Audio File

Determinants of Meningococcal Vaccination Coverage: A Targeted Literature Review Supporting a 16-year-old Healthcare Visit

SCAN ME

Oscar Herrera-Restrepo[1], Yuting Kuang[2], John D'Angelo[1], Rafik Bekkat-Berkani[3], Diana E. Clements[1], Jennifer Uyei[2]

[1]GSK, Philadelphia, PA, USA; [2]IQVIA, San Francisco, CA, USA; [3]GSK, Rockville, MD, USA

Background

- Invasive meningococcal disease is an acute, life-threatening disease and is a leading cause of bacterial meningitis and sepsis in the United States (US)[1]
- The Advisory Committee on Immunization Practices (ACIP) recommends routine administration of a meningococcal serogroup A, C, W, Y (MenACWY) vaccine for adolescents and recommends a meningococcal serogroup B (MenB) series based on shared clinical decision making (SCDM) between patients/caregivers and providers:

MenACWY vaccines
- Initial dose recommended at age 11–12 (since 2005)[2]
- Booster dose recommended at age 16 (since 2010)[2]

MenB vaccines
- Vaccination series recommended based on SCDM at age 16–23, preferably age 16–18 (since 2015)[3]

In 2019, the American Academy of Pediatrics (AAP), American Academy of Family Physicians (AAFP), American College Health Association (ACHA), and four other US health organizations issued a joint letter to urge the implementation of an annual well-visit and vaccinations for 16-year-olds[4]

Objective

To understand the challenges for MenACWY and MenB vaccination coverage in the US and identify key evidence to support improvement of MenACWY and MenB vaccination coverage in older adolescents (age 16+)

Methods

Targeted literature review (TLR) to identify and synthesize available evidence on the challenges of MenACWY and MenB vaccination coverage

Sources
- Database search (January 1, 2011–August 7, 2021)
- Bibliographies from published review articles
- Gray literature
- Hand search of select conference proceedings

Screening according to predefined population, intervention, comparator, outcome, time, and study design (PICOTS) criteria

Synthesis

Qualitative software (ATLAS.ti) used to code studies using a predetermined codebook mapped to the TLR objectives, as well as free coding to allow for themes to organically emerge

Results

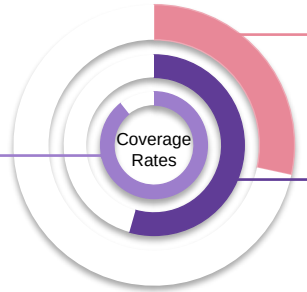
Literature Search

2,355 Citations screened → 203 Full texts evaluated for inclusion → 47* Full texts selected for coding and synthesis

*46 unique studies

Coverage Rates† (National Immunization Survey-Teen data from 2020[5])

Coverage rates among older adolescents were lower than those among younger adolescents



≥1 dose MenACWY vaccine (ages 13–17) **89.3%**

≥1 dose MenB vaccine (age 17) **28.4%**

≥2 doses MenACWY vaccine (age 17) **54.4%**

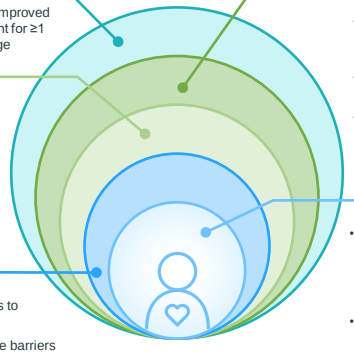
†Results reflect vaccination coverage before the COVID-19 pandemic

Determinants of Improved MenACWY and MenB Vaccination Coverage

POLICIES
- MenACWY vaccination school entry requirements (1- and 2-dose) improved state-level MenACWY vaccination coverage; similarly, a requirement for ≥1 MenB vaccine dose improved state-level MenB vaccination coverage

PROVIDERS
- Provider-initiated recommendation of MenACWY and MenB vaccines improved coverage; reported as the most influential factor for MenB vaccination in one study
- Provider-driven communication style was more impactful than shared or patient-initiated styles on MenACWY vaccination coverage
- Vaccine administration by a pediatrician was associated with improved MenACWY and MenB vaccination coverage

PARENTS/CAREGIVERS
- Greater parental awareness of MenB vaccines improved willingness to vaccinate their child with MenACWY and MenB vaccines
- Parental concern of side effects and lack of vaccine knowledge were barriers to MenB vaccination
- Adolescents who received MenACWY vaccines were more likely to live with their parents. A predictor of MenB vaccination was living in an on-campus dormitory or with roommates versus with parents, alone, or other/unknown



HEALTHCARE SERVICE PROVISION
- Being up to date with certain other adolescent vaccines, in particular HPV, influenza, Tdap, and MenACWY, was associated with improved MenACWY or MenB vaccination coverage
- Having a check-up at age 16–17 years was associated with improved MenACWY and MenB vaccination coverage
- Missed opportunities for administering MenACWY and MenB vaccines, where an age-eligible adolescent had a provider encounter but did not receive a MenACWY or MenB vaccine, were substantial

PATIENTS
- Younger age (10.5–13 years) was associated with higher MenACWY vaccination coverage compared to older age (15.5–18 years). The majority of MenB vaccine initiation occurred in the 16–23 age group, with higher coverage among the 16–18 age group compared with the 19–23 age group
- Non-White adolescents had higher MenACWY vaccination coverage, and White adolescents had higher MenB vaccination coverage, mostly in privately insured individuals
- Non-rural residence, higher income, and having insurance were other factors associated with improved coverage for either MenACWY or MenB vaccines

Key Takeaways

Actions could be taken by providers, healthcare system administrators, and policy makers to improve meningococcal vaccination coverage

- **Scheduling** well-child, preventive, or vaccination-only appointments **at appropriate ages** for older adolescents, using the healthcare encounter as an opportunity for meningococcal vaccination
- Embracing a **provider-initiated and provider-driven communication style** with patients during visits
- Enacting **school entry immunization policies** in states that are currently lacking them
- **Educating providers** (particularly non-pediatricians) about meningococcal disease and **clarifying the implementation of SCDM** for MenB vaccination in healthy adolescents and young adults

Conclusion

Collectively, the evidence identified in this review supports a renewed call to action by local and national health authorities and medical organizations urging healthcare professionals to implement a 16-year-old healthcare visit and focus on vaccination as a key component of the visit

Presented at AAFP FMX 2022 | September 20, 2022–September 23, 2022

Abbreviations: MenACWY: meningococcal serogroups A, C, W, Y; MenB: meningococcal serogroup B; US: United States; SCDM: shared clinical decision making; TLR: targeted literature review

References and plain language summary available in supporting materials via QR code.