

FACTORS ASSOCIATED WITH MENINGOCOCCAL VACCINATION AMONG PATIENTS WITH NEWLY DIAGNOSED HIGH-RISK CONDITIONS

Parinaz K Ghaswalla¹, Lindsay G Bengtson², Gary S Marshall³, Ami R Buikema², Tim Bancroft², Krista M Schladweiler², Eleena Koep⁴, Patricia Novy¹, Cosmina S Hoge¹

¹GSK, Philadelphia, PA, US; ²Optum, Eden Prairie, MN, US; ³Norton Children's and University of Louisville School of Medicine, Louisville, KY, US; ⁴UnitedHealth Group, Minnetonka, MN, US

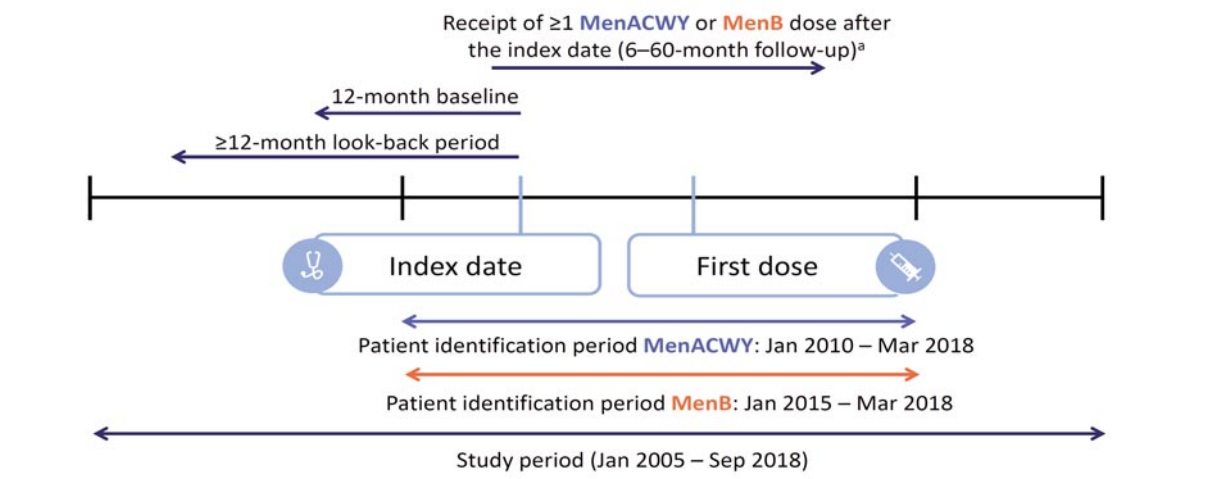
BACKGROUND

- In the United States (US), vaccination is recommended for persons at increased risk for invasive meningococcal disease (IMD) due to complement component deficiency (CD), asplenia or human immunodeficiency virus (HIV) infection.
- Uptake of meningococcal vaccines one year following a new high-risk diagnosis is very low.¹
- Little is known about factors associated with receipt of vaccines against meningococcal serogroups A, C, W, and Y (MenACWY) and serogroup B (MenB) among patients newly diagnosed with high-risk conditions.
- Because patients with these high-risk conditions are also recommended to receive pneumococcal vaccination, meningococcal and pneumococcal vaccine uptake were examined to assess provider knowledge gaps for vaccine recommendations.

METHODS

- This retrospective cohort study identified patients from a large US commercial administrative claims database (Optum Research Database) with continuous enrollment during the baseline and variable follow-up periods.
- Cox proportional hazards regression models were used to identify characteristics associated with time to receipt of ≥1 dose of MenACWY or MenB during time periods corresponding with Advisory Committee on Immunization Practices (ACIP) recommendations.

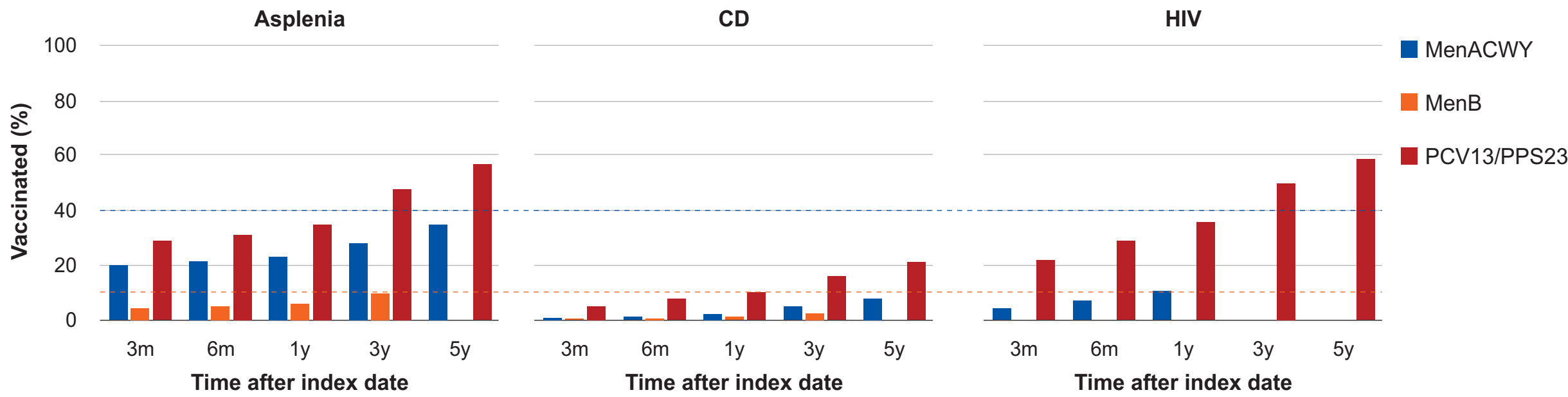
Patient selection & study design



^aVaccinations within 90 days before the index date were also included for asplenia. **Index date:** First evidence of asplenia, CD or HIV. **CD,** complement component deficiency; **HIV:** human immunodeficiency virus; **MenACWY,** meningococcal vaccines against serogroups A, C, W, Y (polysaccharide and conjugate); **MenB,** meningococcal vaccines against serogroup B.

RESULTS

Receipt of MenACWY and MenB vaccines among newly diagnosed high-risk patients is below 40% and 10%, respectively



CD, complement component deficiency; HIV: human immunodeficiency virus; m: months; MenACWY, meningococcal vaccines against serogroups A, C, W, Y; MenB, meningococcal vaccines against serogroup B; PCV13: 13-valent pneumococcal conjugate vaccine; PPSV23: 23-valent pneumococcal polysaccharide vaccine; y: year(s).

Well-care visits and receipt of pneumococcal vaccine are associated with increased likelihood of MenACWY and MenB receipt

Independent variable	Receipt of ≥1 dose of MenACWY Asplenia HR (95% CI)	Receipt of ≥1 dose of MenACWY CD HR (95% CI)	Receipt of ≥1 dose of MenACWY HIV HR (95% CI)	Receipt of ≥1 dose of MenB Asplenia HR (95% CI)
Male (vs female)	1.24 (1.05–1.46)	-	2.72 (1.18–6.26)	-
11–18 (vs 2–10) years	-	4.52 (2.29–8.92)	-	-
≥19 (vs 2–10) years	0.21 (0.14–0.31)	0.14 (0.07–0.29)	-	-
≥19 (vs 10–18) years	-	-	-	0.34 (0.15–0.79)
≥56 (vs 2–55) years	-	-	0.42 (0.18–0.97)	-
Midwest (vs Northeast)	1.63 (1.20–2.22)	-	-	-
Midwest (vs South)	-	-	1.78 (1.16–2.71)	2.53 (1.19–5.41)
West (vs South)	-	-	2.24 (1.44–3.47)	2.57 (1.13–5.86)
Well-care visit	6.63 (4.84–9.09)	5.85 (1.96–17.43)	3.67 (1.11–12.12)	11.17 (3.02–41.26)
PCV13/PPSV23	26.02 (21.01–32.22)	3.19 (1.78–5.73)	23.03 (13.93–38.09)	3.89 (2.07–7.29)

Results from multivariable models. Blank cells indicate that the association was not significant. Other variables found to be significant in the asplenia model: index MenB ACIP age eligibility, year of index date, baseline influenza vaccination, baseline inpatient stay, baseline office visits, baseline pharmacy fills. **ACIP:** Advisory Committee on Immunization Practices; **CD,** complement component deficiency; **CI:** confidence interval; **HCP:** health care practitioner; **HIV:** human immunodeficiency virus; **HR:** hazard ratio; **MenACWY:** meningococcal vaccines against serogroups A, C, W, Y; **MenB:** meningococcal vaccines against serogroup B; **PCV13:** 13-valent pneumococcal conjugate vaccine; **PPSV23:** 23-valent pneumococcal polysaccharide vaccine.



Most patients with newly diagnosed high-risk conditions do not receive recommended meningococcal vaccinations, potentially remaining vulnerable to meningococcal disease.

CONCLUSIONS

- Among newly diagnosed asplenia and CD patients, the association of MenACWY vaccination with age suggests confusion between routine age-based and high-risk recommendations, whereas the association of MenACWY and MenB vaccination with pneumococcal vaccines suggests that providers recognize the overlap in risk factors for IMD and pneumococcal disease.
- It is crucial to educate providers about MenACWY and MenB vaccination recommendations for high-risk patients and ensure health care access for these vulnerable patients.

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Scan for handout, disclosures and references

