What options are available to countries who want to protect their children with one of the leading pneumonia-fighting vaccines - the pneumococcal conjugate vaccine (PCV) - but who cannot raise enough financing from national treasuries?

This report shares the experiences of low- and middle-income countries who have successfully sourced PCV financing externally. Most have now achieved very high rates of PCV coverage.

They include countries eligible for support from Gavi, the Vaccine Alliance (Gavi) - Bangladesh and Kiribati - and countries that have never been eligible due to average Gross National Incomes (GNI) per capita above Gavi thresholds, including Fiji, Nauru, Tonga, Tuvalu, Niue, Tokelau, Vanuatu, and the Cook Islands.

The purpose of highlighting these case studies is to provide the countries yet to introduce PCV with examples of how others have successfully sourced external financing for this life-saving vaccine.

As pneumonia is the leading infectious killer of children, sustained high coverage of the PCV is critical to the achievement of Sustainable Development Goal for child survival - no more than 25 child deaths for every 1,000 children born by 2030.
Three-quarters of the world’s countries have introduced PCV to reduce pneumonia deaths among children. Only 49 have not (see Annex A).

Countries with average GNI per capita below a certain level have been able to introduce PCV with financial support from Gavi. In contrast, higher-income countries have not been eligible for Gavi support and have to cover the costs from their own budgets.

Over time, as a country’s GNI grows, so does the Gavi co-financing requirement, until countries completely transition out of Gavi support. To date, 16 have done so successfully according to Gavi, including Angola, Armenia, Azerbaijan, Bhutan, Bolivia, Congo, Cuba, Georgia, Guyana, Honduras, Indonesia, Kiribati, Moldova, Mongolia, Sri Lanka and Ukraine.

Among the 49 countries yet to introduce PCV, eight are eligible for Gavi support, including Chad, Comoros, Guinea, Somalia, South Sudan, Tajikistan, Syria, and North Korea.

The remaining 41 countries will not receive financial support from Gavi and will need to finance the costs of PCV themselves. As most of the countries don’t have access to the reduced PCV prices Gavi has negotiated with PCV makers Pfizer, GSK and the Serum Institute of India, they face even higher costs.

Several countries from both groups - Gavi-eligible and not - have reported difficulties financing PCV from national treasuries and have indicated that price is a major factor in the government’s decision not to introduce, or to delay introduction, of the vaccine.(1)

Throughout Gavi’s history, eligible countries have sourced their co-financing obligations from a variety of sources external to national treasuries, including grants from bilateral or multilateral agencies, grant portions of development loans, debt relief proceeds, Sector Wide Approaches (SWAs) promoted by the World Bank, and private philanthropy.

A Gavi review in 2008 reported that the most common sources of additional vaccine funding were from donors, other governments, and the private sector.(2)
The following case studies of LMICs externally sourcing their PCV co-financing are of relevance for all 49 LMICs yet to introduce PCV.

But the information is of special value to the Gavi-eligible countries with very low GNI, including Somalia, South Sudan, Guinea, Chad, Comoros, Syria, and North Korea, because they struggle to source the domestic financing necessary to qualify for Gavi assistance.

Further, if this information can accelerate PCV introduction in the middle-income countries with heavy burdens of child pneumonia deaths, including China, Egypt, Viet Nam, Iran, Thailand, Ukraine, Malaysia, and Sri Lanka, many deaths could be prevented.

If all 49 countries introduced the PCV, an estimated 220,000 child deaths could be prevented by 2030 - providing a major boost to national child survival efforts.(5)

CASE STUDY: FIJI

In 2012, Fiji, a middle-income country ineligible for Gavi support, announced the introduction of the PCV with four years of financial support from the Australian Department of Foreign Affairs and Trade (DFAT - then AusAID).

At the time, DFAT’s, Fiji Health Sector Support Program also covered the costs of rotavirus and human papilloma virus (HPV) vaccine introduction.

DFAT funding was used for vaccine procurement, training of nurses in immunization delivery, and a communications strategy to raise awareness of the three vaccines with parents and families.

Fiji opted to introduce the ten-valent PCV using three primary doses and no booster dose (i.e., 3 + 0 schedule). DFAT also supported a PCV impact evaluation which found that case fatality rates for children hospitalized with pneumonia, bronchiolitis and asthma had fallen by 39% since introduction.(6)

After three years, the Fiji Government took over the costs of PCV financing switching to the more affordable Pneumosil vaccine from the Serum Institute of India.

DFAT support enabled Fiji to become the first country in the world to introduce the PCV, and rotavirus and HPV vaccines simultaneously into the public health system, making international medical history.

In 2020, PCV coverage was 99% in Fiji, according to official WHO and UNICEF estimates.(7) Note in 2015 the Solomon Islands also introduced PCV with financial support from the Australian and New Zealand Governments and PCV coverage was 93% in 2020.

CASE STUDY: BANGLADESH

In 2015, Bangladesh a low-income country eligible for Gavi support, introduced a ten-valent PCV into the national routine immunization program with financial support from the World Bank, becoming the second South Asian country to do so after Pakistan.

Bangladesh received 80% of the costs from Gavi and sourced 20% from the World Bank via a Common Basket Fund, a mechanism for pooling funds from various sources, typically governments, donors and the private sector to support priorities and ensure adequate resource allocation for agreed upon program areas. Like SWAps, basket funds are government-led mechanisms that pool and manage funds from multiple contributors to finance shared priorities.

An evaluation of the PCV concluded that it was 90% effective in preventing invasive pneumococcal disease among children in Bangladesh.(8)

PCV coverage was 99% in Bangladesh in 2020 according to official WHO and UNICEF estimates.
CASE STUDY: PACIFIC ISLANDS I

In 2018, Tonga, Samoa, Vanuatu, and Tuvalu received $US25 million in loans and a grant from the Asian Development Bank (ADB) to introduce PCV.

This support enabled the countries to introduce PCV alongside rotavirus and HPV vaccines. All four countries are middle-income and ineligible for Gavi support.

The ADB provided Samoa with $US7,500,000, Tonga with $US3,850,000, Tuvalu with $US2,500,000, and Vanuatu with $US9,000,000 from their Special Funds Resources for the Systems Strengthening for Effective Coverage of New Vaccines in the Pacific Project.

Vanuatu received an ADB concessional loan of $2,250,000 to repay with interest of 1% per year during the grace period and 1.5% thereafter; for a term of 32 years, including a grace period of 8 years.

To reduce the price of PCV, which the ADB acknowledges as prohibitive for middle-income countries with small population sizes and weak individual purchasing power, the countries were able to pool procurement through UNICEF’s Vaccine Independence Initiative (VII).

Thirteen Pacific Island countries - the majority middle-income - procure vaccines, auto-disable syringes, and safety boxes through the VII. The VII was initiated in Pacific Island countries in 1995 to assist with the procurement of vaccines given the very low populations and vast geographical dispersion. It is also now used by other countries.

In 2021, UNICEF reported that each of the four countries will procure vaccines, cold chain equipment, and associated services from UNICEF through direct contracting.

The pandemic delayed the introduction of PCV in these countries until August 2021. This is why WHO/UNICEF estimated that PCV coverage was 0% across the four countries in 2020.

CASE STUDY: PACIFIC ISLANDS II

In 2021 Rotary Australia and New Zealand announced the "Give Every Child A Future" campaign, a multi-million dollar partnership with UNICEF to support the introduction of PCV, rotavirus, and HPV across the Cook Islands, Kiribati, Nauru, Niue, Samoa, Tokelau, Tonga, Tuvalu, and Vanuatu.

More than 100,000 children will be vaccinated during the three-year partnership. The funding will also update national immunization and supply chain management policies, upgrade cold chain equipment, improve immunization reporting, and integrate other essential health system strengthening activities with vaccination services.

Rotary Australia and New Zealand will also support public health authorities in Pacific Island countries to engage communities on the importance of being vaccinated to save lives, and address misinformation about vaccination.

Note Kiribati introduced PCV in 2013 with Gavi support and subsequently transitioned out.

WHO/UNICEF estimate that PCV coverage was 91% in Kiribati and 0% in the other countries in 2020. Estimates are not available for Tokelau.
Below are the 49 countries yet to introduce the PCV, including eight low-income, 30 middle-income, and 11 high-income, according to the latest World Bank definitions. They are listed below in order of population size. Countries eligible for financial support from Gavi are highlighted in green.

**Low-income (8)**

Venezuela (unclassified) | North Korea | Syria | Chad | Somalia | Guinea | South Sudan | Comoros

**Middle-income (30)**

China | Egypt | Viet Nam | Iran | Thailand | Ukraine | Malaysia | Sri Lanka | Cuba | Jordan | Belarus | Tajikistan | Croatia | Bosnia and Herzegovina | Jamaica | Gabon | Equatorial Guinea | Timor-Leste | Maldives | Montenegro | Suriname | Cabo Verde | Belize | Vanuatu | Samoa | Grenada | Tonga | Dominica | Cook Islands | Tuvalu

*Note WHO and UNICEF estimate that Iraq’s PCV coverage fell from 37% to 0% from 2019 to 2020*

**High-income (11)**

Czechia | Austria | Estonia | Malta | Brunei Darussalam | Saint Lucia | Saint Vincent and the Grenadines | Antigua and Barbuda | Saint Kitts and Nevis | Monaco | Nauru

If 20 of these countries introduce the PCV sustaining high coverage to 2030, an estimated 220,000 child deaths could be prevented (map below).

**These 20 countries could save 220,000 children with high coverage of the pneumococcal conjugate vaccine (PCV) by 2030**

1. China  
2. Chad  
3. Somalia  
4. South Sudan  
5. Guinea  
6. Egypt  
7. Iran  
8. Viet Nam  
9. Tajikistan  
10. North Korea  
11. Venezuela  
12. Timor Leste  
13. Thailand  
14. Comoros  
15. Jordan  
16. Syria  
17. Ukraine  
18. Sri Lanka  
19. Cuba  
20. Cabo Verde

Source: Vaccine Impact Modelling Consortium
(1) See Every Breath Counts, 2022. Introducing PCV in Somalia, South Sudan, Guinea and Chad, and Available at: Every Breath Counts, 2021. LMIC Pneumonia Roundtables Report. Available at


(5) Department of Infectious Disease Epidemiology, Imperial College London. Vaccine Impact Modeling Consortium (VIMC). Available at: https://www.vaccineimpact.org/dataviz/

(6) Reyburn R; Tuivaga E; Nguyen CD; Ratu FT; Nand D; Kado J; Tikaduadua L; Jenkins K; de Campo M; Kama M; Devi R; Rafai E; Weinberger DM; Mulholland EK; Russell FM; (n.d.). Effect of ten-valent pneumococcal conjugate vaccine introduction on Pneumonia Hospital admissions in Fiji: A Time-series analysis. The Lancet. Global health. Retrieved May 11, 2022, from https://pubmed.ncbi.nlm.nih.gov/33227258/


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