

U.S. MENINGOCOCCAL IMMUNIZATION PHYSICIAN SURVEY

SUMMARY OF FINDINGS

*This survey was commissioned by Pfizer and conducted through Survey Healthcare Global
June 2023*

Pfizer supported a survey to assess provider preferences and study gaps in understanding based on the experiences and perceptions of family physicians, pediatricians, and internal medicine physicians who regularly make meningococcal vaccination recommendations to an adolescent patient population. The quantitative research was conducted among healthcare providers through an online web-based platform.

Audience	Survey Population	Sample Source	Sample Size
Healthcare Providers	Family doctors, pediatricians, and internal medicine physicians specializing in primary care who have provided care, consulted, recommended, and administered vaccines to patients under the age of 18 years	Survey Healthcare Global	n=400

The study aimed to understand physician knowledge and insights around meningococcal vaccination recommendations. Research explored physician experience with administration and reception toward vaccines among patients, including the impact of COVID-19. Additionally, the survey gathered insights related to pentavalent vaccines in development, with potential to simplify immunization schedules and improve uptake.

Key findings include:

- An overwhelming majority (91%) of physicians believe that a pentavalent vaccine option will help to greatly increase immunization rates for MenB.** Should this vaccine be approved by FDA and recommended by CDC, almost all physicians surveyed are willing to encourage parents to consider vaccinating their children and to stock and administer the vaccine. Eighty-one (81%) percent say their preference would be to stock and administer a pentavalent vaccine as opposed to administering MenB and MenACWY vaccines separately. Over 90% responded that a pentavalent vaccine would simplify the process of communicating with patients and their families, as well as simplify scheduling greatly for patients and staff.
- Moreover, almost all physicians (95%) believe that patients will prefer to have one vaccine for meningococcal meningitis that contains five (5) serogroups, compared to two types of shots that individually cover four (4) and one (1) serogroup.**
- A large majority of physicians (82%) say that COVID-19 has greatly impacted parental decision-making on which vaccines their children should receive.** Physicians cite *lack of trust in the medical community* as the top reason for why people in their community have a negative perception toward vaccines generally (45%).



I. Vaccine Recommendations

The Centers for Disease Control and Prevention’s (CDC) Advisory Committee on Immunization Practices (ACIP) develops and distributes recommendations on the use of approved vaccines. The current meningococcal immunization schedule for adolescents under the age of 18 is as follows:

- **MenACWY: Routine vaccination** — 2-dose series at age 11–12 years; booster dose at 16 years
- **MenB: Shared clinical decision-making** — Adolescents not at increased risk age 16–23 years (preferred age 16–18 years) based on shared clinical decision-making (2-dose series)

Notably, physicians surveyed are more knowledgeable about current recommendations for the MenACWY vaccine. Eighty (80%) percent of physicians correctly responded that ACIP recommends routine MenACWY immunization, compared to 53% of physicians who incorrectly responded that the ACIP recommendation for MenB is routine. Forty-four (44%) percent of physicians correctly responded that the ACIP recommendation for MenB is based on *shared clinical decision-making*.

To the best of your knowledge, please tell us what you think are the ACIP recommendation for the ... (Q4)			
Total Respondents (n=400)	1 — Routine recommendation	2 — Shared clinical decision-making recommendation	98 — Don't Know/Not Sure
MenB vaccine	53%	44%	3%
MenACWY vaccine	80%	16%	4%

A greater proportion of physicians (68%) report that they “always” recommend the MenACWY vaccine to patients under 18, compared to the MenB vaccine (59%). The most commonly recommended vaccines reported are Tdap (83%), MMR (82%), and polio (80%).

How often, if at all, do you recommend the following vaccines to your patients who are 18 years and under? (Q1)	
% Always Recommend	Total Respondents (n=400)
Tdap (tetanus, diphtheria, and pertussis)	83%
MMR	82%
Polio	80%
Hepatitis B	79%
Varicella	78%
Pneumococcal	76%

How often, if at all, do you recommend the following vaccines to your patients who are 18 years and under? (Q1)

% Always Recommend	Total Respondents (n=400)
Influenza (flu)	70%
MenACWY	68%
HPV	68%
Hepatitis A	63%
Rotavirus	62%
MenB	59%
COVID-19	56%

When compared to family (56% avg.) and internal medicine physicians (50% avg.), pediatricians (76% avg.) are significantly more inclined to recommend MenB and MenACWY vaccines. Female physicians (69%) recommend both the MenB and MenACWY vaccines at a higher rate than male physicians (59%).

Additionally, more physicians are concerned about the spread of meningococcal meningitis among college communities and students (96%) than within their own communities (76%). However, physicians who are non-white are more concerned about the spread of meningitis among their communities compared to physicians who are white (82% vs 72%).

Only half of physicians report they are very familiar with their local school or state college entry requirements for the MenB (47%) vaccine and MenACWY (55%) vaccine. Specifically, 36% of physicians say that MenB is a state requirement for entry into schools as opposed to MenACWY (60%).

- Physicians in private practice are more likely to be very familiar (56% avg.) with entry requirements than those in other practice settings (36% avg.)
- Physicians in the Northeast (93% avg.) also have more familiarity overall than physicians in the Midwest (83% avg.) and West (79% avg.)

Nearly all physicians agree it is crucial to start a conversation with parents about MenB vaccination, with over 95% of them indicating its importance. However, physicians are divided on when to start conversations about MenB – 42% say they start conversations before the schedule’s recommended age, between 10-15. But over half (57%) start the conversation with parents/patients at the recommended age of vaccination between 16-20. Male physicians (47%), family physicians (54%), and physicians who report spending the most time practicing in hospitals (64%) are more likely to start the conversation at 10-15 years, whereas their counterparts start at the recommended age of vaccination. Additionally, 67% of physicians agree that discussions about the MenB vaccine should only be held with adolescent patients who are at an increased risk. In comparison, a majority of physicians (81%) say they begin having discussions about MenACWY vaccinations at 10-15 years old.

Typically, at what patient age do you initiate a conversation with parents/guardians/patients about vaccinating for MenB / MenACWY? (Q6A/B)

Total Respondents (n=400)	MenB	MenACWY
10-15 years old	42%	81%
16-20 years old	57%	18%

Sixty-four (64%) percent of physicians *recommend* that MenB vaccines be administered between ages 16-20 and 85% *recommend* MenACWY vaccines between 10-15 years old. It is evident that more physicians initiate conversations with parents/patients about MenACWY vaccines around the recommended time of vaccination than MenB, where there seems to be more of a discrepancy on when to start conversations about immunization and when to make a specific vaccine recommendation.

Typically, at what age do you recommend the MenB / MenACWY to patients? (Q13/Q21)

10-15 years old	36%	85%
16-20 years old	64%	15%



II. Physician Perceptions of Vaccination Among Parents & Patients

Among the various factors that parents consider when deciding to vaccinate their child, physicians believe the specific benefits of the MenB vaccine and MenACWY vaccine is the most important.

In comparison, less than a third of physicians believe that parents are primarily influenced by school or work vaccine requirements for MenB (21%) and MenACWY (26%). Fewer physicians say that CDC recommendation is the primary factor considered by parents (MenB: 13%; MenACWY: 14%).

When it comes to the concerns that parents have when deciding to get their child vaccinated, 30% of physicians believe that potential side effects of meningitis vaccines are most important. Physicians report that parental perceptions of insufficient knowledge regarding recommended vaccines are also a contributing factor to vaccine hesitation. Almost one-third of physician respondents indicate that parents worry about their child receiving an excessive number of vaccines.

Which of these factors is the greatest concern that parents have when deciding to get their child vaccinated for MenB / MenACWY? You may select up to two responses. (Q8A/B)

Greatest concern:	MenB (n=200)	MenACWY (n=200)
Potential side effects of the vaccine	28%	33%
Lack of awareness about recommended vaccines	24%	16%
Do not believe their child is at risk for meningitis	18%	14%
Lack of confidence in vaccines	13%	14%
Too many vaccines	10%	17%
Religious and cultural reasons	4%	4%
Cost of the vaccine	4%	2%
Do not believe vaccines can prevent meningitis	2%	3%

A third (36%) of physicians identified more than 20 high-risk meningitis patients in their practice each year. **Despite this, physicians report that some patients choose not to get vaccinated after hearing the potential benefits and risks associated with MenB and MenACWY vaccines.** A higher proportion of physicians reported patient opt-outs for the MenB vaccine compared to the MenACWY vaccine (82% vs 72%). Physicians who report spending the most time practicing in hospitals (87% avg.) were more likely than private practice physicians (75% avg.) to report patient opt-outs.

COVID-19 impacts vaccine acceptance. Eighty-two percent (82%) of physicians say that the pandemic has greatly impacted parental decision-making on what vaccines their child should receive. Sixty-five (65%) percent say that this change has had a mostly negative effect with 15% reporting it being very negative. Female physicians (72%) and pediatricians (76%) are significantly more likely to report that there

has been a negative change in parents' decision to get their child vaccinated. Furthermore, physicians in the Midwest and West have felt the greatest impact (both 86%), as well as those who report spending the most time practicing in hospitals (94%).

Among those who say that COVID-19 has negatively affected parental decisions on vaccines, 45% cite lack of trust in the medical community as the top reason.



III. Perceptions on a Pentavalent Vaccine Option

A potential, alternative pentavalent meningococcal vaccine option is viewed as a highly promising solution in the fight against meningitis. Physicians expressed near unanimous agreement that the pentavalent vaccine would significantly boost immunization rates for MenB.

	Unaided (n=200)	Aided (n=200)
Unaided: What impact do you think combining the two meningitis vaccines (MenB + MenACWY) into one product would have on overall immunization rates for MenB?		
Aided: According to the most recent CDC data, 31.4% of teens have received one MenB dose and 89% have received one MenACWY dose. What impact do you think combining the two meningitis vaccines (MenB + MenACWY) into one product would have on overall immunization rates for MenB? (Q28C/D)		
Increase immunization rates a great deal	48%	56%
Increase immunization rates somewhat	44%	35%
Have no impact on immunization rates	6%	6%
Decrease immunization rates somewhat	1%	–
Decrease immunization rates a great deal	–	–
Total Increase (1-2)	92%	91%
Total Decrease (5-4)	1%	–

If the FDA were to approve and make a pentavalent vaccine option available, almost all physicians would encourage parents to vaccinate their children (95%) and stock and administer the vaccine (91%).

If an alternative, pentavalent meningococcal vaccine option (MenB + MenACWY) was to become FDA approved and recommended by CDC as a single vaccine to help protect against the five meningococcal serogroups that cause the most invasive meningococcal disease, how likely would you be to... (Q29)						
Total Respondents (n=400)	Very Likely	Somewhat Likely	Somewhat unlikely	Not at all Likely	Total Likely	Total Not Likely
Encourage parents to consider vaccinating their children according to CDC recommended schedules?	72%	23%	5%	1%	95%	5%
Stock and administer the new pentavalent vaccine?	64%	27%	7%	1%	91%	8%

In addition, more than 80% of physicians report that they would prefer to administer a pentavalent vaccine option rather than separate MenB and MenACWY vaccines.

If you had a choice between the current option of using two meningococcal meningitis vaccines — one for B and one for ACWY — or using a single pentavalent vaccine that included all 5 strains (B + ACWY) in the same product, which would you prefer? (Q29)

Total Respondents (n=400)	
Stocking and administering a single pentavalent meningococcal vaccine option (B + ACWY)	81%
Stocking and administering MenB and MenACWY vaccines separately	10%
Don't Know/Unsure	9%

Nearly all physicians also believe that a single pentavalent vaccine covering all five serogroups will simplify communication greatly with their patients about protection against meningococcal meningitis.

Most physicians also agree that a pentavalent vaccine will simplify and streamline vaccine scheduling, stocking, and administration processes, should the vaccine become approved and available.

To what extent do you agree or disagree with the following factors influencing your preference for a pentavalent meningococcal vaccine option? (Q31A)

Total Respondents (n=400)	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree	Total Agree	Total Disagree
	5	4	3	2	1	(5-4)	(1-2)
Simplifying the vaccine schedule for my staff	57%	35%	8%	0%	–	92%	0%
Increasing the likelihood that patients will be covered for all five (5) serogroups	62%	29%	8%	1%	0%	91%	1%
Potential for reducing the number of doses needed to complete the recommended series for MenB and MenACWY	60%	31%	8%	1%	0%	91%	1%
Simplifying the vaccine schedule for my patients	63%	29%	7%	2%	-	91%	2%
Simplifying communication with my patients and their families	54%	37%	8%	1%	1%	91%	1%
Ease of ordering and stocking	52%	35%	12%	1%	0%	87%	1%
Reducing the likelihood of administration errors	45%	36%	16%	2%	0%	81%	2%

Additionally, almost all physicians (95%) believed that patients would prefer receiving a single vaccine that provides protection against 5 serogroups rather than two separate shots.

In your opinion, how much do you think patients would prefer having one type of shot for meningitis that contains five (5) serogroups, compared to two types of shots that individually cover four (4) and one (1) serogroups? (Q31B)

Total Respondents (n=400)

Total Prefer (1-2)	95%
Strongly prefer	65%
Somewhat prefer	30%
Prefer only a little	4%
Not prefer at all	1%



IV. Vaccine Administration, Information & Resources

Almost all physicians stock and administer vaccines such as flu (96%) and Tdap (94%) on site, while meningococcal vaccines are less frequently stocked (76% for both MenB and MenACWY).

Most physicians who recommend MenB and MenACWY vaccines prefer to administer them to patients in their own clinic. They are confident that their clinic is equipped to handle the vaccination process, and a large majority (79% for MenACWY and 76% for MenB) seldom refer patients to other locations. If a referral is necessary, local pharmacies are the preferred option. Additionally, physicians in the Northeast region report they are better prepared to stock the MenB (69%) vaccine and MenACWY (76%) vaccine than physicians in other geographic areas.

Which of the following vaccines does your clinic/practice/hospital stock and administer on site? (Q2)

Total Respondents (n=400)	
Influenza (flu)	96%
Tdap (tetanus, diphtheria, and pertussis)	94%
MMR	89%
Pneumococcal	89%
Hepatitis B	89%
Varicella	84%
HPV	84%
Polio	81%
Hepatitis A	80%
MenB	76%
MenACWY	76%
Rotavirus	73%
COVID-19	67%

Overall, physicians report they are content with various aspects of vaccine administration, but there is room for improvement in terms of financial reimbursement. Physicians are generally satisfied with the resources and availability of staff for administering MenB and MenACWY vaccines. However, they appear to be slightly more satisfied with the administration of the MenACWY vaccine, considering all factors (see table below). Physicians located in the Northeast region (74%) reported higher levels of satisfaction compared the South (62%) and West (63%).

How satisfied are you with the following as it relates to administering the MenB / MenACWY vaccine? (Q15/23)

% Total Satisfied (n=400)	MenB	MenACWY
Availability of support staff to administer the vaccine	80%	77%
Clarity of CDC recommendations for vaccination	76%	84%
Availability of information and quality of resources to recommend the vaccine to patients	71%	77%
The stocking/storage of the vaccine	68%	70%
Availability of time to counsel parents/patients about the vaccine	62%	66%
Reimbursements received for administering the vaccine	58%	60%
The cost of managing vaccine inventory	56%	60%
Reimbursements (with designated billing codes) for your time to counsel patients about the vaccine	53%	57%
The cost of purchasing vaccines	49%	54%

While most physicians (80%) claim to have sufficient information to recommend MenB vaccines and MenACWY vaccines, only 36% say they have sufficient information to engage in shared clinical decision-making.

Approximately half (49%) report that they receive guidance from medical associations such as AAP, ACP, AAFP and AMA, while 44% get their information and resources from public health agencies like CDC, FDA or WHO. Overall, physicians say they most prefer information regarding vaccine effectiveness (70%), side effects (57%), and safety (56%) to better guide their recommendations to patients.

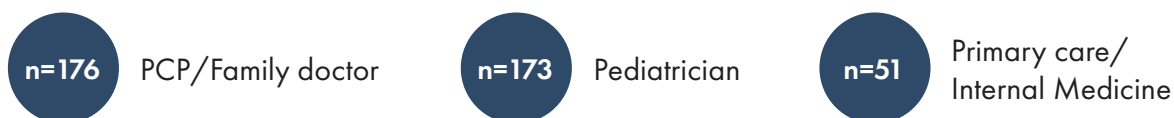


V. Methodology

The physician survey was designed to collect reliable data on the perceptions and behaviors surrounding meningococcal immunization. A literature review was conducted around existing and relevant academic surveys to identify gaps in understanding current attitudes and practices related to the topic which helped to inform the questionnaire design.

The survey was conducted February 15 – March 15, 2023 by Survey Healthcare Global (SHG), the largest market research panel of health care providers. SHG supplied a targeted sample frame of pediatricians, general/family practice physicians, and internal medicine specialists. Given the discrete nature of the survey population, a non-probability sample methodology was adopted that was pre-stratified to target specific sample groups. The total sample size of completed interviews with eligible physicians screened for routinely providing care to patients 18 and under is n=400.

The following fields of care were represented:



SHG panelists were selected at random (PTP allocation) and sent to an online survey. SHG validates panelists using the American Medical Association and other provider directories to maintain sample integrity. The online survey took an average of 10 minutes to complete. The data were not post-stratified or weighted since specific population parameters are unknown for the screened survey population (physicians who routinely care for patients and have administered vaccines to patients 18 and under).