

Gaps in Mental Health Care—Seeking Among Health Care Providers During the COVID-19 Pandemic — United States, September 2022–May 2023

Anthony Papa, PhD¹; John P. Barile, PhD¹; Haomiao Jia, PhD²; William W. Thompson, PhD³; Rebecca J. Guerin, PhD⁴

Abstract

Health care workers experience substantial chronic stress, burnout, and mental distress, and the COVID-19 pandemic might have exacerbated these conditions. To identify ways to improve mental health care-seeking among this population, mental health symptoms, care-seeking, and self-reported barriers to seeking mental health care among U.S. health care providers during the pandemic were studied. During September 2022–May 2023, 2,603 primary care physicians, pediatricians, nurse practitioners, and physician assistants participated in a national Internet panel survey. Approximately one half (45.4%) of participants reported that they did not need mental health care, and only one in five (20.3%) had sought care. One quarter (25.6%) of providers reported mental distress severe enough to meet diagnostic criteria for psychopathology. Among these providers, only 38% reported seeking care; 20.1% indicated that they did not need care, despite severe symptoms. The average number of years in practice was lower for providers reporting care-seeking. Providers who identified as female were also more likely to report care-seeking. The most frequently reported barriers to care-seeking included difficulty getting time off from work, cost of care, and concerns about confidentiality. Increased pandemic-related work stressors were associated with increased symptom severity, but support from work supervisors mitigated these effects. Organizational human resources practices, supervisor training on managing employee stress, and public health messaging to normalize mental health care-seeking and its effects on licensing might help address gaps in provider care-seeking and improve patient outcomes.

Introduction

Health care workers have long experienced high levels of chronic stress, burnout, and mental distress^{*}; for some health

care workers, these conditions were exacerbated by providing care during the COVID-19 pandemic (1). Two known and potentially interrelated factors affecting provider mental health are mental health care-seeking and social-emotional support from work supervisors. To help guide activities to increase mental health care-seeking among this population, this study examined the associations among self-reported mental health needs, care-seeking, factors associated with care-seeking, and perceived support from supervisors among a national sample of health care providers.

Methods

Data Source and Data Collection

Data were collected by Porter Novelli Public Services as part of its DocStyles survey from two Internet-delivered panel surveys of U.S. health care providers during September 9–November 3, 2022, and during March 17–May 15, 2023.[†]

[†] Porter Novelli Public Services collected data as a part of its DocStyles survey using the global market research company SERMO's Global Medical panel adhering to the Insights Association's standards and codes of conduct. <https://www.insightsassociation.org/Resources/Code-of-Standards>

INSIDE

- 26 Advisory Committee on Immunization Practices Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger — United States, 2025
- 30 Advisory Committee on Immunization Practices Recommended Immunization Schedule for Adults Aged 19 Years or Older — United States, 2025

Continuing Education examination available at https://www.cdc.gov/mmw/mmw_continuingEducation.html

^{*} <https://doi.org/10.17226/25521>



Primary care physicians, pediatricians, nurse practitioners, and physician assistants (2,063)[§] practicing for ≥3 years who completed at least one survey were included in this cross-sectional data analysis.[¶] Mental health needs were evaluated using standardized questionnaires. Anxiety and depressive symptoms** experienced during the preceding 2 weeks were determined using the Generalized Anxiety Disorder-2 scale and Patient Health Questionnaire-2 depression scale (2). Posttraumatic stress because of the COVID-19 pandemic was measured using the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*–indexed Posttraumatic Stress Disorder (PTSD) Primary Care Screen (3). Overall mental well-being was measured as mentally unhealthy days using one item from

the CDC Health-Related Quality of Life-4 survey asking how many of the previous 30 days respondents' mental health was not good (4).

Participants selected work stressors experienced from a list derived from existing literature on COVID-19–related occupational stressors for nurses.^{††} Perceived social support from work supervisors was determined using a modified item from the 2017 CDC Behavioral Risk Factor Surveillance System survey.^{§§} Mental health care-seeking was determined by asking, “In the past year, have you seen a doctor or other health professional about any of your emotions, nerves, or mental health?” Responses included, “Yes, I saw someone,” “No, I haven't seen anyone,” “No, I didn't need emotional or mental care,” or “Prefer not to say.” Those who did not seek care could select as many of the seven barriers to care-seeking as applied to them.

[§] A total of 3,008 surveys were completed during fall 2022 and spring 2023 administrations. The fall 2022 survey (September 9–November 3, 2022) had a 66% response rate (1,505) and the spring 2023 survey (March 17–May 15, 2023) had a 64% response rate (1,503).

[¶] Providers were matched by a unique survey identification number (no personally identifying information was included in the datasets) across the two data collection waves; 405 providers were identified as having completed both surveys, in which case, spring 2023 responses were not included in the analyses as these responses were further away from the pandemic's peak. Thus, a total of 2,603 providers were included in the final analysis. Based on the number of questions completed, providers received a \$50–\$65 honorarium in the fall and \$25–\$39 in the spring. The questionnaires reported in this paper were the same for both DocStyles surveys. However, the spring survey had fewer questions overall, hence the difference in honorarium. Despite this, the response rates were comparable (66% versus 64%).

** All adjustment scales for anxiety, depression, posttraumatic stress, and mentally unhealthy days have established cutoff scores, demarcating a high probability of meeting diagnostic criteria for psychopathology.

Data Analysis

Statistical differences among care-seeking groups were determined using two-sided *z*-tests of equality for proportions or

^{††} https://www.icn.ch/system/files/documents/2020-09/Analysis_COVID-19%20survey%20feedback_14.09.2020%20EMBARGOED%20VERSION_0.pdf

^{§§} The question, “How often do you get the social and emotional support you need,” from the 2017 CDC Behavioral Risk Factor Surveillance System survey (https://www.cdc.gov/brfss/questionnaires/pdf-ques/2017_BRFSS_Pub_Ques_508_tagged.pdf) was modified to ask, “How often do you get the social and emotional support from your supervisor you need?” Respondents answered on a scale of 1–5 (never to always).

The *MMWR* series of publications is published by the Office of Science, U.S. Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, Atlanta, GA 30329-4027.

Suggested citation: [Author names; first three, then et al., if more than six.] [Report title]. *MMWR Morb Mortal Wkly Rep* 2025;74:[inclusive page numbers].

U.S. Centers for Disease Control and Prevention

Mandy K. Cohen, MD, MPH, *Director*
Debra Houry, MD, MPH, *Chief Medical Officer and Deputy Director for Program and Science*
Samuel F. Posner, PhD, *Director, Office of Science*

MMWR Editorial and Production Staff (Weekly)

Michael Berkwits, MD, MSCE, *Editor in Chief*
Rachel Gorwitz, MD, MPH, *Acting Executive Editor*
Jacqueline Gindler, MD, *Editor*
Paul Z. Siegel, MD, MPH, *Associate Editor*
Mary Dott, MD, MPH, *Online Editor*
Charlotte K. Kent, PhD, MPH, *Guest Science Editor*
Terisa F. Rutledge, *Managing Editor*
Glenn Damon, *Acting Lead Technical Writer-Editor*
Tiana Garrett, PhD, MPH,
Stacy Simon, MA, Morgan Thompson,
Suzanne Webb, PhD, MA,
Technical Writer-Editors

Terraye M. Starr,
Acting Lead Health Communication Specialist
Alexander J. Gottardy, Maureen A. Leahy,
Stephen R. Spriggs, Armina Velarde, Tong Yang
Visual Information Specialists
Quang M. Doan, MBA,
Phyllis H. King, Moua Yang,
Information Technology Specialists

Kiana Cohen, MPH,
Leslie Hamlin, Lowery Johnson,
Health Communication Specialists
Will Yang, MA,
Visual Information Specialist

MMWR Editorial Board

Matthew L. Boulton, MD, MPH
Carolyn Brooks, ScD, MA
Virginia A. Caine, MD
Jonathan E. Fielding, MD, MPH, MBA

Timothy F. Jones, MD, *Chairman*
David W. Fleming, MD
William E. Halperin, MD, DrPH, MPH
Jewel Mullen, MD, MPH, MPA
Jeff Niederdeppe, PhD
Patricia Quinlisk, MD, MPH

Patrick L. Remington, MD, MPH
Carlos Roig, MS, MA
William Schaffner, MD
Morgan Bobb Swanson, MD, PhD

t-tests for mean scores. Logistic regression was used to determine how supervisor support, as a moderating variable, influenced the association between work stress, as a dependent variable, and the likelihood of meeting diagnostic criteria for a mental disorder in separate models for anxiety, depression, and posttraumatic stress symptoms, as well as mentally unhealthy days, as dependent variables with no covariates. Analyses were completed using R (version 4.2.2; R Foundation).^{¶¶} This activity was reviewed by CDC, deemed not research, and was conducted consistent with applicable federal law and CDC policy.^{***}

Results

Mental Health and Care-Seeking

Among 2603 surveyed healthcare workers, 667 (25.6%) reported levels of mental distress severe enough to meet diagnostic criteria for a mental disorder, but only 526 (20.3%) of respondents reported seeking mental health care (226 [43.0%] of these reported diagnostic levels of symptoms) (Table 1). Of providers who reported diagnostic levels of mental distress, 20.1% reported not needing care. The percentage of providers reporting mental distress meeting diagnostic levels was higher among those who did not seek care for their health needs than it was among those who reported not needing care, when measuring depression (38.3% versus 18.8%), anxiety (39.1% versus 16.4%), posttraumatic stress (34.5% versus 22.2%), and mentally unhealthy days per month (37.9% versus 14.6%). The proportion of providers reporting symptom severity indicating they met criteria for a mental disorder was similar for those who sought mental health care and those who had not sought this care. The percentage of providers reporting diagnostic levels of mental distress was lower for those who preferred not to report mental health care-seeking than for those reporting not needing care.

Provider Characteristics Associated with Care-Seeking

Providers who reported they did not need care had been in practice the longest (median [IQR] = 13.0 years [15.0]). Fewer male providers sought care (16.0%) than did female providers (26.1%) or those identifying as other than male or female (18.8%). Primary care physicians, 68.7% of whom were male, reported the lowest prevalence of seeking care (16.4%). Nurse practitioners (33.9%; 81.7% female), physician assistants (27.9%; 68.5% female), and pediatricians (24.4%; 50.1% female) reported the highest prevalence of seeking care.

Work Stressors and Barriers to Seeking Mental Health Care

The main work stressors reported by health care providers were extra stress at work (68.2%), burnout (58.9%), lack of

adequate staffing (58.9%), higher workload or job demands (57.2%), fear of becoming ill with COVID-19 (55.6%), and COVID-19 misinformation (51.3%) (Table 2). Among respondents who did not seek care, the most frequently reported barrier was difficulty getting time off work, followed by concerns about confidentiality, cost, and being seen as weak.

Association of Outcomes with Supervisor Support

Each increase in the number of work stressors increased the odds of meeting diagnostic criteria for psychopathology by 9% for the anxiety scale (OR = 1.09; 95% CI = 1.06–1.12), 3% for the depression scale (OR = 1.03; 95% CI = 1.00–1.07), 35% for the posttraumatic stress scale (OR = 1.35; 95% CI = 1.29–1.41), and 12% for number of mentally unhealthy days (OR = 1.12; 95% CI = 1.08–1.17). However, the strength of association between the level of reported work stressors (low to high) and the likelihood of meeting diagnostic criteria for a mental health problem (anxiety, depression, and mentally unhealthy days) decreased as social support from supervisors increased (Figure). Similarly, among providers who did not seek mental health care, increased supervisor support reduced the association between increases in barriers to care-seeking and increased likelihood of meeting diagnostic criteria for a mental health problem. Supervisor support did not affect the probability of meeting a mental health diagnosis for posttraumatic stress.

Discussion

During September 2022–May 2023, approximately one quarter of U.S. health care providers included in the survey sample reported mental distress severe enough to meet diagnostic criteria, of which less than 40% reported seeking mental health care, with approximately one in five providers reporting that they did not need care. Experiencing higher numbers of COVID-19–related work stressors was associated with high symptom severity for anxiety, depression, and general mental health, but support from work supervisors appeared to mitigate the effect of these factors on mental health, with an exception for PTSD. The percentage of providers who reported burnout as an ongoing stressor is consistent with estimates from a 2021 survey of U.S. physicians (62.8%) (5). Similar to studies that have found significant stigma regarding reporting difficulties in mental health among providers (1,6), 6% of respondents indicated they preferred not to report mental health care-seeking and reported lower levels of symptom severity than did those who indicated they did not need care, possibly demonstrating reticence in reporting care-seeking extended to reporting work stressors. Overall, the high levels of clinically relevant symptoms reported by U.S. health care providers in this study might indicate problems in current health care workforce readiness, especially given that 57.4% of providers

^{¶¶} <https://www.r-project.org/>

^{***} 45 C.F.R. part 46, 21 C.F.R. part 56; 42 U.S.C. Sect. 241(d); 5 U.S.C. Sect. 552a; 44 U.S.C. Sect. 3501 et seq.

TABLE 1. Sample characteristics and mental health outcomes among a sample of health care providers, by health care-seeking — Porter Novelli DocStyles survey, United States, fall 2022 and spring 2023

Characteristic	No. (%)									
	Total sample N = 2,603 (100.0%)		Sought care n = 526 (20.3%)		Did not seek care n = 743 (28.7%)		Did not need care n = 1,179 (45.4%)		Preferred not to say n = 155 (6.0%)	
	Column % (95% CI)	Row % (95% CI)	p-values*	Row % (95% CI)	p-value†	Row % (95% CI)	Row % (95% CI)	p-value‡		
Provider type										
Pediatrician (n = 431)	16.6 (15.2–18.0)	24.4 (20.5–28.6)	0.081, <0.001	28.8 (24.6–33.2)	<0.001	41.1 (36.5–45.8)	5.8 (3.9–8.3)	<0.001		
Physician assistant (n = 219)	8.4 (7.4–9.5)	27.9 (22.2–34.1)	0.858, <0.001	27.4 (21.8–33.6)	<0.001	40.6 (34.3–47.2)	4.1 (2.1–7.4)	<0.001		
Primary care physician (n = 1,723)	66.2 (64.4–68.0)	16.4 (14.7–18.2)	<0.001, <0.001	29.6 (27.5–31.8)	<0.001	47.4 (45.1–49.8)	6.6 (5.5–7.9)	<0.001		
Nurse practitioner (n = 230)	8.8 (7.8–10.0)	33.9 (28.0–40.2)	<0.001, 0.002	21.3 (16.4–26.9)	<0.001	41.7 (35.5–48.2)	3.0 (1.4–5.9)	<0.001		
Gender identification										
Female (n = 1,072)	41.2 (39.3–43.1)	26.1 (23.6–28.8)	0.257, <0.001	29.0 (26.4–31.8)	<0.001	40.1 (37.2–43.1)	4.8 (3.6–6.2)	<0.001		
Male (n = 1,499)	57.6 (55.7–59.5)	16.0 (14.2–17.9)	<0.001, <0.001	28.5 (26.2–30.8)	<0.001	49.2 (46.6–51.7)	6.3 (5.2–7.7)	<0.001		
Other (n = 32)	1.2 (0.9–1.7)	18.8 (8.2–34.6)	0.144, <0.001	15.6 (6.2–30.9)	<0.001	37.5 (22.4–54.8)	28.1 (14.9–45.1)	0.023		
Exceeded established cut scores on mental health symptom measures indicating a high probability of meeting diagnostic criteria for psychopathology[§]										
Above any cut score	25.6 (23.9–27.4)	37.6 (33.8–41.5)	0.904, <0.001	37.3 (33.5–41.2)	<0.001	20.1 (17.1–23.5)	5.0 (3.5–7.0)	<0.001		
Anxiety	17.3 (15.9–18.8)	38.4 (34.0–43.0)	0.812, <0.001	39.1 (34.7–43.7)	<0.001	16.4 (13.2–20.1)	6.0 (4.1–8.5)	0.001		
Depression	10.2 (9.1–11.4)	35.0 (29.4–40.8)	0.219, <0.001	38.3 (32.7–44.3)	<0.001	18.8 (14.5–23.8)	7.9 (5.1–11.6)	0.001		
Mentally unhealthy days	11.1 (9.9–12.4)	41.0 (35.2–47.0)	0.271, <0.001	37.9 (32.2–43.9)	<0.001	14.6 (10.7–19.2)	6.5 (4.0–10.0)	0.006		
Posttraumatic stress	6.6 (5.7–7.6)	37.4 (30.4–44.8)	0.284, <0.001	34.5 (27.7–41.8)	<0.001	22.2 (16.5–28.9)	5.8 (3.0–10.1)	<0.001		
Other measures and characteristics										
Anxiety score, mean**	1.3 (1.3–1.4)	2.1 (2.0–2.3)	<0.001, <0.001	1.7 (1.6–1.8)	<0.001	0.8 (0.7–0.8)	1.3 (1.1–1.6)	<0.001		
Depression score, mean††	0.9 (0.8–0.9)	1.4 (1.3–1.5)	0.010, <0.001	1.2 (1.1–1.3)	<0.001	0.5 (0.4–0.5)	1.0 (0.8–1.2)	<0.001		
No. of mentally unhealthy days, mean¶	4.2 (3.9–4.5)	7.8 (7.1–8.6)	<0.001, <0.001	5.4 (4.8–6.0)	<0.001	1.8 (1.6–2.1)	5.1 (3.5–6.7)	<0.001		
No. of patients per week, mean	104.6 (101.8–107.4)	103.1 (96.7–109.5)	1.000, 1.000	103.6 (98.8–108.4)	1.00	105.9 (101.6–110.1)	105.0 (93.8–116.2)	1.00		
No. of work stressors, mean¶¶	8.3 (8.0–8.6)	10.1 (9.6–10.7)	<0.001, <0.001	8.8 (8.4–9.3)	<0.001	7.0 (5.8–8.1)	7.4 (7.1–7.8)	0.971		
Posttraumatic stress score, mean ^{§§}	1.2 (1.1–1.2)	1.7 (1.6–1.9)	<0.001, <0.001	1.4 (1.4–1.5)	<0.001	0.8 (0.7–0.9)	1.0 (0.8–1.2)	0.262		
Supervisor social support score, mean***	2.6 (2.6–2.7)	2.8 (2.7–2.9)	0.262, 0.014	2.6 (2.5–2.7)	0.693	2.5 (2.4–2.6)	2.6 (2.4–2.8)	0.946		
No. of years practicing medicine, mean	15.3 (14.9–15.6)	13.0 (12.3–13.7)	0.004, <0.001	14.9 (14.2–15.5)	<0.001	16.9 (16.4–17.5)	12.7 (11.5–13.9)	<0.001		

* p-values reported are for comparisons with “Did not seek care” and “Did not need care,” respectively.

† p-values reported are for comparisons with “Did not need care.”

§ Cut scores are empirically established scores that, if exceeded, demarcate the threshold when the probability for a person to meet the diagnostic criteria for a related psychiatric diagnosis is very high.

¶ Mean number of mentally unhealthy days in the previous month (range = 0–30). Scores ≥14 indicate a strong likelihood of having a mental health diagnosis.

** Mean Generalized Anxiety Disorder-2 total score; two items rated 0–3 (not at all to nearly every day) (range = 0–6). Scores ≥3 indicate a strong likelihood of having a mental health diagnosis.

†† Mean Patient Health Questionnaire-2 total score; two items rated 0–3 (not at all to nearly every day) (range = 0–6). Scores ≥3 indicate a strong likelihood of having a mental health diagnosis.

§§ Mean Posttraumatic Stress Disorder-Primary Care Screen total score where respondents indicated how many of the five core symptoms of posttraumatic stress they had experienced because of the pandemic (range = 0–5). Scores ≥4 indicate a strong likelihood of having a mental health diagnosis.

¶¶ Mean number of work stressors experienced during the pandemic (range = 0–14).

*** Mean score of social support from supervisors, rated on a scale ranging from 1–5 (never to always).

TABLE 2. Work stressors and barriers to mental health care* reported by a sample of health care providers, by health care-seeking — Porter Novelli DocStyles survey, United States, fall 2022 and spring 2023

Work stressors/Barriers	% (95% CI)				
	Total N = 2,603 (100.0%)	Sought care n = 526 (20.3%)	Did not seek care n = 743 (28.7%)	Did not need care n = 1,179 (45.4%)	Preferred not to say n = 155 (6.0%)
Work stressors					
Burnout	58.9 (57.0–60.7)	75.7 (71.9–79.2)	63.4 (59.9–66.8)	48.8 (45.9–51.6)	56.8 (48.9–64.4)
COVID-19 misinformation	51.3 (49.4–53.2)	61.6 (57.4–65.7)	51.1 (47.6–54.7)	48.3 (45.5–51.2)	39.4 (31.9–47.2)
Extra stress at work	68.2 (66.3–69.9)	81.6 (78.1–84.7)	70.4 (67.0–73.6)	61.7 (58.9–64.5)	60.6 (52.8–68.1)
Fear of becoming ill with COVID-19	55.6 (53.6–57.5)	61.4 (57.2–65.5)	58.0 (54.4–61.5)	53.4 (50.6–56.3)	40.0 (32.5–47.8)
Fear of spreading COVID-19 to others	49.3 (47.4–51.2)	59.9 (55.7–64.0)	52.2 (48.6–55.8)	43.5 (40.7–46.4)	43.9 (36.2–51.7)
Higher workload or job demands	57.2 (55.3–59.1)	68.3 (64.2–72.1)	58.1 (54.6–61.7)	52.8 (50.0–55.7)	48.4 (40.6–56.2)
Insufficient capacity to give self-care	34.2 (32.3–36.0)	49.8 (45.5–54.1)	42.5 (39.0–46.1)	22.2 (19.9–24.7)	31.6 (24.7–39.2)
Isolation from family or friends	41.5 (39.0–44.0)	57.2 (51.4–62.9)	46.8 (42.2–51.4)	32.9 (29.6–36.4)	35.1 (26.1–44.9)
Lack of adequate staffing	58.9 (57.0–60.7)	66.9 (62.8–70.8)	61.0 (57.4–64.4)	55.4 (52.5–58.2)	47.7 (40.0–55.6)
Lack of beds for COVID-19 patients	27.2 (25.5–28.9)	31.6 (27.7–35.6)	29.1 (25.9–32.4)	25.2 (22.8–27.7)	18.7 (13.2–25.4)
Lack of clear guidance or treatment protocols	45.1 (43.2–47.0)	54.2 (49.9–58.4)	45.9 (42.3–49.5)	42.3 (39.5–45.2)	31.0 (24.1–38.5)
Lack of COVID-19 tests and timely results	37.8 (36.0–39.7)	43.7 (39.5–48.0)	36.2 (32.8–39.7)	37.6 (34.8–40.4)	27.1 (20.6–34.5)
Lack of manager concern for my well-being	23.9 (22.3–25.6)	31.2 (27.3–35.2)	27.7 (24.6–31.0)	18.3 (16.2–20.6)	23.2 (17.1–30.3)
Lack of personal protective equipment	34.1 (32.3–35.9)	39.9 (35.8–44.2)	36.7 (33.3–40.3)	30.8 (28.2–33.5)	26.5 (20.0–33.8)
Lack of supplies (e.g., for cleaning)	32.5 (30.7–34.3)	39.4 (35.2–43.6)	34.7 (31.4–38.2)	29.0 (26.5–31.6)	25.2 (18.8–32.4)
Longer shifts or work hours	41.2 (39.3–43.1)	47.5 (43.3–51.8)	46.7 (43.1–50.3)	34.9 (32.2–37.6)	41.9 (34.4–49.8)
My job was putting me at great risk	45.2 (43.3–47.1)	54.0 (49.7–58.2)	48.5 (44.9–52.0)	40.0 (37.3–42.9)	39.4 (31.9–47.2)
Need for constant awareness or vigilance	44.5 (42.6–46.4)	53.4 (49.2–57.7)	46.4 (42.9–50.0)	41.3 (38.5–44.1)	29.7 (22.9–37.2)
Shortages of equipment (e.g., ventilators)	25.9 (24.2–27.6)	30.4 (26.6–34.4)	28.5 (25.4–31.9)	23.1 (20.7–25.5)	18.7 (13.2–25.4)
Stigma from caring for COVID-19 patients	17.3 (15.9–18.8)	20.3 (17.1–23.9)	19.7 (16.9–22.6)	14.2 (12.3–16.2)	19.4 (13.7–26.1)
Barriers to seeking care*					
Care costs too much money	—	—	19.5 (16.8–22.5)	—	—
I am afraid of losing my job	—	—	6.5 (4.9–8.4)	—	—
I am worried about confidentiality	—	—	21.8 (18.9–24.9)	—	—
I had treatment before, and it didn't help	—	—	5.0 (3.6–6.7)	—	—
It's difficult to get time off work	—	—	44.4 (40.9–48.0)	—	—
I would be seen as weak	—	—	12.1 (9.9–14.6)	—	—
Other reason not listed	—	—	39.7 (36.2–43.3)	—	—

* Only among providers who did not seek care.

self-reporting severe symptoms did not seek mental health care, or indicated that they did not need care, potentially affecting patient outcomes (7).

Limitations

The findings in this report are subject to at least four limitations. First, the respondents opted into the survey, which limits the representativeness of the results. Second, retrospective reporting on previous experience might have been subject to recall bias. Third, although the survey was anonymous, self-reported symptom severity and care-seeking might be subject to social desirability bias. Finally, other relevant indicators of adjustment beyond mental health, such as substance abuse, were not included.

Implications for Public Health Practice

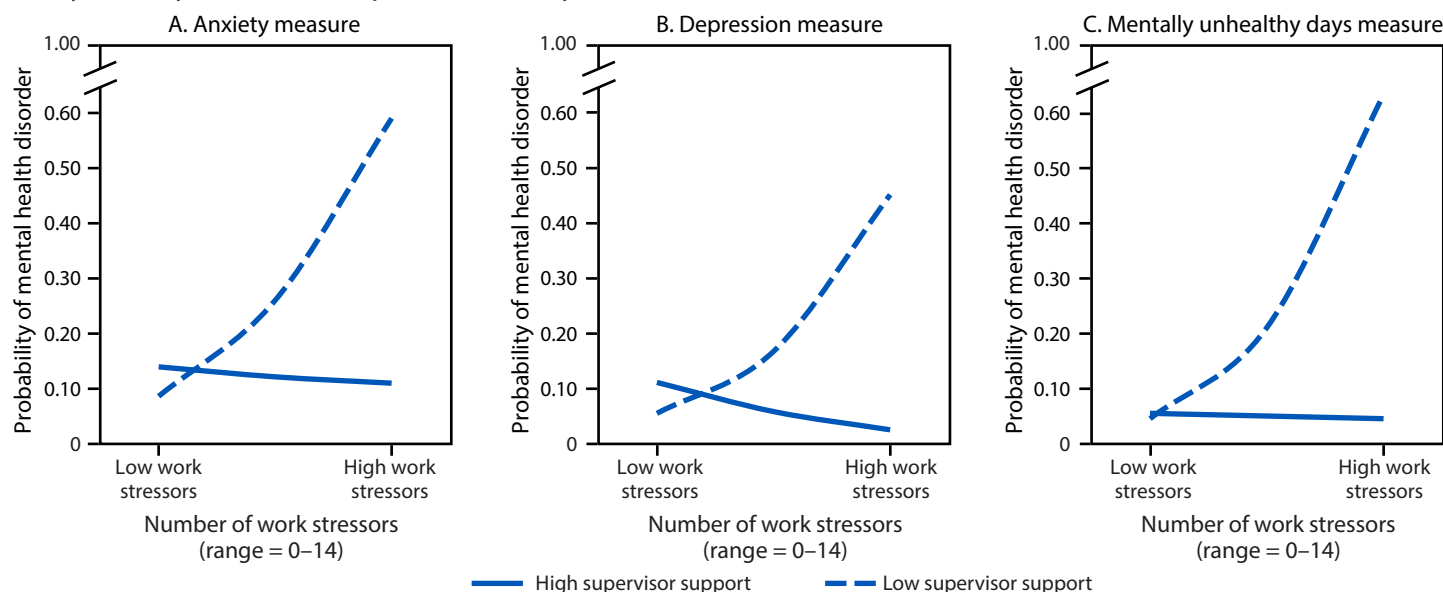
Organizational and governmental interventions will likely reduce stigma among health care providers by normalizing and supporting mental health care-seeking (8) and addressing perceived negative consequences of seeking health care on medical licensing (5). Mental health awareness and self-care training could be made a requirement of continuing education

for maintenance of board certification and licensure at state levels. A recent review of interventions and resources to address health care workers' mental health (9) identified organizational approaches to addressing the needs and barriers identified in this study. These include leadership development on organizational practices and work conditions affecting provider well-being; mentoring and peer support programs; training in mindfulness, stress reduction, self-compassion, and interpersonal communication; and brief psychotherapy programming. However, broad organizational implementation is lacking (10) and often does not reach those in community practice. Recent activities by Lorna Breen Act grantees^{†††} funded by the Health Resources and Services Administration include identifying effective organizational strategies, such as training for managers to address health care worker mental health and burnout. The Impact Wellbeing campaign^{§§§} from the National Institute for Occupational Safety and Health promotes the removal

^{†††} Lorna Breen was an emergency department physician who died by suicide after not seeking mental health care for burnout during the COVID-19 pandemic for fear that receiving this care would jeopardize her medical career. <https://drlornabreen.org/>

^{§§§} <https://www.cdc.gov/niosh/healthcare/impactwellbeing/about.html>

FIGURE. Interaction* of supervisor social support[†] and number of work stressors[§] on the probability of meeting diagnostic criteria for a mental health disorder based on responses to measures of anxiety[¶] (A), depression^{**} (B), and mentally unhealthy days^{††} (C) — Porter Novelli Services DocStyles Survey, United States, September 2022–May 2023^{§§}



* Four separate logistic regressions were assessed to determine how supervisor support, as a moderating variable, influenced the association between work stress, as a dependent variable, and the likelihood of meeting diagnostic criteria for a mental disorder in separate models for anxiety, depression, and posttraumatic stress symptoms, as well as mentally unhealthy days as dependent variables with no covariates.

[†] Supervisor social support was rated on a scale ranging from 1–5 (never to always).

[§] Mean number of work stressors experienced during the pandemic (range = 0–14).

[¶] Anxiety was measured using the Generalized Anxiety Disorder–2 total score; two items rated from 0–3 (not at all to nearly every day) (range = 0–6). Scores ≥ 3 indicate a strong likelihood of having a mental health diagnosis.

^{**} Depression was measured using the Patient Health Questionnaire–2 total score; two items rated from 0–3 (not at all to nearly every day) (range = 0–6). Scores ≥ 3 indicate a strong likelihood of having a mental health diagnosis.

^{††} Mentally unhealthy days in the last month (range = 0–30). Scores ≥ 14 indicate a strong likelihood of having a mental health diagnosis.

^{§§} Supervisor support did not affect the probability of meeting a mental health diagnosis for posttraumatic stress.

Summary

What is already known about this topic?

Providing patient care during the COVID-19 pandemic has been associated with high levels of mental health symptoms among U.S. health care workers.

What is added by this report?

Among providers surveyed, 26% reported mental health symptoms at levels meeting diagnostic criteria during September 2022–May 2023; however, only 20% of providers sought mental health care during the preceding year. Support from supervisors reduced the effect of work stressors on mental health symptoms. The primary barriers to care-seeking were difficulty getting time off from work and concerns about confidentiality and cost.

What are the implications for public health practice?

Gaps in mental health care-seeking might be reduced by organizational and governmental efforts to reduce stigma, addressing concerns about confidentiality and licensing, and increasing supervisor training.

of barriers and reducing stigma for seeking mental health services and might provide a road map for advancing health care worker well-being.

Corresponding author: Anthony Papa, papaa@hawaii.edu.

¹Department of Psychology, University of Hawaii at Manoa, Honolulu, Hawaii; ²Department of Biostatistics, Mailman School of Public Health and School of Nursing, Columbia University, New York, New York; ³Division of Viral Hepatitis, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, CDC; ⁴Western States Division, National Institute for Occupational Safety and Health, CDC.

All authors have completed and submitted the International Committee of Medical Journal Editors form for disclosure of potential conflicts of interest. No potential conflicts of interest were disclosed.

References

1. Umbetkulova S, Kanderzhanova A, Foster F, Stolyarova V, Cobb-Zygadlo D. Mental health changes in healthcare workers during COVID-19 pandemic: a systematic review of longitudinal studies. *Eval Health Prof* 2024;47:11–20. PMID:37143216 <https://doi.org/10.1177/01632787231165076>

2. Staples LG, Dear BE, Gandy M, et al. Psychometric properties and clinical utility of brief measures of depression, anxiety, and general distress: the PHQ-2, GAD-2, and K-6. *Gen Hosp Psychiatry* 2019;56:13–8. PMID:30508772 <https://doi.org/10.1016/j.genhosppsych.2018.11.003>
3. Bovin MJ, Kimerling R, Weathers FW, et al. Diagnostic accuracy and acceptability of the Primary Care Posttraumatic Stress Disorder Screen for the Diagnostic and Statistical Manual of Mental Disorders (fifth edition) among US veterans. *JAMA Netw Open* 2021;4:e2036733. PMID:33538826 <https://doi.org/10.1001/jamanetworkopen.2020.36733>
4. Slabaugh SL, Shah M, Zack M, et al. Leveraging health-related quality of life in population health management: the case for healthy days. *Popul Health Manag* 2017;20:13–22. PMID:27031869 <https://doi.org/10.1089/pop.2015.0162>
5. Shanafelt TD, West CP, Dyrbye LN, et al. Changes in burnout and satisfaction with work-life integration in physicians during the first 2 years of the COVID-19 pandemic. *Mayo Clin Proc* 2022;97:2248–58. PMID:36229269 <https://doi.org/10.1016/j.mayocp.2022.09.002>
6. Mehta SS, Edwards ML. Suffering in silence: mental health stigma and physicians' licensing fears. *Am J Psychiatry Resid J* 2018;13:2–4. <https://doi.org/10.1176/appi.ajp-rj.2018.131101>
7. Schlak AE, Aiken LH, Chittams J, Poghosyan L, McHugh M. Leveraging the work environment to minimize the negative impact of nurse burnout on patient outcomes. *Int J Environ Res Public Health* 2021;18:610. PMID:33445764 <https://doi.org/10.3390/ijerph18020610>
8. Howard J, Houry D. Protecting the mental health and well-being of the nation's health workforce. *Am J Public Health* 2024;114(S2):137–41. PMID:38354354 <https://doi.org/10.2105/AJPH.2023.307475>
9. Anger WK, Dimoff JK, Alley L. Addressing healthcare workers' mental health: a systematic review of evidence-based interventions and current resources. *Am J Public Health* 2024;114(S2):213–26. PMID:38354343 <https://doi.org/10.2105/AJPH.2023.307556>
10. Longo BA, Schmaltz SP, Williams SC, Shanafelt TD, Sinsky CA, Baker DW. Clinician well-being assessment and interventions in Joint Commission–accredited hospitals and federally qualified health centers. *Jt Comm J Qual Patient Saf* 2023;49:511–20. PMID:37248109 <https://doi.org/10.1016/j.jcjq.2023.04.007>

Advisory Committee on Immunization Practices Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger — United States, 2025

Anindita N. Issa, MD¹; A. Patricia Wodi, MD¹; Charlotte A. Moser, MS²; Sybil Cineas, MD³

At its October 2024 meeting, the Advisory Committee on Immunization Practices* (ACIP) approved the Recommended Immunization Schedule for Child and Adolescent Ages 18 Years or Younger, United States, 2025. The schedule supports health care providers, as well as public health and other professionals, by providing a consolidated summary of current ACIP recommendations for vaccinating children and adolescents. The 2025 schedule includes several updates to the cover page, tables, notes, and appendix.[†] The addendum remains part of the schedule and will be used to summarize new or updated ACIP recommendations that occur before the next annual schedule update. Health care providers are strongly encouraged to use all parts of the schedule (the cover page, tables, notes, appendix, and addendum) together when making recommendations for individual patients. The 2025 child and adolescent immunization schedule can be found on the CDC website (<https://www.cdc.gov/vaccines/hcp/imz-schedules/index.html>).

Consistent with previous years' schedules, the 2025 child and adolescent immunization schedule is recommended by ACIP (<https://www.cdc.gov/acip/index.html>) and approved by CDC (<https://www.cdc.gov>), the American Academy of Pediatrics (<https://www.aap.org>), the American Academy of Family Physicians (<https://www.aafp.org/home.html>), the American College of Obstetricians and Gynecologists (<https://www.acog.org/>), the American College of Nurse-Midwives (<https://www.midwife.org>), the American Academy of Physician Associates (<https://www.aapa.org>), and the National Association of Pediatric Nurse Practitioners (<https://www.napnap.org>).

* Recommendations for routine immunization of children and adolescents are developed by ACIP, a federal advisory committee chartered to provide expert external advice and guidance to the CDC director on use of vaccines and related agents for the control of vaccine-preventable diseases in the civilian population of the United States. Recommendations for routine immunization of children and adolescents are harmonized to the greatest extent possible with recommendations made by the American Academy of Pediatrics, the American Academy of Family Physicians, the American College of Obstetricians and Gynecologists, the American College of Nurse-Midwives, the American Academy of Physician Associates, and the National Association of Pediatric Nurse Practitioners. ACIP recommendations become official agency guidelines once the recommendation has been adopted by the CDC director. Additional information about ACIP is available at <https://www.cdc.gov/acip/index.html>.

[†] Past immunization schedules are available at <https://www.cdc.gov/vaccines/hcp/imz-schedules/resources.html>.

ACIP's recommendations for use of each vaccine and other immunizing agents are developed after in-depth reviews of current product-related data, including the epidemiology and societal impacts of the vaccine-preventable disease; efficacy, effectiveness, and safety of the vaccine or other immunizing agent; quality of evidence; feasibility of program implementation; impact on health equity; and economic analyses of immunization policy (1,2). For each vaccine in the schedule, clinical trials are conducted in the context of standard-of-care related to the routine childhood immunization schedule (3). Routinely recommended vaccines are monitored by CDC and the Food and Drug Administration (FDA) for safety through ongoing and cumulative efforts, including multiple surveillance systems, safety studies, and review of the literature (<https://www.cdc.gov/vaccine-safety-systems/about/cdc-monitoring-program.html>). Recommendations for specific vaccines and related agents that occur between annual schedule updates[§] will be summarized in the addendum section; however, health care providers should refer to detailed ACIP recommendations for use of each product (<https://www.cdc.gov/acip-recs/hcp/vaccine-specific/index.html>). ACIP vaccine recommendations do not establish mandates.

The use of trade names in this report and in the child and adolescent immunization schedule is for identification purposes only and does not imply endorsement of a specific product by ACIP or CDC.

Changes in the 2025 Child and Adolescent Immunization Schedule

Compared with the 2024 child and adolescent schedule, changes in the 2025 immunization schedule for children and adolescents include new and updated recommendations for COVID-19 vaccines (4), *Haemophilus influenzae* type b vaccines (Hib) (5), influenza vaccines (6), and meningococcal

[§] CDC encourages organizations to use syndication as a more reliable method for displaying the most current and accurate immunization schedules on an organization's website rather than copying these schedules to their websites. Use of content syndication requires a one-time step that ensures an organization's website displays current schedules as soon as they are published or revised; instructions for syndication code are available on CDC's website (<https://www.cdc.gov/vaccines/hcp/imz-schedules/syndicate-resources.html>). CDC also offers technical assistance for implementing this form of content syndication (requests can be emailed to ncirdwebteam@cdc.gov).

serogroup B vaccines (7). In all sections of the schedule, recommended influenza vaccines have been changed from the quadrivalent to trivalent formulation to be consistent with the vaccine products approved by FDA for the 2024–25 influenza season.

Other changes include clarification of recommendations for dengue vaccine; diphtheria and tetanus toxoids and acellular pertussis vaccines (DTaP); inactivated poliovirus vaccine (IPV); measles, mumps, and rubella virus vaccines (MMR); measles, mumps, rubella, and varicella virus vaccines (MMRV); pneumococcal vaccines; respiratory syncytial virus monoclonal antibody (RSV-mAb); respiratory syncytial virus vaccines (RSV); and varicella vaccine (VAR).

Cover Page

- Trivalent cell culture–based inactivated influenza vaccine was added to the table listing abbreviations and trade names of vaccines and other immunizing agents.

Table 1 (Age-Based Immunization Schedule)

- **COVID-19 row:** The text overlay was revised to reflect updated vaccination recommendations. This text overlay now states, “1 or more doses of 2024–2025 vaccine (See Notes).”
- **Dengue row:** For children and adolescents aged 9–16 years, the color was changed to purple, clarifying that vaccination is recommended for some children and adolescents in this age group. In addition, the definition of the purple box in the legend was revised so the text reads, “Range of recommended ages for certain high-risk groups or populations.”
- **Influenza rows:** The text overlay was revised to harmonize with the adult schedule and now states, “1 or 2 doses annually” or “1 dose annually.”
- **IPV row:** The column for age 18 years was changed from gray to green, indicating catch-up vaccination is recommended. In addition, the text “<18 years” was deleted from the vaccine column.
- **Legend:** The definition of the gray box in the legend was revised to harmonize with the definition in Table 3. The definition now states, “No Guidance/Not Applicable.”

Table 2 (Catch-Up Immunization Schedule)

- There were no revisions to Table 2.

Table 3 (Immunization Schedule by Medical Indication)

- **COVID-19 row:** In the columns for children and adolescents who are immunocompromised (excluding HIV infection) and for those with HIV infection and CD4+ T-lymphocyte count <15% or <200/mm³, the yellow bar was changed to brown to reflect that additional doses are recommended.

- **Influenza (inactivated) row:** A text overlay was added to the column for children and adolescents who are immunocompromised (excluding HIV infection). The text overlay now states, “Solid organ transplant: 18 years (See Notes),” directing health care providers to review the influenza vaccination notes because there is a recommendation for adding trivalent high-dose inactivated influenza vaccine (HD-IIV3) and trivalent adjuvanted inactivated influenza vaccine (aIIV3) to the vaccines that may be administered to solid organ transplant recipients aged 18 years who are receiving immunosuppressive medications.

Vaccine Notes

The notes for each vaccine and related agent are presented in alphabetical order. Edits have been made throughout the Notes section to harmonize language, to the greatest extent possible, with language in the adult immunization schedule.

- **COVID-19:** The “Routine vaccination” and “Special situations” sections were revised to reflect recommendations for use of 2024–2025 COVID-19 vaccine in children and adolescents. The “Routine vaccination” section describes recommendations for the general population, and the “Special situations” section describes recommendations for persons who are moderately or severely immunocompromised. In each section, the recommendations are outlined by age group and previous COVID-19 vaccination history. In addition, hyperlinks to the interim clinical considerations for use of COVID-19 vaccines as well as Emergency Use Authorization indications for COVID-19 vaccines are included.
- **DTaP:** The “Special situations” section now includes a summary of guidance for use of tetanus and diphtheria vaccine (Td) in children aged <7 years who have a contraindication specific to the pertussis component of DTaP.
- **Hib:** In the “Routine vaccination” section, Vaxelis was added as a second preferred option for primary doses in American Indian and Alaska Native infants. In the “Special situations” section, early component complement inhibitor use was added as an indication for vaccination if age appropriate.
- **Hepatitis B:** Language regarding vaccines not recommended for use during pregnancy was revised to remove Heplisav-B.
- **Influenza:** Language was added to the “Routine vaccination” section stating that persons aged 18 years who are solid organ transplant recipients receiving immunosuppressive medications may receive HD-IIV3 or aIIV3 without preference over other age-appropriate trivalent inactivated or recombinant influenza vaccines.

- **MMR:** In the “Special situations” section, the recommendation for international travel was revised for clarity, described both by age group and MMR vaccination history.
- **Meningococcal serogroup B:** The “Routine vaccination” and “Special situations” sections were revised to include the new Bexsero vaccination schedule. For healthy persons aged 16–23 years, a series of 2 doses separated by 6 months is recommended, based on shared clinical decision-making. Children and adolescents aged ≥10 years at increased risk for serogroup B meningococcal disease are recommended to receive a 3-dose series at 0-, 1–2-, and 6-month intervals.
- **Pneumococcal:** Language was added to clarify that, because of limited data, there is no recommendation for use of pneumococcal conjugate vaccines or 23-valent pneumococcal polysaccharide vaccine during pregnancy.
- **RSV-mAb:** The “Routine vaccination” section was revised to state that infants born during October–March should be immunized within 1 week of birth, ideally during the birth hospitalization. Information was added to clarify that infants born to mothers who received RSV vaccination during a previous pregnancy should receive nirsevimab. In addition, a revision was made to clarify that for infants born during April–September, the optimal time of year to administer RSV-mAb is October–November.
- **RSV:** The “Routine vaccination” section was revised to clarify that additional doses are not recommended in subsequent pregnancies.

Appendix (Contraindications and Precautions)

- **Hepatitis B row:** In the “Contraindicated and Not Recommended” column, the language about vaccines not recommended for use during pregnancy was revised to remove Heplisav-B. The corresponding footnote with hyperlink to the pregnancy registries was also revised to remove information for the Heplisav-B registry, which is no longer active.
- **MMR/MMRV row:** In the “Contraindicated and Not Recommended” column, information stating that use of MMRV is contraindicated in persons with HIV infection of any severity was added. In addition, language was added to the “Precautions” column directing health care providers to review the Varicella/MMRV row if using MMRV.
- **Varicella row:** In the “Contraindicated and Not Recommended” column, information stating that use of MMRV is contraindicated in persons with HIV infection of any severity was added. In addition, the name for the Varicella row has been changed to “Varicella/MMRV.”

Additional Information

The Recommended Child and Adolescent Immunization Schedule, United States, 2025, is available at <https://www.cdc.gov/vaccines/hcp/imz-schedules/child-adolescent-age.html>. The full ACIP recommendations for each vaccine are also available at <https://www.cdc.gov/acip-recs/hcp/vaccine-specific/index.html>. All vaccines and immunizing agents identified in Tables 1, 2, and 3 (except dengue, DTaP, rotavirus, MMRV, and nirsevimab) also appear in the Recommended Adult Immunization Schedule for Ages 19 Years or Older, United States, 2025, available at <https://www.cdc.gov/vaccines/hcp/imz-schedules/adult-age.html>. The notes and appendix for vaccines that appear in both the child and adolescent immunization schedule and the adult immunization schedule have been harmonized to the greatest extent possible.

Acknowledgments

Rosters of current and past members of the Advisory Committee on Immunization Practices are available at <https://www.cdc.gov/acip/membership/index.html>.

ACIP Combined Immunization Schedule Work Group

Sybil Cineas (Chair). Members: Kevin Ault, Henry Bernstein, Carolyn Bridges, Uzo Chukwuma, Matthew Daley, Dana DeShon, John Epling, Susan Farrall, Mary-Margaret Fill, Holly Fontenot, Sandra Fryhofer, Kelly Goode, Robert Hopkins, Jessica Kahn, Karen Ketner, Jane Kim, Marie-Michelle Leger, Susan Lett, Sarah McQueen, Preeti Mehrotra, Amy B. Middleman, Charlotte A. Moser, Caitlin Newhouse, Pia Pannaraj, Diane Peterson, Kathy Rasmussen, Brittany Rizek, William Schaffner, Ken Schmader, Rhoda Sperling, Peter Szilagyi, and L.J. Tan. Contributors: A. Patricia Wodi (CDC co-Lead), Anindita N. Issa (CDC co-Lead); CDC Contributors: Adeleke Adefemi, Tara Anderson, Katheryn Baker, Amadea Britton, Emily Cartwright, Mary Chamberland, Jennifer Collins, Mona Doshani, Thomas (Dan) Filardo, Paul Gastanaduy, Susan Goldstein, Lisa Grohskopf, Holly Hill, Megan Hofmeister, Michelle Hughes, Suzanne Johnson-DeLeon, Jefferson Jones, Sarah Kidd, Min Kim, Janelle King, Miwako Kobayashi, Andrew Kroger, Mona Marin, Lauri Markowitz, Michael Melgar, Daniella Moulia, Lakshmi Panagiotakopoulos, Talia Pindyck, Agam Rao, Hilda Razzaghi, Lauren Roper, Sarah Schillie, Kim Skrobarecek, Elizabeth Soda, David Sugerman, Erin Tromble, Elizabeth Velazquez, Donna Williams, Akiko Wilson, JoEllen Wolicki, and Joshua Wong.

Corresponding author: Anindita N. Issa, aissa@cdc.gov.

¹Immunization Services Division, National Center for Immunization and Respiratory Diseases, CDC; ²Vaccine Education Center, Children’s Hospital of Philadelphia, Philadelphia, Pennsylvania; ³The Warren Alpert Medical School of Brown University, Providence, Rhode Island.

All authors have completed and submitted the International Committee of Medical Journal Editors form for disclosure of potential conflicts of interest. Charlotte A. Moser reports receipt of advanced book payments from Columbia University Press. Sybil Cineas reports membership in Medical Advisory Committee, Rhode Island Free Clinic. No other potential conflicts of interest were disclosed.

References

1. CDC. Advisory Committee on Immunization Practices: ACIP charter. Atlanta, GA: US Department of Health and Human Services, CDC; 2018. <https://www.cdc.gov/acip/about/acip-charter.html>
2. CDC. ACIP evidence to recommendations framework. Atlanta, GA: US Department of Health and Human Services, CDC; 2023. <https://www.cdc.gov/vaccines/acip/recs/grade/downloads/acip-evidence-recs-framework.pdf>
3. Orenstein WA, Offit PA, Edwards KM, Plotkin SA. Plotkin's vaccines, 8th ed. Amsterdam, Netherlands: Elsevier; 2023. <https://www.us.elsevierhealth.com/plotkins-vaccines-9780323790581.html>
4. Panagiotakopoulos L, Moulia DL, Godfrey M, et al. Use of COVID-19 vaccines for persons aged ≥6 months: recommendations of the Advisory Committee on Immunization Practices—United States, 2024–2025. *MMWR Morb Mortal Wkly Rep* 2024;73:819–24. PMID:39298394 <https://doi.org/10.15585/mmwr.mm7337e2>
5. Collins JP, Loehr J, Chen WH, Clark M, Pinell-McNamara V, McNamara LA. Use of *Haemophilus influenzae* type b–containing vaccines among American Indian and Alaska Native infants: updated recommendations of the Advisory Committee on Immunization Practices—United States, 2024. *MMWR Morb Mortal Wkly Rep* 2024;73:799–802. PMID:39264849 <https://doi.org/10.15585/mmwr.mm7336a4>
6. Grohskopf LA, Ferdinands JM, Blanton LH, Broder KR, Loehr J. Prevention and control of seasonal influenza with vaccines: recommendations of the Advisory Committee on Immunization Practices—United States, 2024–25 influenza season. *MMWR Recomm Rep* 2024;73(No. RR-5):1–25. PMID:39197095 <https://doi.org/10.15585/mmwr.rr7305a1>
7. Schillie SF. Introduction to MenB-4C (Bexsero) interval and dosing label change [Presentation slides]. Presented at the Advisory Committee on Immunization Practices meeting, Atlanta, GA; October 24, 2024. <https://www.cdc.gov/acip/downloads/slides-2024-10-23-24/04-mening-Schillie-508.pdf>

Advisory Committee on Immunization Practices Recommended Immunization Schedule for Adults Aged 19 Years or Older — United States, 2025

A. Patricia Wodi, MD¹; Anindita N. Issa, MD¹; Charlotte A. Moser, MS²; Sybil Cineas, MD³

At its October 2024 meeting, the Advisory Committee on Immunization Practices* (ACIP) approved the Recommended Immunization Schedule for Adults Ages 19 Years or Older, United States, 2025. The schedule supports health care providers, as well as public health and other professionals, by providing a consolidated summary of current ACIP recommendations for adult vaccination. The 2025 schedule includes several updates to the cover page, tables, notes, and appendix.[†] The addendum remains part of the schedule and will be used to summarize new or updated ACIP recommendations that occur before the next annual schedule update. Health care providers are strongly encouraged to use all parts of the schedule (the cover page, tables, notes, appendix, and addendum) together when making recommendations for individual patients. The 2025 adult immunization schedule can be found on the CDC website (<https://www.cdc.gov/vaccines/hcp/imz-schedules/index.html>).

Consistent with previous years' schedules, the 2025 adult immunization schedule is recommended by ACIP (<https://www.cdc.gov/acip/index.html>) and approved by CDC (<https://www.cdc.gov>), the American College of Physicians (<https://www.acponline.org>), the American Academy of Family Physicians (<https://www.aafp.org>), the American College of Obstetricians and Gynecologists (<https://www.acog.org>), the American College of Nurse-Midwives (<https://www.midwife.org>), the American Academy of Physician Associates (<https://www.aapa.org>), the American Pharmacists Association (<https://www.pharmacist.com>), and the Society for Healthcare Epidemiology of America (<https://shea-online.org>).

ACIP's recommendations for use of each vaccine are developed after in-depth reviews of vaccine-related data including disease epidemiology and societal impacts, vaccine efficacy and effectiveness, vaccine safety, quality of evidence, feasibility of program implementation, impact on health equity, and

economic analyses of immunization policy (1,2). For each vaccine in the schedule, clinical trials are conducted in the context of standard-of-care related to the routine adult immunization schedule (3). Routinely recommended vaccines are monitored by CDC and the Food and Drug Administration (FDA) for safety through ongoing and cumulative efforts including multiple surveillance systems, safety studies, and review of the literature (<https://www.cdc.gov/vaccine-safety-systems/about/cdc-monitoring-program.html>). Recommendations for specific vaccines that occur between annual schedule updates[§] are summarized in the addendum section; however, health care providers should refer to detailed ACIP recommendations for use of each vaccine (<https://www.cdc.gov/acip-recs/hcp/vaccine-specific/index.html>). ACIP vaccine recommendations do not establish mandates.

The use of vaccine trade names in this report and in the adult immunization schedule is for identification purposes only and does not imply endorsement of a specific product by ACIP or CDC.

Changes in the 2025 Adult Immunization Schedule

Compared with the 2024 adult schedule, vaccine-specific changes in the 2025 immunization schedule for adults include new and updated recommendations for COVID-19 vaccines (4), influenza vaccines (5), meningococcal serogroup B vaccines (6), pneumococcal conjugate vaccines (PCV) (7,8), and respiratory syncytial virus vaccines (RSV) (9). In all sections of the schedule, recommended influenza vaccines have been changed from the quadrivalent to trivalent formulation to be consistent with the vaccine products approved by FDA for the 2024–25 influenza season. In addition, inactivated polio vaccine was added to the Tables. Other changes include clarification in the Notes sections for hepatitis B vaccine (HepB); mpox vaccine (Mpxv); and tetanus and diphtheria toxoids, and acellular pertussis vaccine (Tdap).

[§] CDC encourages organizations to use syndication as a more reliable method for displaying the most current and accurate immunization schedules on an organization's website, rather than copying these schedules to their websites. Use of content syndication requires a one-time step that ensures an organization's website displays current schedules as soon as they are published or revised; instructions for the syndication code are available on CDC's website (<https://www.cdc.gov/vaccines/hcp/imz-schedules/syndicate-resources.html>). CDC also offers technical assistance for implementing this form of content syndication (requests can be emailed to ncirdwebteam@cdc.gov).

*Recommendations for routine use of vaccines in adults are developed by ACIP, a federal advisory committee chartered to provide expert external advice and guidance to the CDC director on use of vaccines and related agents for the control of vaccine-preventable diseases in the civilian population of the United States. Recommendations for routine use of vaccines in adults are harmonized to the greatest extent possible with recommendations made by the American Academy of Pediatrics, the American Academy of Family Physicians, and the American College of Obstetricians and Gynecologists. ACIP recommendations become official agency guidelines once the recommendations have been adopted by the CDC director. Additional information about ACIP is available at <https://www.cdc.gov/acip/index.html>.

[†] Past immunization schedules are available at <https://www.cdc.gov/vaccines/hcp/imz-schedules/resources.html>.

Cover Page

- Trivalent adjuvanted inactivated influenza vaccine (aIIV3), trivalent cell culture–based inactivated influenza vaccine, trivalent high-dose inactivated influenza vaccine (HD-IIV3), newly licensed 21-valent pneumococcal conjugate vaccine (PCV21), and the newly licensed mRNA respiratory syncytial virus vaccine (mResvia) were added to the table listing abbreviations and trade names of the vaccines.

Table 1 (Age-Based Immunization Schedule)

- The legend definition for the gray box was revised to harmonize with Table 2 and the child and adolescent immunization schedule. The text states, “No Guidance/Not Applicable.”
- **COVID-19 row:** The text overlay was revised to reflect updated vaccination recommendations. The text overlay for adults aged 19–64 years now states, “1 or more doses of updated 2024–2025 vaccine (See Notes),” and that for those aged ≥65 years states, “2 or more doses of updated 2024–2025 vaccine (See Notes).”
- **Influenza row:** This row was revised to reflect the preferential recommendation for use of HD-IIV3, aIIV3, and trivalent recombinant influenza vaccine in persons aged ≥65 years. In addition, a purple row and overlaying text is used to reflect the recommendation adding HD-IIV3 and aIIV3 to the vaccines that may be administered to solid organ transplant recipients aged 19–64 years who are receiving immunosuppressive medications.
- **IPV row:** This row is a new addition to the table. The color of this row is yellow, indicating that vaccination is routinely recommended for all adults who are incompletely vaccinated. The text overlay states, “Complete 3-dose series if incompletely vaccinated. Self-report of previous doses acceptable (See Notes).”
- **Mpox row:** The text overlay “2 doses” was added.
- **Pneumococcal row:** PCV21 was added to the list of recommended pneumococcal conjugate vaccines. For adults aged ≥50 years, the row is yellow, indicating that pneumococcal vaccination is universally recommended for adults in this age group if they have never received a dose of PCV (PCV15, PCV20, or PCV21) or if their previous pneumococcal vaccination history is unknown. For adults aged 19–49 years, the row is purple, indicating that pneumococcal vaccination is recommended for adults in this age group if they have medical conditions or other risk factors that increase their risk for pneumococcal disease.

- **RSV row:** This row was revised to reflect current RSV recommendations for adults aged ≥60 years. For adults aged ≥75 years, the row is yellow, indicating that vaccination is universally recommended for adults in this age group if they have not been previously vaccinated. For adults aged 60–74 years, the row is purple, indicating that vaccination is recommended for this age group if they have a risk factor or other indication that increases their risk for severe RSV disease.

Table 2 (Immunization Schedule by Medical Indication)

- **COVID-19 row:** In the column for immunocompromised persons (excluding those with HIV infection) and in the column for those with HIV infection and CD4+ T-lymphocyte count <15% or <200/mm³, the row color was changed to brown to reflect that additional doses are recommended.
- **Influenza (inactivated, recombinant) row:** A text overlay “Solid organ transplant (See Notes)” was added under the immunocompromised (excluding HIV) column to reflect updated vaccination recommendations for this subgroup.
- **IPV row:** This row is a new addition to the table; it includes an orange bar for the pregnancy column, indicating that vaccination might be indicated if benefit of protection outweighs the risk for an adverse reaction. For other columns, the row is yellow, indicating that vaccination is routinely recommended for all adults who are incompletely vaccinated. The text overlay states, “Complete 3-dose series if incompletely vaccinated. Self-report of previous doses acceptable (See Notes).”
- **RSV row:** This row was revised to reflect current RSV recommendations. Except for the pregnancy column, all other columns are purple indicating vaccination is recommended for some adults who have these conditions. The text overlay “See Notes” is added to medical conditions known to increase risk for severe RSV disease.

Vaccine Notes

The notes for each vaccine are presented in alphabetical order. Edits have been made throughout the Notes section to harmonize language, to the greatest extent possible, with that in the child and adolescent immunization schedule.

- **COVID-19:** The “Routine vaccination” and “Special situations” sections were revised to reflect recommendations for use of 2024–2025 COVID-19 vaccine in adults. The “Routine vaccination” section describes recommendations for the general population, and the “Special situations” section describes recommendations for persons who are

moderately or severely immunocompromised. In each section, the recommendations are outlined by previous COVID-19 vaccination history, and in the “Routine vaccination” section, they are also outlined by age group. Hyperlinks to the interim clinical considerations for use of COVID-19 vaccines as well as Emergency Use Authorization indications for COVID-19 vaccines are included.

- **HepB:** In the “Special situations” section, dosing recommendations for immunocompromised persons aged ≥20 years were added. The guidance on vaccines that are not recommended for use during pregnancy was revised to remove Heplisav-B.
- **Influenza:** The “Routine vaccination” section was updated with new recommendations adding aIIV3 and HD-IIV3 as vaccine options that can be administered to solid organ transplant recipients aged 19–64 years who are receiving immunosuppressive medications.
- **Meningococcal:** The “Special situations” section for MenACWY was revised to clarify that booster doses are recommended after completion of the primary series. In the MenB notes, both the “Routine vaccination” and “Special situations” sections were revised to include the new Bexsero vaccination schedule. For healthy persons aged 16–23 years, a series of 2 doses separated by 6 months is recommended based on shared clinical decision-making. Adults at increased risk for serogroup B meningococcal disease are recommended to receive a 3-dose series at 0-, 1–2-, and 6-month intervals. In addition, the information for MenB use during pregnancy was revised to clarify that the recommendation to delay vaccination until after pregnancy is based on a lack of safety data in pregnant persons.
- **Mpox:** Language for vaccinating health care personnel was revised to clarify that vaccination to protect against occupational risk in health care settings is not routinely recommended.
- **Pneumococcal:** PCV21 was added to all sections of the notes as an option when vaccination is indicated. The “Routine vaccination” section now reflects the new recommendation for universal vaccination for adults aged ≥50 years, and the “Special situations” section outlines the risk-based recommendation for adults aged 19–49 years. In addition, information was added for use of pneumococcal vaccines during pregnancy, and recommendations for situations when PPSV23 is unavailable.
- **RSV:** The “Routine vaccination” section now outlines recommendations for universal vaccination for pregnant persons and adults aged ≥75 years. The “Special situations” section includes risk-based recommendations for adults aged 60–74 years and the list of medical and other

conditions that increase the risk for severe RSV disease. Language was added to clarify that persons can self-attest to the presence of a risk factor.

- **Tdap:** The “Routine vaccination” section was revised to describe the recommendations according to previous vaccination history.

Appendix (Contraindications and Precautions)

- **Hepatitis B row:** In the “Contraindicated and Not Recommended” column, the language about vaccines not recommended for use during pregnancy was revised to remove Heplisav-B. The corresponding footnote with hyperlink to the pregnancy registries was also revised to remove information for the Heplisav-B registry, which is no longer active.
- **Pneumococcal row:** PCV21 was added.
- **Zoster row:** The “Precautions” column was revised to clarify that vaccination should be delayed during a current episode of herpes zoster.

Additional Information

The Recommended Adult Immunization Schedule, United States, 2025, is available at <https://www.cdc.gov/vaccines/hcp/imz-schedules/adult-age.html>. The full ACIP recommendations for each vaccine are also available at <https://www.cdc.gov/acip-recs/hcp/vaccine-specific/index.html>. All vaccines identified in Tables 1 and 2 (except Zoster vaccine) also appear in the Recommended Immunization Schedule for Children and Adolescents, United States, 2025 (<https://www.cdc.gov/vaccines/hcp/imz-schedules/child-adolescent-age.html>). For vaccines that appear in both the adult immunization schedule and the child and adolescent immunization schedule, the language in both schedules has been harmonized to the greatest extent possible.

Acknowledgments

Rosters of current and past members of the Advisory Committee on Immunization Practices are available at <https://www.cdc.gov/acip/membership/index.html>.

ACIP Combined Immunization Schedule Work Group

Sybil Cineas (Chair). Members: Kevin Ault, Henry Bernstein, Carolyn Bridges, Uzo Chukwuma, Matthew Daley, Dana DeShon, John Epling, Susan Farrall, Mary-Margaret Fill, Holly Fontenot, Sandra Fryhofer, Kelly Goode, Robert Hopkins, Jessica Kahn, Karen Ketner, Jane Kim, Marie-Michelle Leger, Susan Lett, Sarah McQueen, Preeti Mehrotra, Amy B. Middleman, Charlotte A. Moser, Caitlin Newhouse, Pia Pannaraj, Diane Peterson, Kathy Rasmussen, Brittany Rizek, William Schaffner, Ken Schmader, Rhoda Sperling, Peter Szilagyi, L.J. Tan. Contributors: A. Patricia Wodi (CDC co-Lead), Anindita N. Issa (CDC co-Lead); CDC

Contributors: Adeleke Adefemi, Tara Anderson, Katheryn Baker, Amadea Britton, Emily Cartwright, Mary Chamberland, Jennifer Collins, Mona Doshani, Thomas (Dan) Filardo, Paul Gastanaduy, Susan Goldstein, Lisa Grohskopf, Holly Hill, Megan Hofmeister, Michelle Hughes, Suzanne Johnson-DeLeon, Jefferson Jones, Sarah Kidd, Min Kim, Janelle King, Miwako Kobayashi, Andrew Kroger, Mona Marin, Lauri Markowitz, Michael Melgar, Daniella Moulia, Lakshmi Panagiotakopoulos, Talia Pindyck, Agam Rao, Hilda Razzaghi, Lauren Roper, Sarah Schillie, Kim Skrobarcek, Elizabeth Soda, David Sugerman, Erin Tromble, Elizabeth Velazquez, Donna Williams, Akiko Wilson, JoEllen Wolicki, and Joshua Wong.

Corresponding author: A. Patricia Wodi, awodi@cdc.gov.

¹Immunization Services Division, National Center for Immunization and Respiratory Diseases, CDC; ²Vaccine Education Center, Children's Hospital of Philadelphia, Philadelphia, Pennsylvania; ³The Warren Alpert Medical School of Brown University, Providence, Rhode Island.

All authors have completed and submitted the International Committee of Medical Journal Editors form for disclosure of potential conflicts of interest. Charlotte A. Moser reports advanced book payments from Columbia University Press. Sybil Cineas reports membership in Medical Advisory Committee, Rhode Island Free Clinic. No other potential conflicts of interest were disclosed.

References

1. CDC. Advisory Committee on Immunization Practices. ACIP charter. Atlanta, GA: US Department of Health and Human Services, CDC; 2018. <https://www.cdc.gov/acip/about/acip-charter.html>
2. CDC. ACIP evidence to recommendations framework. Atlanta, GA: US Department of Health and Human Services, CDC; 2023. <https://www.cdc.gov/vaccines/acip/recs/grade/downloads/acip-evidence-recs-framework.pdf>
3. Orenstein WA, Offit PA, Edwards KM, Plotkin SA. Plotkin's vaccines. 8th ed. Amsterdam, Netherlands: Elsevier; 2023. <https://www.us.elsevierhealth.com/plotkins-vaccines-9780323790581.html>
4. Panagiotakopoulos L, Moulia DL, Godfrey M, et al. Use of COVID-19 vaccines for persons aged ≥ 6 months: recommendations of the Advisory Committee on Immunization Practices—United States, 2024–2025. *MMWR Morb Mortal Wkly Rep* 2024;73:819–24. PMID:39298394 <https://doi.org/10.15585/mmwr.mm7337e2>
5. Grohskopf LA, Ferdinands JM, Blanton LH, Broder KR, Loehr J. Prevention and control of seasonal influenza with vaccines: recommendations of the Advisory Committee on Immunization Practices—United States, 2024–25 influenza season. *MMWR Recomm Rep* 2024;73(No. RR-5):1–25. PMID:39197095 <https://doi.org/10.15585/mmwr.rr7305a1>
6. Schillie SF. Introduction to MenB-4C (Bexsero) interval and dosing label change [Presentation slides]. Presented at the Advisory Committee on Immunization Practices meeting; Atlanta, GA; October 24, 2024. <https://www.cdc.gov/acip/downloads/slides-2024-10-23-24/04-mening-Schillie-508.pdf>
7. Kobayashi M, Leidner AJ, Gierke R, et al. Use of 21-valent pneumococcal conjugate vaccine among U.S. adults: recommendations of the Advisory Committee on Immunization Practices—United States, 2024. *MMWR Morb Mortal Wkly Rep* 2024;73:793–8. PMID:39264843 <https://doi.org/10.15585/mmwr.mm7336a3>
8. Kobayashi M, Leidner AJ, Gierke R, et al. Expanded recommendations for use of pneumococcal conjugate vaccines among adults aged ≥ 50 years: recommendations of the Advisory Committee on Immunization Practices—United States, 2024. *MMWR Morb Mortal Wkly Rep* 2025;74:1–8. <http://dx.doi.org/10.15585/mmwr.mm7401a1>
9. Britton A, Roper LE, Kotton CN, et al. Use of respiratory syncytial virus vaccines in adults aged ≥ 60 years: updated recommendations of the Advisory Committee on Immunization Practices—United States, 2024. *MMWR Morb Mortal Wkly Rep* 2024;73:696–702. PMID:39146277 <https://doi.org/10.15585/mmwr.mm7332e1>

Morbidity and Mortality Weekly Report

The *Morbidity and Mortality Weekly Report (MMWR)* Series is prepared by the U.S. Centers for Disease Control and Prevention (CDC) and is available free of charge in electronic format. To receive an electronic copy each week, visit *MMWR* at <https://www.cdc.gov/mmwr/index.html>.

Readers who have difficulty accessing this PDF file may access the HTML file at <https://www.cdc.gov/mmwr/index2025.html>. Address all inquiries about the *MMWR* Series to Editor-in-Chief, *MMWR* Series, Mailstop V25-5, CDC, 1600 Clifton Rd., N.E., Atlanta, GA 30329-4027 or to mmwrq@cdc.gov.

All material in the *MMWR* Series is in the public domain and may be used and reprinted without permission; citation as to source, however, is appreciated.

MMWR and *Morbidity and Mortality Weekly Report* are service marks of the U.S. Department of Health and Human Services.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

References to non-CDC sites on the Internet are provided as a service to *MMWR* readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of these sites. URL addresses listed in *MMWR* were current as of the date of publication.

ISSN: 0149-2195 (Print)