**Table S1: Countries where protein-based meningococcal B vaccines have been approved as of April 2021.**

| WHO Region | Country | Bexsero® | | Trumenba® | |
|---|---|---|---|---|---|
| | | Approved | Approval year | Approved | Approval year |
| Africa | South Africa | ✗ | - | ✓ | 2019 |
| Americas | Argentina | ✓ | 2015 | ✓ | 2019 |
| | Brazil | ✓ | 2015 | ✓ | 2019 |
| | Canada | ✓ | 2013 | ✓ | 2017 |
| | Chile | ✓ | 2014 | ✓ | 2018 |
| | Colombia | ✗ | - | ✓ | 2019 |
| | Costa Rica | ✗ | - | ✓ | 2019 |
| | Dominican Republic | ✗ | - | ✓ | 2018 |
| | Guatemala | ✗ | - | ✓ | 2018 |
| | Panama | ✗ | - | ✓ | 2018 |
| | Peru | ✗ | - | ✓ | 2019 |
| | United States of America | ✓ | 2015 | ✓ | 2014 |
| | Uruguay | ✓ | 2014 | ✗ | - |
| Eastern Mediterranean | Kuwait | ✗ | - | ✓ | 2019 |
| | Saudi Arabia | ✓ | 2020 | ✗* | - |
| | United Arab Emirates | ✓ | NA | ✗ | - |
| Europe | Andorra | ✓ | 2013 | ✗ | - |
| | Austria | ✓ | 2013 | ✓ | 2017 |
| | Belarus | ✗ | - | ✓ | 2018 |
| | Belgium | ✓ | 2013 | ✓ | 2017 |
| | Bulgaria | ✓ | 2013 | ✓ | 2017 |
| | Croatia | ✓ | 2013 | ✓ | 2017 |
| | Cyprus | ✓ | 2013 | ✓ | 2017 |
| | Czech Republic | ✓ | 2013 | ✓ | 2017 |
| | Denmark | ✓ | 2013 | ✓ | 2017 |
| | Estonia | ✓ | 2013 | ✓ | 2017 |
| | Finland | ✓ | 2013 | ✓ | 2017 |
| | France | ✓ | 2013 | ✓ | 2017 |
| | Germany | ✓ | 2013 | ✓ | 2017 |
| | Greece | ✓ | 2013 | ✓ | 2017 |
| | Hungary | ✓ | 2013 | ✓ | 2017 |
| | Iceland | ✓ | 2013 | ✓ | 2017 |
| | Ireland | ✓ | 2013 | ✓ | 2017 |

| WHO Region | Country | Bexsero® | | Trumenba® | |
|---|---|---|---|---|---|
| | | Approved | Approval year | Approved | Approval year |
| | Israel | ✓ | 2016 | ✓ | 2020 |
| | Italy | ✓ | 2013 | ✓ | 2017 |
| | Kazakhstan | ✗ | - | ✓ | 2019 |
| | Latvia | ✓ | 2013 | ✓ | 2017 |
| | Liechtenstein | ✓ | 2013 | ✓ | 2017 |
| | Lithuania | ✓ | 2013 | ✓ | 2017 |
| | Luxembourg | ✓ | 2013 | ✓ | 2017 |
| | Malta | ✓ | 2013 | ✓ | 2017 |
| | Netherlands | ✓ | 2013 | ✓ | 2017 |
| | Norway | ✓ | 2013 | ✓ | 2017 |
| | Poland | ✓ | 2013 | ✓ | 2017 |
| | Portugal | ✓ | 2013 | ✓ | 2017 |
| | Romania | ✓ | 2013 | ✓ | 2017 |
| | San Marino | ✓ | 2013 | ✓ | 2017 |
| | Slovakia | ✓ | 2013 | ✓ | 2017 |
| | Slovenia | ✓ | 2013 | ✓ | 2017 |
| | Spain | ✓ | 2013 | ✓ | 2017 |
| | Sweden | ✓ | 2013 | ✓ | 2017 |
| | Switzerland | ✓ | 2017 | ✗ | - |
| | Turkey | ✓ | 2018 | ✗* | - |
| | United Kingdom | ✓ | 2013 | ✓ | 2017 |
| Western Pacific | Australia | ✓ | 2013 | ✓ | 2017 |
| | Hong Kong | ✓ | 2019 | ✓ | 2018 |
| | New Zealand | ✓ | 2018 | ✗ | - |
| | Singapore | ✗ | - | ✓ | 2017 |

* Currently undergoing evaluation for approval.

✗ = Not approved; ✓ = Approved.

**Table S2: Recommended vaccination schedules for Bexsero® according to the manufacturer (GlaxoSmithKline), by age at first dose.** This information was obtained from GSK's product monograph (https://ca.gsk.com/media/6309/bexsero.pdf).

| Age at first dose | Recommended schedule | Boosters |
|---|---|---|
| 2 to 5 months | 3 doses at least 1 month apart<br>OR<br>2 doses at least 2 months apart | 1 dose in the 2nd year of life, at least 6 months after the previous dose |
| 6 to 11 months | 2 doses at least 2 months apart | 1 dose in the 2nd year of life, at least 2 months after the previous dose |
| 12 to 23 months | 2 doses at least 2 months apart | 1 dose 12-23 months after the previous dose |
| 2 years and older | 2 does at least 1 month apart | 1 dose if at risk, as per guideline recommendations |

Note: Pfizer's recommended vaccination schedule for Trumenba® is not tabulated here because all relevant details are reported in the main article given the lack of variation by age.

**Table S3: Policies for the use of meningococcal B (MenB) vaccines in 24 countries where at least one protein-based MenB vaccine (i.e. Bexsero® and Trumenba®) is approved.** For each country, the following details are reported: 1) approval status of Bexsero® and Trumenba®, along with their respective approval years and indication for use as per the regulatory authority; 2) year of first introduction of a national policy for the use of MenB vaccines; 3) target groups for whom MenB vaccination is recommended as per the national policy, along with the timing and number of doses included in the dosing schedule, where specified. Any changes to the national policy that occurred after its first introduction are also reported where relevant. Dosing schedules listed reflect most up to date vaccination policy reports obtained by our research team. The current dosing recommendations may have changed or may not have been publicly available.

| Country | Approved MenB vaccines | | National vaccination policy | |
|---|---|---|---|---|
| | Bexsero® | Trumenba® | Year | Target group and recommended schedule |
| Andorra | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2016 | Recommended for the following groups:<br>1) All infants<br>2) Individuals with medical risk conditions (splenectomized), but subject to a fee.<br><br>*Schedule*: in infants, first 2 doses of Bexsero® recommended at age 2 and 4 months, respectively, followed by a third booster dose at age 13 months. Dosing schedule for other age groups not specified. |
| Australia | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2020 | Recommended for the following groups:<br>1) Indigenous children (Aboriginal and Torres Strait Islanders) from 6 weeks of age, with a 3-year catch-up program for indigenous children aged less than 2 years old until June 30, 2023.<br>2) Individuals with medical risk conditions (asplenia, hyposplenia, complement deficiency, individuals undergoing treatment with eculizumab, HIV infection regardless of CD4+ cell count, individuals receiving hematopoietic stem cell transplantation).<br><br>*Schedule*: 3 doses of Bexsero®, administered at age 2, four and 12 months for indigenous children; 2 doses 1-2 months apart in older children and adults.<br><br>*Note*: In the state of South Australia, a MenB immunization program for all infants was introduced in 2018, followed by the implementation of a school-based immunization program with Bexsero® targeting children aged 15-16 years. |
| Austria | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2017 | Recommended for the following groups:<br>1) All infants, but subject to a fee, with catch-up vaccinations until age 18. Recommendation introduced in 2020.<br>2) Individuals with medical risk conditions (congenital or acquired immunodeficiencies with residual T- and/or B-cell function, hypogammaglobulinemia, asplenia, splenectomy, at least 2 weeks prior to initiation of treatment with eculizumab, at least 1 month prior to initiation of treatment with severe B- and/or T-cell immunosuppressive/biological therapy).<br>3) Individuals at increased risk of exposure (household contacts of cases, men who have sex with men, laboratory staff in contact with meningococcal isolates, healthcare workers from pediatric/infectious disease/intensive care units, military personnel).<br><br>*Schedule*: in infants, first dose of Bexsero® required at age 3 months, followed by 2 doses 1 month apart given at age 4-6 months. For catch-up vaccination between age 6 and 18 and in adults at risk, only 2 doses are required. Trumenba® can be given from age 10 onwards with 2 doses 6 months apart. |
| Brazil | Approval: 2015<br><br>Indication: age 2 months to 50 years | Approval: 2019<br><br>Indication: age 10 years and older | 2015 | Recommended by the Brazilian Pediatric Society, but subject to a fee, for the following groups:<br>1) Infants and toddlers under 2 years of age.<br>2) Children older than 2 years of age and adolescents.<br><br>*Schedule*: in children under 2 years of age, 2 doses of Bexsero® 2 months apart (at 3 and 5 months of age), followed by a booster dose in the second year of life (12-15 months of age); in children older than 2 and in adolescents, 2 doses of Bexsero® 2 months apart. |

| Country | Approved MenB vaccines | | National vaccination policy | |
|---|---|---|---|---|
| | **Bexsero®** | **Trumenba®** | **Year** | **Target group and recommended schedule** |
| Canada | Approval: 2013<br><br>Indication: age 2 months to 25 years. | Approval: 2017<br><br>Indication: age 10 to 25 years. | 2014 | Recommended for the following groups:<br>1) Children from birth to 17 years of age with underlying medical conditions.<br>2) Individuals aged 18 years and older with medical risk conditions (congenital or acquired complement deficiencies, functional or anatomic asplenia, individuals starting treatment with eculizumab; could be considered in case of HIV infection).<br>3) Individuals with increased risk of exposure (household contacts, laboratory personnel with routine exposure to meningococcal isolates, military personnel).<br><br>Bexsero® or Trumenba® recommended in certain jurisdictions for outbreak control or if hypervirulent strains emerge.<br><br>*Schedule*: in infants, 2 to 3 doses of Bexsero® 2 months apart + booster dose during the second year of life; in children 1-10 years of age, 2 doses of Bexsero® at least 2 months apart; in children >10 years of age and in adults, 2 doses of Bexsero® at least 1 month apart. If Trumenba® is utilized, the first 2 doses are to be given 1 month apart, followed by a 3rd dose within 6 months since the start of the cycle. |
| Czech Republic | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2020 | Recommended for the following groups:<br>1) All infants (fully reimbursed if immunization is started before age 6 months).<br>2) Children and adults with medical risk conditions (impaired spleen function, after hematopoietic cell transplantation, congenital or acquired immunodeficiencies, after an invasive meningococcal or pneumococcal infection).<br><br>*Schedule*: first dose of Bexsero® at age 2-3 months, second dose at age 4-6 months, third dose at age 12-15 months. Dosing schedule for other risk groups not specified. |
| Finland | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2020 | Recommended for the following groups:<br>1) Individuals with medical risk conditions (complement deficiencies, individuals starting treatment with eculizumab or ravulizumab, spleen deficiency, spleen failure including patients with sickle cell anemia and those with chronic graft-versus-host-disease following stem cell transplantation).<br><br>*Schedule*: in infants and children under age 2 years, 2-3 doses of Bexsero® at least 1-2 months apart, plus a possible booster dose; 2 doses at least 1 month apart in individuals older than 2 years of age. |
| France | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older<br><br>Note: not in the market | 2014 | Recommended for the following groups:<br>1) All infants. Recommendation introduced in 2021.<br>2) Individuals with medical risk conditions (complement deficiencies, individuals receiving anti-C5 treatments, functional or anatomic asplenia, after hematopoietic cell transplantation).<br>3) Individuals with increased risk of exposure (laboratory personnel working with meningococcal isolates).<br><br>*Schedule*: in infants 2 doses of Bexsero® at least 2 months apart, plus a booster dose at age 12-15 months or during the second year of life; in toddlers 1-2 years old, 2 doses at least 2 months apart, followed by a booster dose 12-23 months later; in children aged 2 and older, 2 doses at least 1 month apart, with a booster dose every 5 years. Individuals aged 10 years and older can be vaccinated with either Bexsero® or Trumenba®, and the latter should be given as per manufacturer's recommendations (2 or 3-dose schedule). |
| Germany | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2014 | Recommended for the following groups:<br>4) Individuals with medical risk conditions (complement deficiencies, individuals starting treatment with eculizumab, asplenia, hypogammaglobulinemia<br>5) Individuals with increased risk of exposure (laboratory personnel working with meningococcal isolates).<br><br>*Schedule*: 3 doses of Bexsero® in infants aged 2-5 months; 2 doses in children aged ≥ 6 months and in adults. Trumenba® can be given instead of Bexsero® to those aged 10 years and older, as per manufacturer's instructions (2- or 3-dose schedule). |

| Country | Approved MenB vaccines | | National vaccination policy | |
|---|---|---|---|---|
| | Bexsero® | Trumenba® | Year | Target group and recommended schedule |
| Greece | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2017 | Recommended for the following groups:<br><br>1) Infants, children, and adolescents with medical risk conditions (anatomical or functional asplenia, congenital or acquired complement deficiencies, individuals starting treatment with eculizumab).<br><br>*Schedule*: for Bexsero®, 3 doses at least 1 month apart are required if vaccination starts within age 6 months, followed by a booster dose at least 6 months later. 2 doses at least 2 months apart if vaccination starts between age 6 and 11 months, with a booster dose during the second year of life. 2 doses 2 months apart in older children up to age 10. 2 doses 1 month apart in children aged 11 and older. A 3-dose schedule is recommended for Trumenba® (0, 1-2, 6 months). |
| Hungary | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2018 | Recommended but subject to a fee, for the following groups:<br>1) Individuals under the age of 25.<br>2) Children and adults with medical risk conditions (asplenia, immunodeficiencies).<br><br>*Schedule*: in infants 3 doses of Bexsero® 1 month apart are required, followed by a booster dose during the second year of life; children aged 1 or older and adults need 2 doses 1 month apart. Trumenba® can be used in individuals aged 10 years and older as per manufacturer's instructions (2- or 3-dose schedule). |
| Ireland | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2016 | Recommended for the following groups:<br>1) All infants.<br>2) Individuals with medical risk conditions (impaired spleen function, prior to treatment with complement inhibitors, after hematopoietic stem cell transplantation, 6-months post-chemotherapy in children, certain solid organ transplant recipients).<br>3) Individuals at increased risk of exposure (laboratory personnel working with meningococcal isolates, household contacts of MenB cases).<br><br>*Schedule*: in infants 3 doses of Bexsero® are required, given at 2, 4 and 12 months of age. For children aged 1 and older, 2 doses are needed. Trumenba® available for use starting at age 10 (2 doses 6 months apart). |
| Italy | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2017 | Recommended for the following groups:<br><br>1) All infants.<br><br>*Schedule*: 4 doses of Bexsero® if vaccination cycle is started before 6 months of age, to be given at age 3, 5, 6 and 13-15 months. |
| Lithuania | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2015 | Recommended for the following groups:<br><br>1) All infants.<br>2) Individuals with medical risk conditions (asplenia, prior to treatment with complement inhibitors, after hematopoietic stem cell transplantation, kidney disease).<br><br>*Schedule*: in infants, 3 doses of Bexsero® to be given at age 3, 5, and 12-15 months. For older individuals, 2 doses of Bexsero® 2 months apart (booster dose after 5 years also recommended to individuals with asplenia). |

| Country | Approved MenB vaccines | | National vaccination policy | |
|---|---|---|---|---|
| | **Bexsero®** | **Trumenba®** | **Year** | **Target group and recommended schedule** |
| Malta | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2020 | Recommended for the following groups:<br>1) All infants.<br><br>*Schedule*: 3 doses of Bexsero® to be given at age 2, 4, and 12 months. |
| New Zealand | Approval: 2018<br><br>Indication: age 2 months and older | Not approved | 2020 | Recommended, but subject to a fee, for the following groups:<br>1) All infants, children and adults with medical risk conditions (congenital or acquired complement deficiencies, functional or anatomical asplenia, HIV infection, after hematopoietic stem cell transplantation, individuals receiving immunosuppressive treatments).<br>2) Individuals with increased risk of exposure (laboratory personnel working with meningococcal isolates, individuals living in communal or overcrowded accommodations).<br><br>*Schedule*: in infants, 2 doses of Bexsero® 2 months apart, followed by a booster dose during the second year of life; in children aged 1-10 years, 2 doses 2 months apart; in individuals aged 11-50 years, 2 doses 1 month apart. |
| Norway | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2014 | Recommended for the following groups:<br>1) Individuals with medical risk conditions (asplenia, congenital or acquired complement deficiencies, individuals starting treatment with eculizumab).<br>2) Individuals with increased risk of exposure (close contacts of cases, laboratory personnel working with meningococcal isolates, travel to areas with higher incidence of meningococcal B disease, adolescents participating in large gatherings, men who have sex with men).<br><br>*Schedule*: in infants 3 doses of Bexsero® are required (2 doses 2 months apart, and a third dose 6-8 months later); in children 1-2 years old, 2 doses 2 months apart are needed; in children older than 2, 2 doses 1 month apart. Trumenba® can be utilized in individuals aged 10 and older as per manufacturer's recommendations (2- or 3-dose schedule). |
| Poland | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2018 | Recommended, but subject to a fee. for the following groups:<br>1) All infants. Recommendation introduced in 2020,<br>2) Children and adults with medical risk conditions (congenital immunodeficiencies, functional or anatomical asplenia, HIV infection, individuals starting treatment with eculizumab, after hematopoietic stem cell transplantation, certain malignancies and rheumatic diseases).<br>3) Children and adults with increased risk of exposure (close contacts of cases, laboratory personnel, individuals living in overcrowded communities).<br><br>*Schedule*: vaccines to be administered as per manufacturer's instructions; no further details provided. |
| Portugal | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2020 | Recommended for the following groups:<br>1) All infants.<br>2) Individuals under age 50 with medical risk conditions (functional or anatomical asplenia, hyposplenia, congenital complement deficiencies, individuals starting treatment with eculizumab).<br><br>*Schedule*: in infants, 2 doses of Bexsero® at least 2 months apart (2 and 4 months of age), followed by a booster dose during the second year of life (12 months of age); in children 1-2 years of age, 2 doses 2 months apart, with a booster dose by the age of 5; children > 2 years old, 2 doses 2 months apart. Trumenba® can be given starting at age 10 as per manufacturer's instructions. |

| Country | Approved MenB vaccines | | National vaccination policy | |
|---|---|---|---|---|
| | Bexsero® | Trumenba® | Year | Target group and recommended schedule |
| San Marino | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2017 | Recommended for the following groups:<br>3) All infants.<br>4) Individuals with medical risk conditions (splenectomy).<br><br>*Schedule*: in infants, first 2 doses of Bexsero® to be given at 4 and 7 months of age, respectively, followed by a third booster dose to be given within the second year of life. Dosing schedule for older age groups not reported. |
| Spain | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2015 | Recommended for the following groups:<br>1) Individuals with medical risk conditions (complement deficiencies, individuals starting treatment with eculizumab, asplenia or severe spleen dysfunction).<br>2) Individuals with increased risk of exposure (laboratory personnel working with meningococcal isolates).<br><br>*Schedule*: in infants under 6 months of age, 3 doses of Bexsero® at least 1 month apart, followed by a booster dose during the second year of life; in infants older than 6 months, 2 doses at least 2 months apart, with a booster dose during the second year of life; children 1-10 years of age, 2 doses at least 2 months apart; children > 10 years and adults, 2 doses at least 1 month apart. Trumenba® can be used in individuals aged 10 and older as per manufacturer's instructions.<br><br>*Note*: Canary Islands and Castilla y Leon have introduced an infant immunization program in 2019. |
| United Kingdom | Approval: 2013<br><br>Indication: age 2 months and older | Approval: 2017<br><br>Indication: age 10 years and older | 2015 | Recommended for the following groups:<br><br>1) All infants.<br>2) Individuals with medical risk conditions (asplenia, splenic dysfunction, complement disorders, prior to treatment with eculizumab). Recommendation introduced in 2016.<br><br>*Schedule*: 2 doses of Bexsero® to be given at age 2 and 4 months, followed by a booster at 12 months of age; in older children and adults, 2 doses to be given 1-2 months apart. |
| United States | Approval: 2015<br><br>Indication: age 10 to 25 years | Approval: 2014<br><br>Indication: age 10 to 25 years | 2015 | Recommended for the following groups:<br>1) Individuals aged 16-23 years.<br>2) Individuals aged 10-25 years with medical risk conditions (persistent complement deficiencies, individuals starting treatment with complement inhibitors, anatomical or functional asplenia, HIV infection).<br>3) Individuals with increased risk of exposure (laboratory personnel working with meningococcal isolates, military recruits, men who have sex with men).<br><br>*Schedule*: 2 doses 1 month apart if Bexsero® is used; 2 doses 6 months apart if Trumenba is used in individuals aged 10 or older; for both vaccines, a booster dose is recommended under select circumstances. |
| Uruguay | Approval: 2014<br><br>Indication: age 2 months and older | Not approved | 2018 | Recommended for the following groups:<br>1) Individuals with medical risk conditions (hematopoietic stem cell transplantation, child malignancies, complement deficiencies, individuals starting treatment with eculizumab, functional or anatomical asplenia, HIV infection, primary and acquired immunodeficiencies).<br>2) Individuals with increased risk of exposure (laboratory personnel working with meningococcal isolates).<br><br>*Schedule*: in infants under 6 months of age, 3 doses of Bexsero® 1 month apart, with a booster dose during the second year of life; between age 6 months and 2 years, 2 doses 2 months apart, with a booster dose 12-24 months later; children aged 2-10 years, 2 doses at least 2 months apart; from age 11 onwards, 2 doses at least 1 month apart. |