, May 2017, pp. 937–958, <https://www.econometricsociety.org/publications/econometrica/2017/05/01/uncertainty-shocks-model-effective-demand>.

[11](#) Morten O. Ravn and Vincent Sterk, “Job uncertainty and deep recessions,” *Journal of Monetary Economics*, vol. 90, October 2017, pp. 125–141, <https://www.sciencedirect.com/science/article/pii/S0304393217300806>.

[12](#) See *Personal Income and Outlays: April 2020* (U.S. Bureau of Economic Analysis, May 29, 2020), <https://www.bea.gov/news/blog/2020-05-29/personal-income-and-outlays-april-2020>.

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