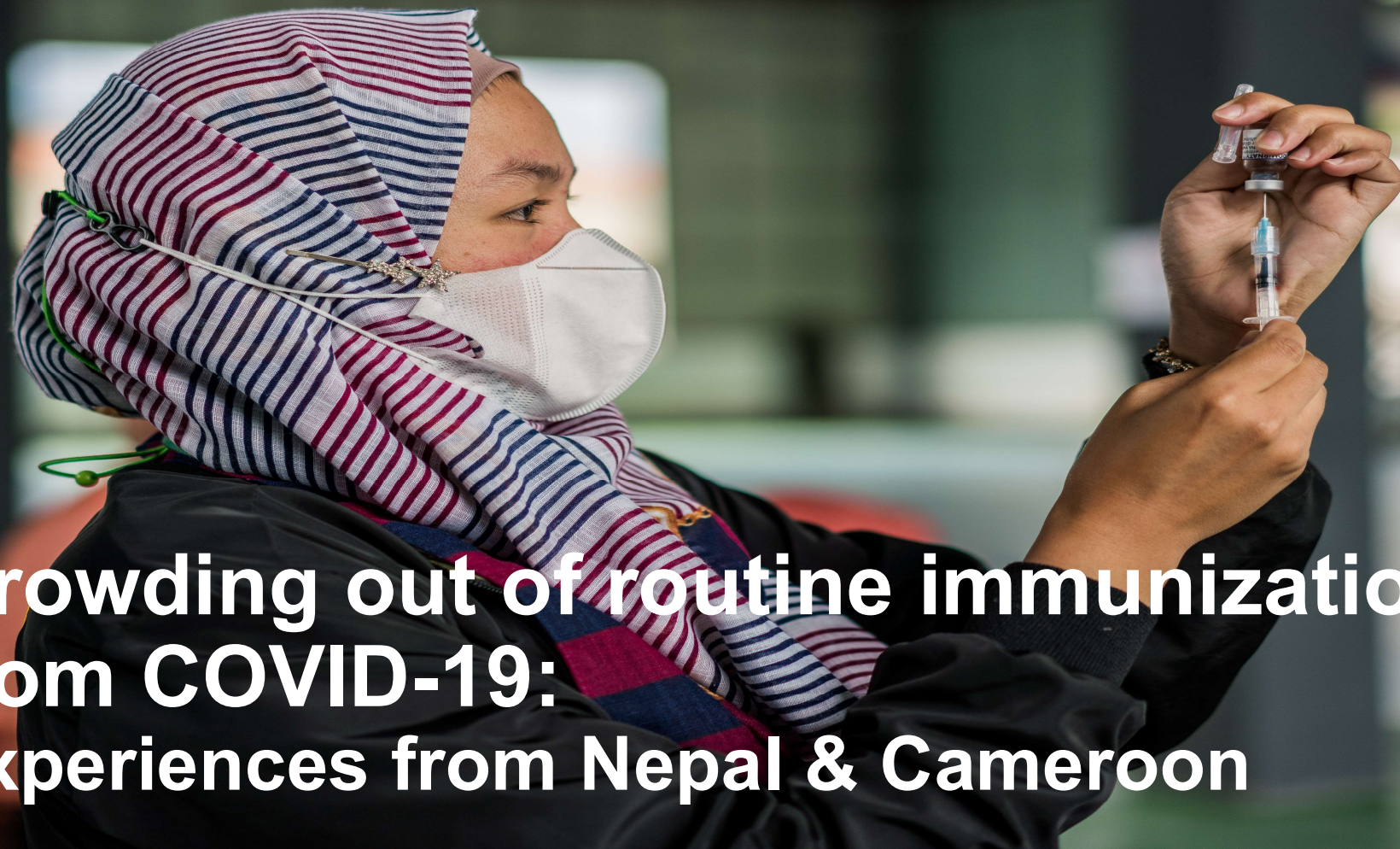


7th Global Symposium on Health Systems Research, Bogota, Colombia



The financing and delivery of immunization

Crowding out of routine immunization from COVID-19: Experiences from Nepal & Cameroon



Assessment of crowding out of childhood immunization expenditures due to COVID-19 response

Cameroon

Nepal

Pakistan

Assess whether/to what extent expenditures for COVID-19 interventions, with specific focus on COVID-19 vaccine procurement and delivery, are crowding-out expenditures for childhood immunization.

Budget analysis complimented by qualitative interviews to understand the budget process and budget decisions

Objectives

1. Identify and describe how programmatic areas of interest are budgeted for within the national health budget, including but not limited to (1) childhood immunization, and (2) COVID-19 vaccine procurement and delivery
2. Assess trends in approved budget allocations for each programmatic area of interest between 2018 – 2022
3. Assess budget execution and expenditure in programmatic areas of interest between 2018 – 2021
4. Examine funding from government and external sources for the programmatic areas of interest, between 2018 – 2021
5. Develop country-specific and globally relevant recommendations to protect and maintain investment in childhood immunization

Economic and routine immunization indicators

Indicator	Cameroon	Nepal	Pakistan
2021 GDP per capita	US\$ 1,590	US\$ 1,230	US\$ 1,500
2022 population	28 million	31 million	236 million
Vaccine coverage			
• 2019 DTP3 coverage	67%	93%	84%
• 2020 DTP3 coverage	69%	84%	77%
• 2021 DTP coverage	69%	91%	83%
Gavi transition phase	Preparatory transition	Preparatory transition	Preparatory transition

Sources: World Bank (<https://data.worldbank.org/indicator/NY.GNP.PCAP.CD>)
 UN Population Division (<https://population.un.org/wpp/>)
 WUENIC vaccine coverage data (<https://data.unicef.org/topic/child-health/immunization/>)

COVID-19 vaccine indicators

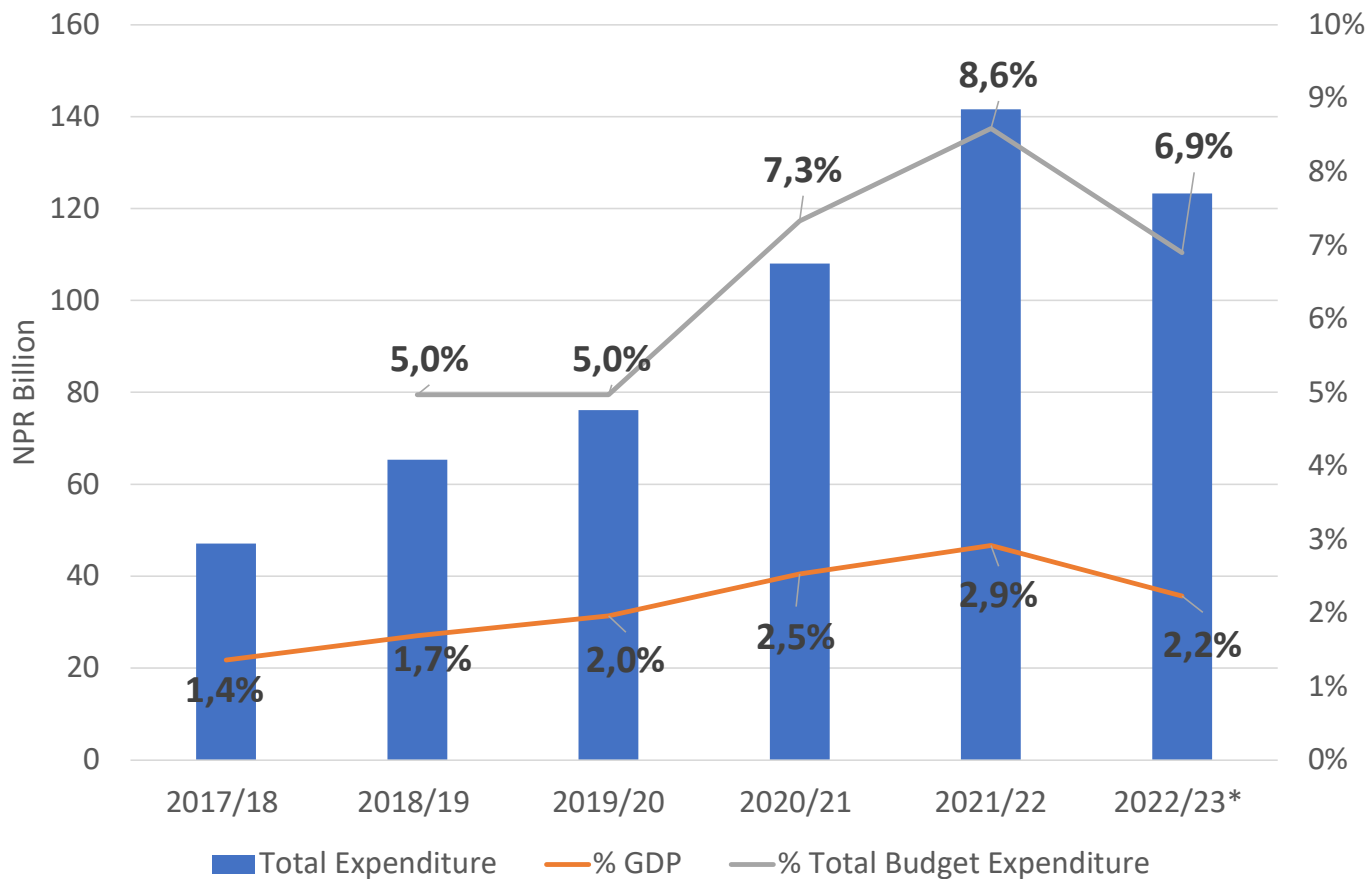
Indicator	Cameroon	Nepal	Pakistan
COVID-19 vaccination coverage as % of total population (28 Oct 2022)	5%	87%	59%
Source of COVID-19 vaccine courses			
• Proportion received from COVAX	83%	42%	68%
• Proportion received from donations	17%	50%	21%
• Proportion procured by Government	0%	8%	NA
% of COVAX vaccine doses utilized (28 Oct 2022)	50%	100%	100%

Source: COVID-19 Vaccine Delivery Partnership

Nepal: Preliminary Data – Health Expenditure

Nepal research led by Dr Anirudda Bonnerjee

Nepal Health Budget Expenditure Trends



*proposed budget allocation

Health budget increased in real terms, and as a percentage of total expenditure and GDP

Budget execution in 2019/20 was affected by revenue falls and spending constraints from shutdowns – but still showed an increase over 2018-19

Substantial increases in expenditure in 2020/21 and 2020/22

Health budget allocations and share of budget and GDP expected to drop in 2022/23

Nepal: Preliminary Data – COVID-19 expenditure

Central Government Health Expenditure by Budget Headings

	2018/19	2019/20	2020/21	2021/22
Health Sector Reform Programme	6.40	0.32	3.17	10.49
Integrated Health Infrastructure Development Programme	4.93	3.92	6.82	14.64
Covid-19 Prevention and Control Programme	0.00	4.79	7.93	36.58
Social Health Insurance Plan	6.00	4.65	5.02	7.50
Family Welfare Programme	0.48	0.28	1.52	5.11
Nursing and Social Security Programmes	0.00	2.33	1.34	2.55
Integrated child health and nutrition programme	2.11	2.30	0.00	0.00
National Academy of Medical Sciences (incl. Bir Hospital)	1.47	2.24	2.14	1.24
MoHP	0.08	0.18	2.33	1.81
Science Academies (4)	1.09	2.03	1.49	1.27
Central Hospital & Academy	0.23	1.60	2.44	2.25
Hospitals (incl. specialist hospitals - 12)	2.27	3.55	2.69	2.62
Others	5.43	2.65	4.89	4.69
Total	30.49	30.86	41.78	90.75

In 2019/20, the COVID-19 prevention and response programme required internal reallocations.

Total health resources increased in 2020/21, allowing rebalancing across programmes.

In 2021/22, the COVID-19 program was financed from:

- 28% GoN domestic revenue
- 3% Foreign grants
- 68% Foreign loans

In 2021/22, 73% of the COVID-19 programme was for purchase of medicines and vaccines, up from 24% in 2019/20.

Nepal research led by Dr Anirudda Bonnerjee

Nepal: Preliminary data – Routine immunization

No identified crowding out of budget for routine immunization

Vaccine	Manufacturer	Procurement mechanism	Contract length
BCG (Baccille Calmette Guérin) vaccine	Serum Institute of India Pvt. Ltd.	Self-procurement	3 years
bOPV1,3 (Bivalent Oral polio vaccine - Types 1 and 3)	PT Bio Farma (Persero)	Self-procurement	3 years
MR (Measles and rubella) vaccine	Biological E. Limited	Self-procurement	3 years
JE-Livatd (Japanese Encephalitis live-attenuated) vaccine	Chengdu Institute of Biological Products Co.,Ltd	Self-procurement	3 years
Td (Tetanus toxoid and diphtheria for older children and adults) vaccine	Biological E. Limited	Self-procurement	3 years
DTwP-Hib-HepB (Whole cell) vaccine	Serum Institute of India Pvt. Ltd.	UNICEF Supply Division	1 year
PCV-10 (Pneumococcal conjugate vaccine 10-valent) vaccine	GlaxoSmithKline Biologicals SA	UNICEF Supply Division	1 year
IPV (Inactivated polio vaccine)	Bilthoven Biologicals	UNICEF Supply Division	1 year
RV-1 (Rotavirus 1-valent) vaccine	GlaxoSmithKline Biologicals SA	UNICEF Supply Division	1 year

Immunization is a priority 1 programme (1% health budget).

Budget allocations for routine EPI increased every year between 2019 – 2022.

Budget execution remained high, 100% in 2019 + 2020, and 97% in 2021

Routine vaccine procurement in Nepal is typically done through multi-year contracts, and also financed by donors.

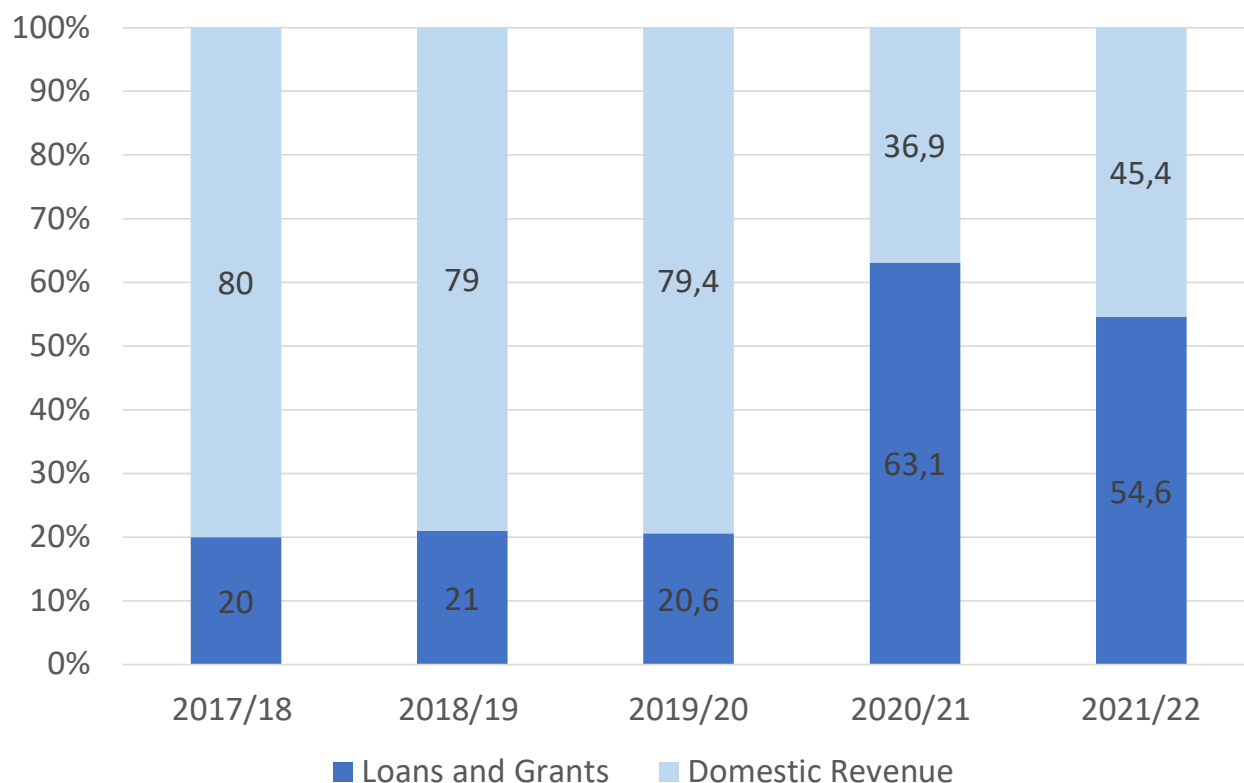
Donors provided additional fiscal leverage by adjusting expenditure streams for SWAp based health sector reforms

Nepal research led by Dr Anirudda Bonnerjee

Nepal: Preliminary data – Role of debt

The Government of Nepal has been able to maintain and increase health expenditure using loans and grants

Government Expenditure on Health: Financing Source



Debt levels are increasing

Nepal's debt to GDP ratio rose from around 27 percent in 2018/19 to around 40 percent in 2020/21, and is expected to reach 44% of GDP by FY 2021/22

In the 2021/22 budget, around 8% of total expenditures are for debt servicing

This is a concern given proposed budget allocations for health are expected to reduce in 2022/23

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Nepal: Preliminary data – Crowding out of service delivery

- While there was limited crowding out of expenditure, there was crowding out of service delivery
- Nepal experienced a fall in immunization coverage in 2020, although gains have since been made in 2021.
- Supply-side challenges
 - Border closures affected delivery of routine immunization
 - Impact of lockdowns on transportation and logistics
 - Shortage of PPE
 - Shortages of health care workers
- Demand-side challenges
 - Household income shocks and increasing household debt
 - Household concerns over visiting health facilities
 - Restrictions due to quarantine, caring for family members

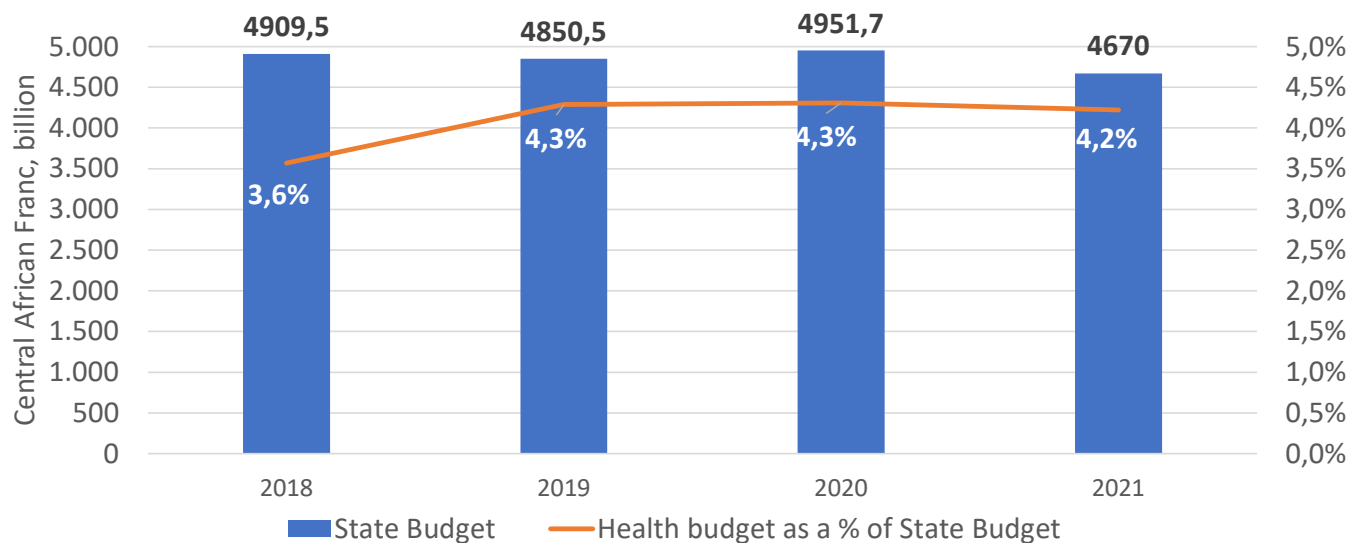
Crowding out of service delivery during the pandemic raises concerns about higher demands and costs for the health sector in future years, at a time when health budgets will be further constrained

Nepal research led by
Dr Anirudda Bonnerjee

Cameroon: Preliminary data

Research led by Alioune Diallo

Budget allocations to Ministry of Public Health as a proportion of the State Budget



Budget allocations for the Ministry of Public Health increased slightly in 2019 and 2020, in nominal terms and as a proportion of the state budget.

Government allocations to routine immunization show the same trend

Government contributions to routine immunization (XAF, million)

Year	2018	2019	2020	2021
Government of Cameroon	3,000	3,618	3,750	3,550

Cameroon: Preliminary data

Research led by Alioune Diallo

Contributions to routine immunization across sources (XAF, million)

Year	2018	2019	2020	2021
Government of Cameroon	3,000	3,618	3,750	3,550
External sources	9,126	4,940	8,731	12,086
Total	12,126	8,558	12,481	15,636

Government allocations to routine immunization show the same trend as Ministry of Public Health, with increases in 2019 and 2020, and a fall in 2021

Variation in external financing affected the total resourcing available, but there is no reduction in the key pandemic impact years.

Cameroon use the same budget line for vaccine delivery for routine immunization and COVID-19 immunization.

This may risk crowding out in 2021 given the significant COVID-19 vaccination challenge

Next steps and emerging issues

- Methodological challenges with country-level studies
- Complexities in accessing immunization budgets
- Crowding out reflects more than expenditure – issues of access to health care workers, shared resources, as well as access and demand.
- Future implications for domestic resourcing, given ongoing pressure on health budgets, debt constraints and potential cost increases, in an context of transition and falling ODI