What's new in pneumococcal disease control?

A report on the opportunities available to rapidly improve the impact of pneumonia vaccination programs in the context of tight budgets.

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World Immunization Week 2026

This report was produced by Secure PCV, a global network of scientific experts in pneumococcal vaccination dedicated to sustaining high coverage of pneumococcal conjugate vaccines (PCVs) to reduce child and adult mortality and morbidity and hasten achievement of the Sustainable Development Goals (SDGs).

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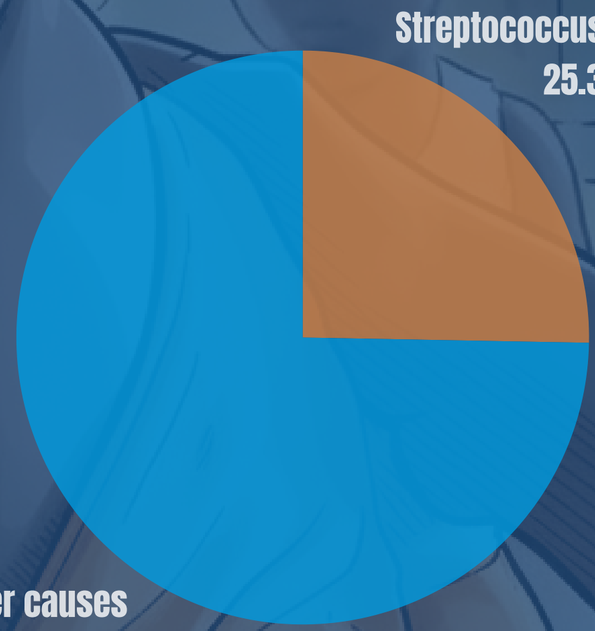
Why now?

- ***Pneumonia is the leading infectious cause of death among children and adults – 2.5 million deaths, including 610,000 among children under five***
- ***One quarter of all pneumonia deaths are caused by one bacteria which is vaccine-preventable - Streptococcus pneumoniae***
- ***Advances in vaccines, simplified dosing schedules, and secondary benefits make high-coverage pneumococcal vaccination programs even more cost-effective as vaccine budgets are squeezed***

Global pneumonia deaths, by cause



Global Burden of Disease, 2023

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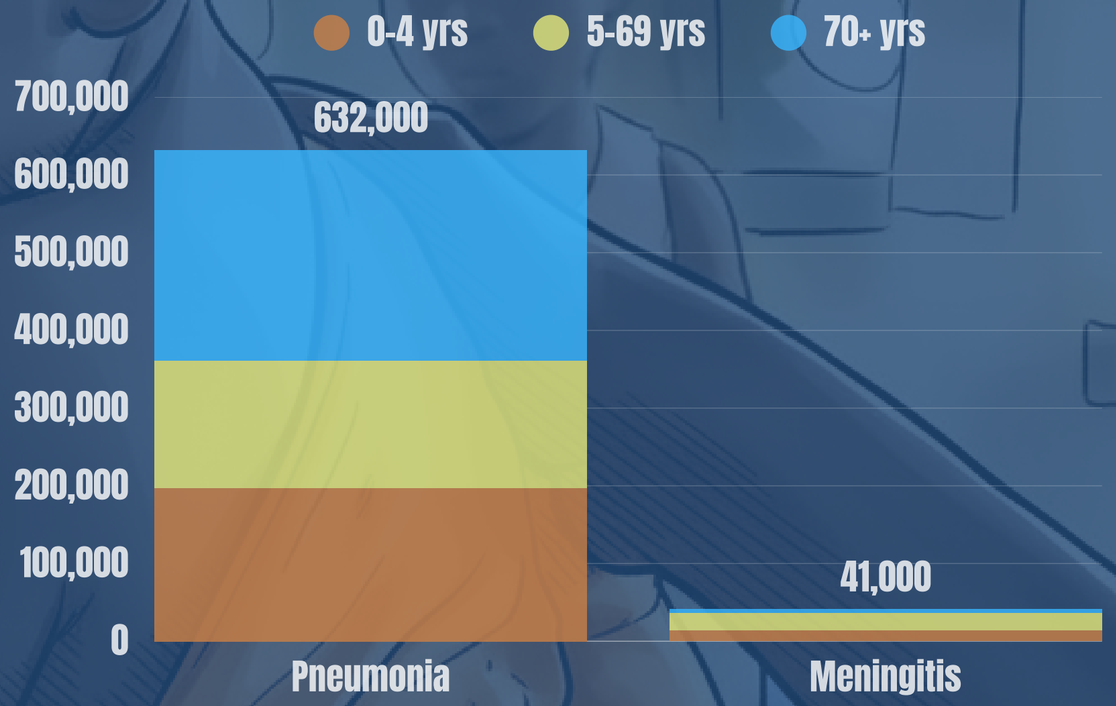
1. New Data on Disease Burden

- ***In 2023, pneumococcal disease caused 674,000 deaths across all ages***
  - *632,000 from pneumonia (25%)*
  - *41,000 from meningitis (16%)*
- ***Among children under five, 211,000 deaths***
  - *197,000 from pneumonia (32%)*
  - *14,000 from meningitis (16%)*
- ***In adults over 70, 275,000 deaths***
  - *271,000 from pneumonia (23%)*
  - *4,000 from meningitis (15%)*

Figure 2: Streptococcus pneumonaie deaths, by a



Global Burden of Disease, 2023

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1. New Data on Disease Burden

- *One third (218,000) of 674,000 deaths are in Africa*
  - *51% (108,000) of 211,000 global child deaths caused by the bacterium are in Africa*
- *CHAMPS data show leading bacterial causes of child pneumonia deaths in community*
  - *Streptococcus pneumoniae (35%)*
  - *Klebsiella pneumoniae (26%)*
  - *Haemophilus influenzae (12%)*
- *Streptococcus pneumoniae is responsible for 10% of hospital-acquired pneumonia deaths in children*

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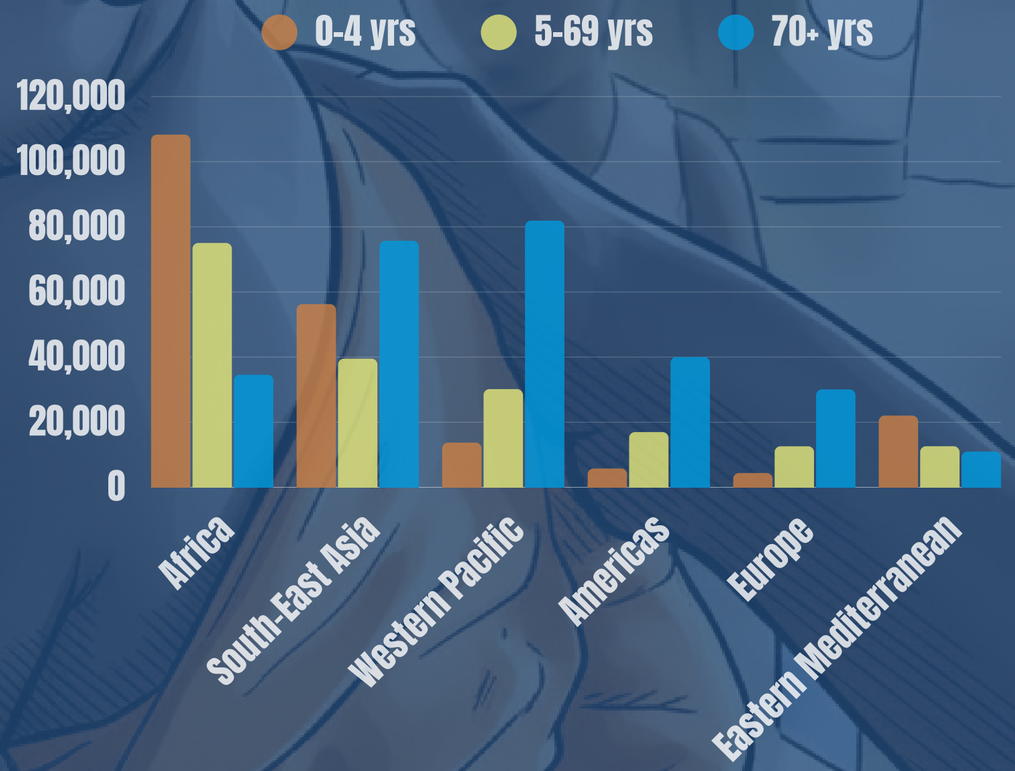
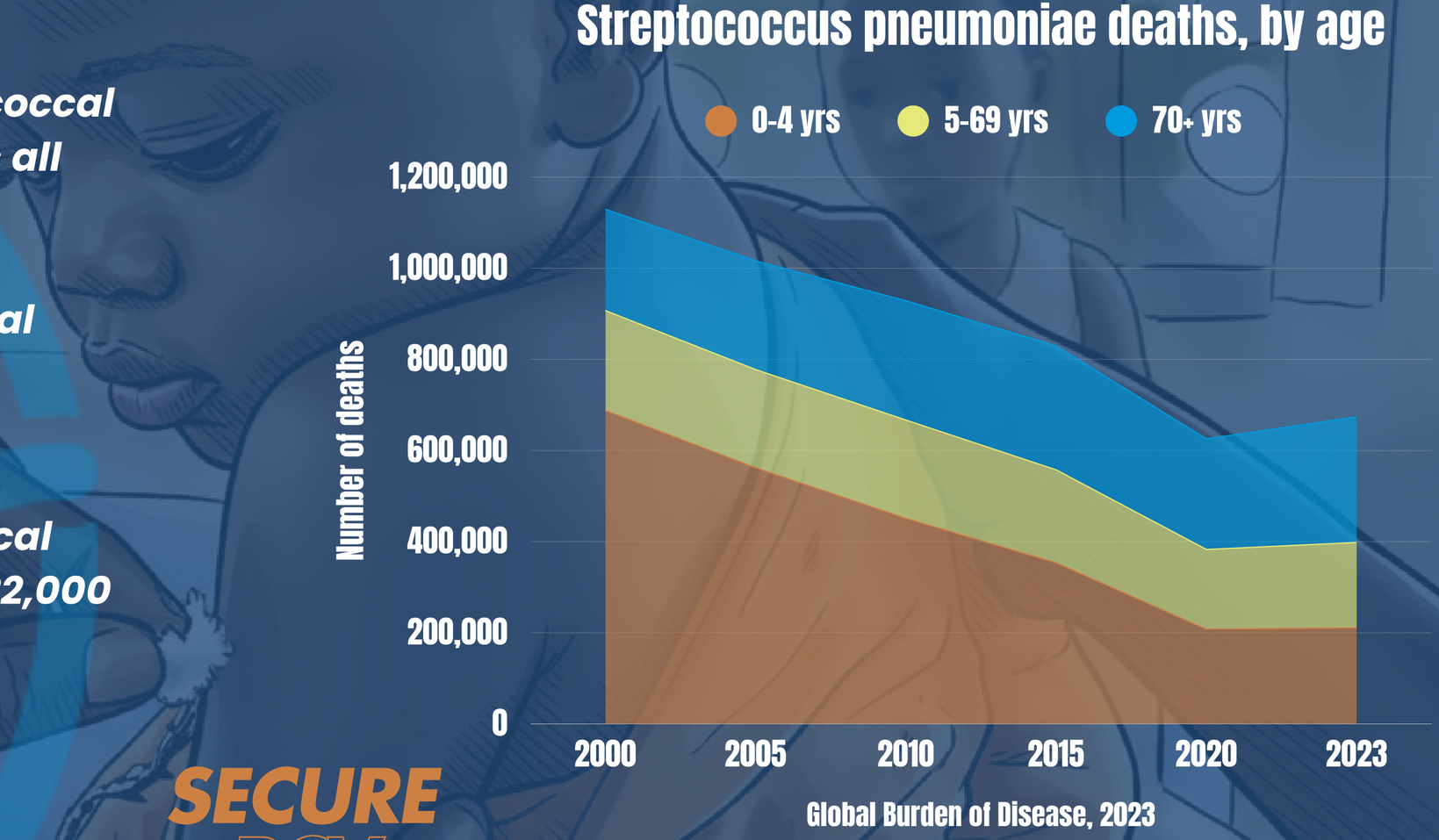
Figure 3: Streptococcus pneumoniae deaths, by age a
WHO region



Global Burden of Disease, 2023

1. New Data on Disease Burden

- ***Between 2000 and 2023 pneumococcal disease deaths fell by 40% across all ages, from 1.1 million to 674,000***
- ***Among under fives, pneumococcal disease deaths fell by 70% from 688,000 to 211,000***
- ***Among the over 70s, pneumococcal deaths increased by 24%, from 222,000 to 275,000***



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1. New Data on Disease Burden

- *Pneumococcal serotype distribution is shifting rapidly*
  - *13 vaccine serotypes (1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, and 23F) declining where PCV coverage is high*
  - *Non-PCV serotypes (6C/D, 23A, 15A, 31) increasingly observed in high-PCV settings*

With both persistent vaccine-targeted serotypes and emerging non-vaccine types contributing to disease, there is a need for serotype-specific, regional surveillance to track which serotypes are causing severe disease. Without it, vaccine policy may miss the strains most likely to cause deaths.

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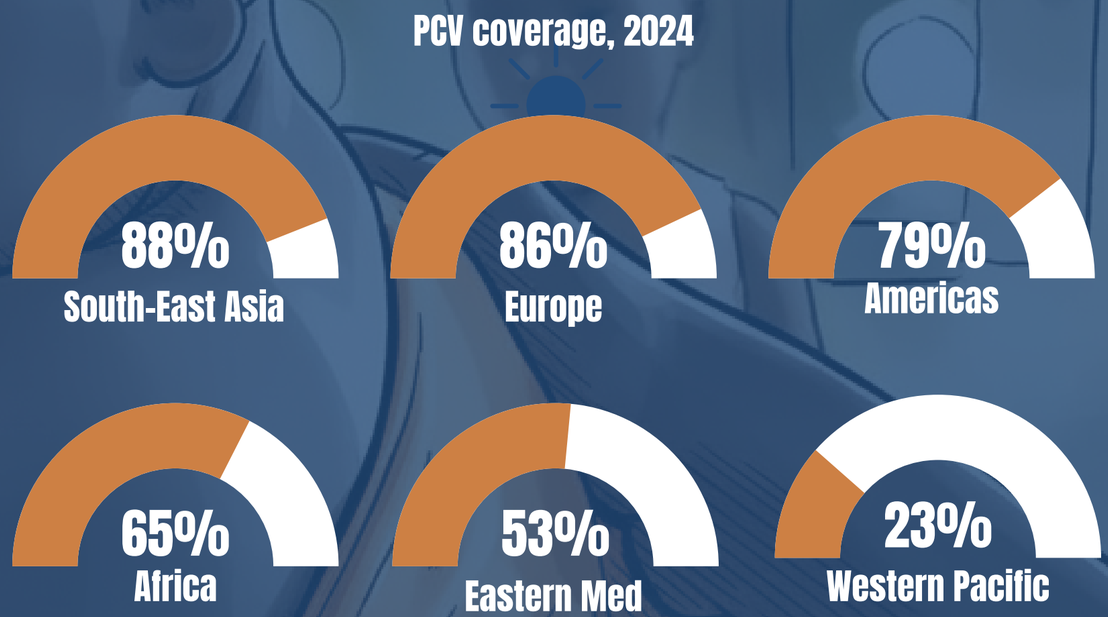
2. New Advances in Vaccines

- ***Pneumococcal***
  - ***<u>Lower-cost</u> PCV US$2 per dose for low- and middle-income countries (9 LMICs using)***
  - ***<u>Higher-valent</u> PCV15, PCV20, PCV21 (40 HICs using)***
- ***RSV maternal vaccine (2 LMICs using) and monoclonal antibodies (only HICs using)***
- ***Group B Streptococcus (GBS), Klebsiella pneumoniae (pipeline)***



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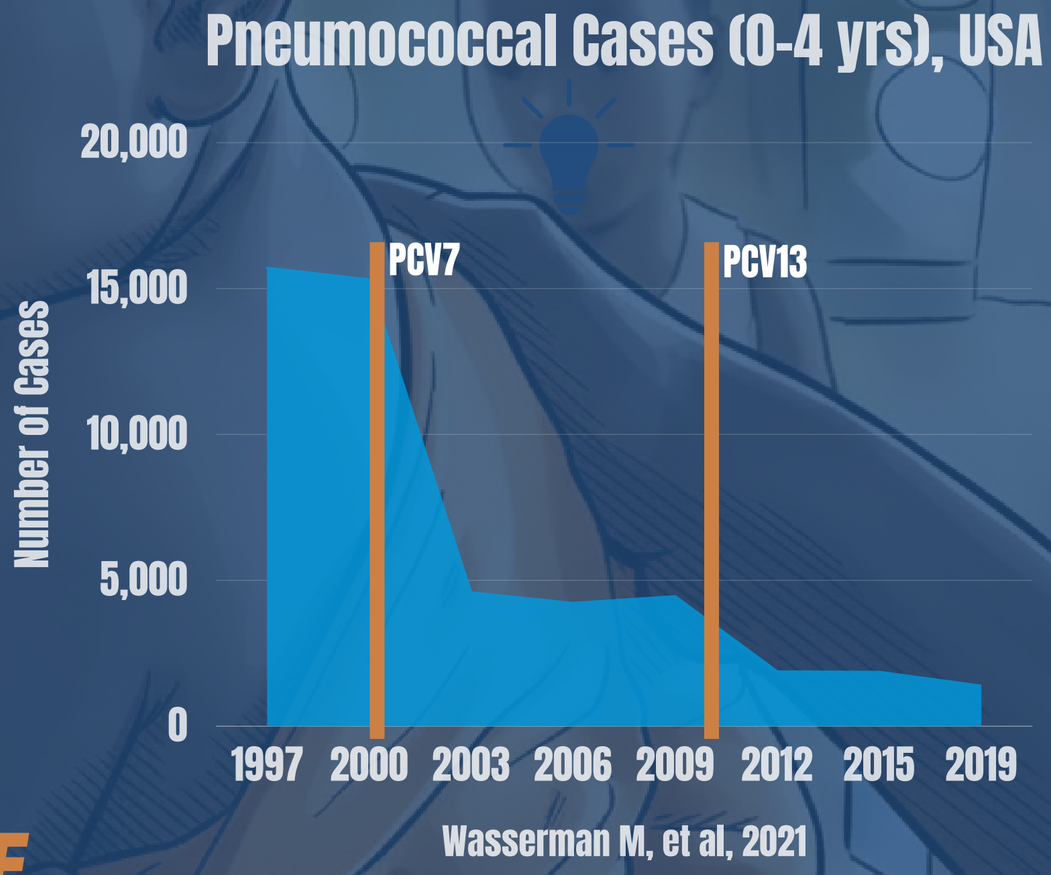
2. New Advances in Vaccines

- ***Current PCVs have already cut pneumococcal disease among children significantly and also reduced disease among adults, generating strong "herd immunity"***

- ***Higher-valent PCVs could prevent a substantial portion of remaining pneumococcal cases in countries with high PCV coverage, depending on which serotypes are common locally but almost all of this evidence comes from high-income settings***

- ***Pneumococcal vaccines could save also more lives by targeting immunocompromised adults, complementing age-based strategies***



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2. New Advances in Vaccines

- *In the future, protein-based pneumococcal vaccines, such as a candidate from Virometix AG now in early trials, could protect against all serotypes, representing a potential step toward universal pneumococcal prevention*

- *Note conjugate vaccines (e.g., PCV 10, 13, 15, 20, 21) pair sugar with protein for stronger, longer protection. polysaccharides (e.g., PPSV23) use sugar alone (weaker, shorter), while emerging protein vaccines use protein only to trigger strong immunity*

Higher-valent vaccines aren't always better; their extra coverage only helps if the additional serotypes are common locally. Price, local epidemiology, and delivery costs also affect which vaccine is most appropriate.

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3. New Dosing Schedules

- ***March 2025:*** ***Systematic Review by the Strategic Advisory Group of Experts on Immunization*** ***(SAGE) found that the PCV 1+1 schedule did not result in worse disease outcomes compared with higher-dose schedules and was equally effective at reducing transmission***

- ***September 2025:*** ***WHO Position Paper*** ***endorsing PCV 1+1 schedules—one primary dose and one booster—for countries with strong PCV coverage and surveillance systems***

- ***Strong results will depend on high PCV coverage and strong health systems - UK evidence!***

PCV Schedules		
Schedule	**Primary dose/s**	**Booster**
1+1 (2 doses)	**≥6 weeks**	**≥9 months**
2+1 (3 doses)	**6, 14 weeks**	**9-12 months**
3+0 (3 doses)	**6, 10, 14 weeks**	**NA**
3+1 (4 doses)	**6, 10, 14 weeks**	**12-15 months**
Fractional (0.2 mL or 40% of 1 dose)	**As per country dosing schedule**	

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3. New Dosing Schedules

- ***Countries eligible for PCV 1+1 should demonstrate:***
  - ***average PCV coverage of ≥80% for five preceding years***
  - ***OR recent multi-age PCV campaigns with ≥80% coverage among children under five years***
  - ***OR low levels of vaccine-type carriage or disease, as indicated by high-quality surveillance or carriage surveys***
  - ***AND first measles vaccine coverage ≥80% for five preceding years (or other 9-18 month vaccines - PCV, polio, yellow fever)***

There are 47 LMICs with average PCV coverage ≥80% over the past five years who are eligible for a 1+1 switch according to WHO guidance, 25 are Gavi-eligible, including 19 in Africa.

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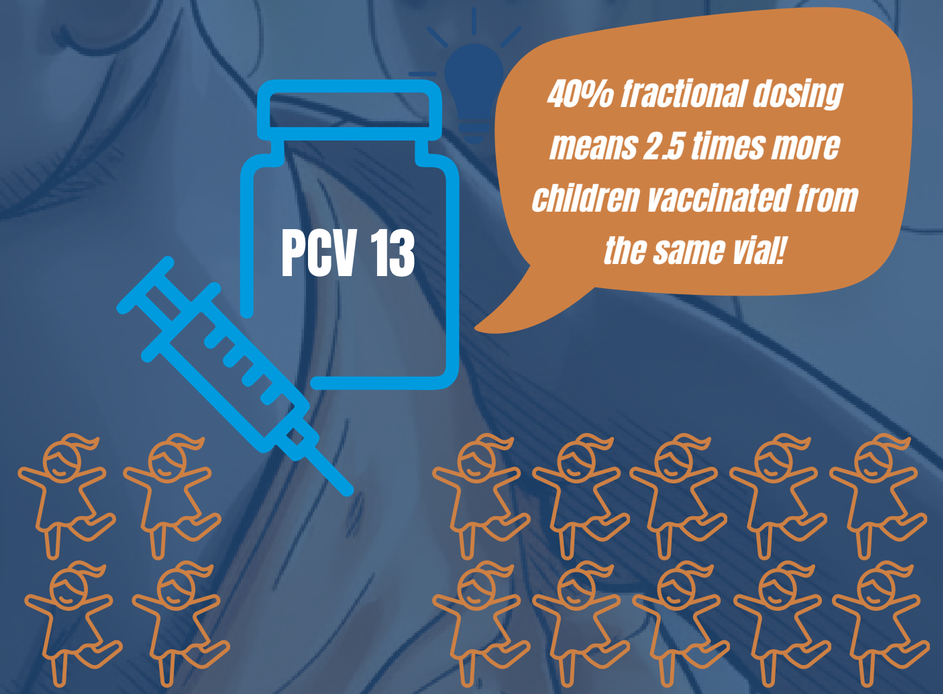
3. New Dosing Schedules

- *WHO also approved "fractional" doses where each child receives 40% of PCV13 for three doses, for use in emergencies*

- *Countries meeting criteria for both should assess costs, risks, and benefits, conduct surveillance to detect unexpected increases in pneumococcal transmission, and be ready to run catch-up campaigns or return to standard schedule if protection declines*

- *New Vaccine Prioritization and Portfolio Optimization (VPOP) toolkit on NITAG Resource Center can help countries make smart decisions*



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Countries eligible to switch to PCV 1+1

Group	Country	Current PCV Schedule	Product	Eligibility (WUENIC 2024)
Gavi Initial Self-financing	Burkina Faso	2, 4, 9 months	Prevnar13	PCV3 91% and MCV1 88%.
	Burundi	6, 10, 14 weeks	Prevnar13	PCV3 88% and MCV1 86%.
	Eritrea	6, 10, 14 weeks	Prevnar13	PCV3 95% and MCV1 93%.
	The Gambia	6, 10, 14 weeks	Prevnar13	PCV3 80% and MCV1 83%
	Malawi	6, 10, 14 weeks	Prevnar13	PCV3 92% and MCV1 89%.
	Niger	6, 10, 14 weeks	Prevnar13	PCV3 86% and MCV1 81%
	Rwanda	6, 10, 14 weeks	Prevnar13	PCV3 98% and MCV1 97%.
	Sierra Leone	6, 10, 14 weeks	Prevnar13	PCV3 93% and MCV1 90%.
	Togo	6, 10, 14 weeks	Prevnar13	PCV 89% and MCV1 81%
	Uganda	6, 10, 14 weeks	Prevnar13	PCV3 91% and MCV1 90%.
Gavi Prepatory Transition	Cambodia	6, 10, 14 weeks	Prevnar13	PCV3 83% and MCV1 83%.
	Kenya	6, 10, 14 weeks	PNEUMOSIL	PCV3 89% and MCV1 88%
	Kyrgyzstan	2, 5, 12 months	PNEUMOSIL	PCV3 86% and MCV1 96%.
	Lesotho	6, 10, 14 weeks	Prevnar13	PCV3 86% and MCV1 90%.

Group	Country	Current PCV Schedule	Product	Eligibility (WUENIC 2024)
	Mauritania	6, 10, 14 weeks	Prevnar13	PCV3 85% and MCV1 93%.
	Nepal	6, 10 weeks, 9 months	Prevnar13	PCV3 96% and MCV1 97%.
	Pakistan	6, 10, 14 weeks	Prevnar13	PCV3 87% and MCV1 86%.
	Senegal	6, 10, 14 weeks	Prevnar13	PCV3 91% and MCV1 87%
	Solomon Islands	6, 10, 14 weeks	Prevnar13	PCV3 88%and MCV1 78%
	Tanzania	6, 10, 14 weeks	Prevnar13	PCV3 82% and MCV1 84%
	Zambia	6, 10, 14 weeks	Synflorix	PCV3 91% and MCV1 88%
	Zimbabwe	6, 10, 14 weeks	Prevnar13	PCV3 91% and MCV1 90%
Gavi Accelerated Transition	Bangladesh	6, 10, 14 weeks	Synflorix	PCV3 97% and MCV1 96%
	Ghana	6, 10, 14 weeks	Prevnar13	PCV3 96% and MCV1 90%
	São Tomé and Principe	6, 10, 14 weeks	Prevnar13	PCV3 86% and MCV1 87%

Non-Gavi middle-income countries eligible to switch include Algeria, Armenia, Bhutan, Botswana, Colombia, El Salvador, Fiji, Georgia, Guatemala, Kazakhstan, Kiribati, Malaysia, Mauritius, Mongolia, Morocco, Serbia, South Africa, Tunisia, Turkiye, Turmenistan, Tonga, Tunisia, and Uzbekistan.

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4. New Financing Arrangements

- *Gavi is now providing countries with "one budget, one grant, one application" instead of multiple funding streams for vaccines, health systems, and campaigns*
- *This is designed to reduce administrative burdens and give governments greater flexibility to prioritize vaccines and allocate resources according to their national strategies*
- *Gavi is also offering multi-year co-financing waivers for fragile states and small island developing states — and allowing more nuanced support as economies grow*

Under Gavi's new funding system, countries face incentives to choose the most cost-effective vaccines and schedules. For eligible countries more affordable PCVs and reduced dose schedules are promising options to increase the cost-effectiveness of vaccine programs.

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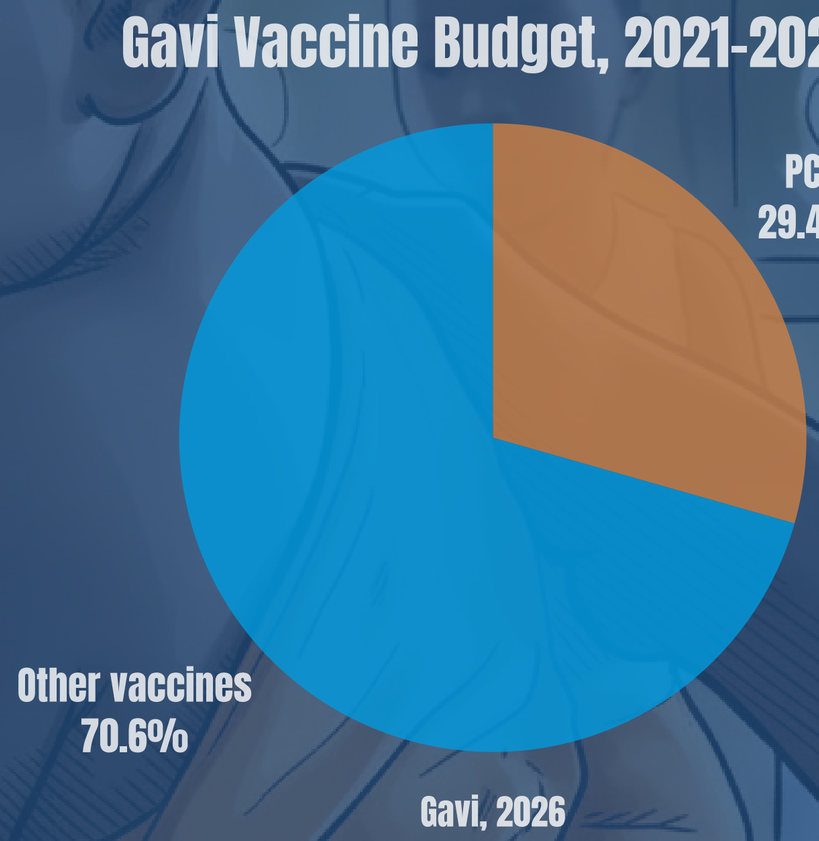
4. New Financing Arrangements

- *There is now a strong incentive to reduce the cost of PCV programs; Gavi's largest vaccine expense—US$1.47 billion of its US$5 billion vaccine spend from 2021 to 2025—and a major driver of country co-financing*

- *Gavi-eligible countries switch to the most affordable PCVs and 1+1 schedules, freeing up resources to invest in other vaccines (e.g., RSV)*

- *Non-Gavi countries also pay high prices for PCVs—US$12 to $15 per dose or more—and in high-income markets, PCVs can cost hundreds of dollars per dose*



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4. New Financing Arrangements

- *Eligible middle-income countries can secure the lowest priced PCVs (US$2 per dose) if they purchase via pooled procurement mechanisms offered by UNICEF and PAHO (only Cuba does)*

- *Efforts to manufacturing PCVs in Africa and Latin America could lower prices.*
  - *South Africa's Biovac Institute and Pfizer (PCV 13)*
  - *Argentina's Sinergium Biotech and Pfizer (PCV20)*

Gavi 6.0 means countries face financial incentives to reduce the costs of PCV programs, including by choosing more affordable PCVs and simpler schedules. This can free funds to introduce other vaccines like RSV. Evidence shows RSV and PCVs work synergistically, preventing more pneumonia together than alone.

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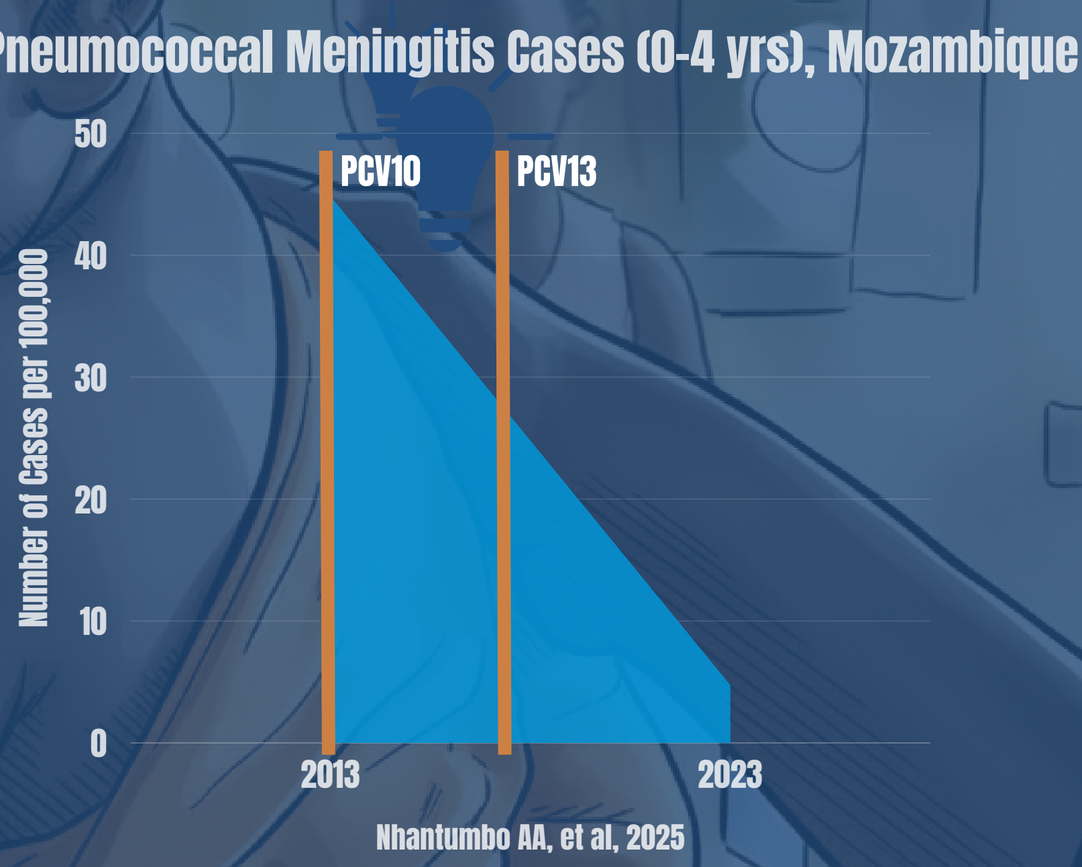
5. New Evidence of Other Benefits

- ***PCVs can generate important secondary benefits, including:***
  - ***fewer disabilities from meningitis (hearing loss, brain injury, learning difficulties, seizures, vision problems, etc.)***
  - ***fewer outpatient and inpatient visits for infectious (e.g., TB, HIV) and chronic lung conditions (e.g., COPD)***
  - ***fewer antibiotic prescriptions, slowing antimicrobial resistance (AMR)***



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5. New Evidence of Other Benefits

- *PCVs provide benefits to patients with chronic lung disease, reducing COPD exacerbations and hospitalizations and improving long-term survival*
- *Higher-valent PCVs reduce millions of antibiotic prescriptions and resistant infections over 25 years compared with PCV13 or PCV15*
- *Higher-valent PCVs reduce healthcare costs — especially for children with chronic or immunocompromising conditions*

PCV provides reduces long-term neurological and developmental complications from meningitis, protects people with infectious and chronic lung conditions, and slows antimicrobial resistance. All of these effects lower healthcare expenditures for governments and out-of-pocket costs for families.

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What Now?

- *Countries can strengthen pneumonia control by switching PCV products and/or dosing, and with the savings introduce new pneumonia vaccines (e.g., RSV) with the greatest lifesaving potential*

- *This optimization could reduce more child deaths for minimal or no additional budget outlay, enabling countries to accelerate progress in the face of fiscal constraints*

- *This is one of the most promising child survival strategies in the years remaining to 2030*

With powerful vaccines targeting leading bacterial (PCV) and viral (RSV) causes of pneumonia in children and adults, it has never been easier for governments to prevent respiratory infections. Those that invest in pneumonia control now will reap significant health and economic benefits in the decades to come.

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Important Information

- Global NITAG Network, Vaccine Prioritization and Portfolio Optimization (VPOP) toolkit, January 2026
- WHO Position Paper: Pneumococcal conjugate vaccines in infants and children aged <5 years, September 2025
- SAGE Report: Pneumococcal conjugate vaccine reduced dosing schedule: a systematic review and meta-analysis, March 2025
- WHO Vaccine Evidence Compendium: PCV, December 2025
- Invasive pneumococcal disease 3 years after introduction of a reduced 1 + 1 infant 13-valent pneumococcal conjugate vaccine immunisation schedule in England, Lancet Infectious Diseases, May 2024
- WHO Considerations for Pneumococcal Conjugate Vaccine (PCV) Product Choice, September 2021
- WHO Considerations for pneumococcal vaccination in older adults, June 2021

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