SUSTAINABLE ENERGY FOR ALL

POWER AFRICA
A U.S. GOVERNMENT-LED PARTNERSHIP

DEEP DIVE #4

Funding & Financing

Deep-dive on Funding and Financing

The Powering Healthcare Market Assessment and Roadmap for Nigeria was developed by Sustainable Energy for All (SEforALL), under the Power Africa-funded Powering Healthcare Africa Project. It includes a main report, and 5 technical deep-dives.

The main report is accessible **here**.

Market Assessment and Roadmap: deep-dives

01	Deep-dive on Stakeholder Mapping and Key Policies
02	Deep-dive on Data Insights
03	Deep-dive on Technology and Costing
04	Deep-dive on Funding and Financing
05	Deep-dive on Delivery Models and Financing Mechanisms

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Funding and Financing

Summary of findings

35%
National current health expenditure spent on PHC

5%
Government health budget as a % of total national budget

75%
of total health spending comes from household out-of-pocket expenditure

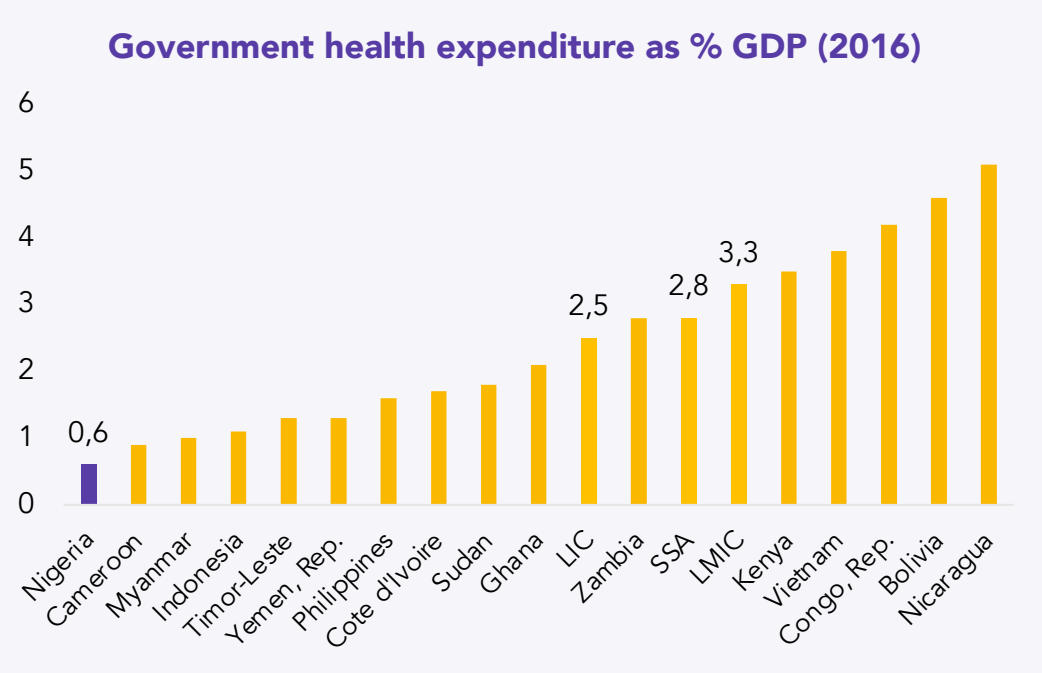
₦7,300 ($20)
PHC expenditure per capita per year

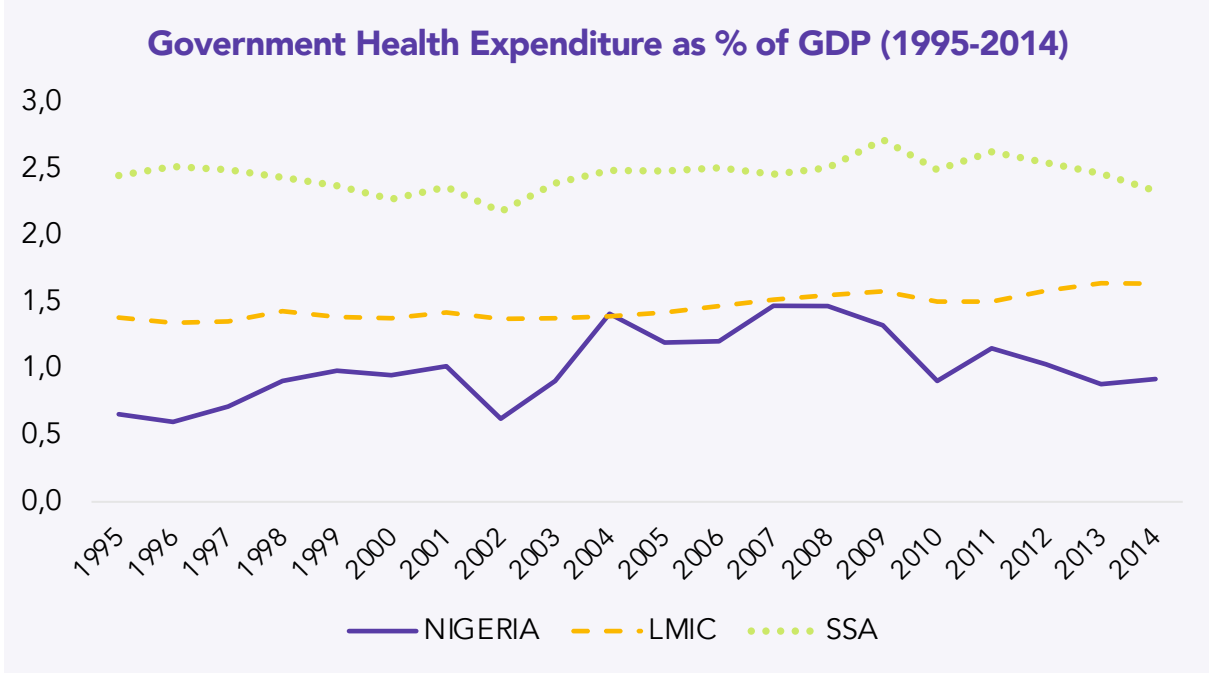
₦100,000 ($200)
Average monthly operational funds (potentially) available per PHCs

₦23,500 - ₦48,000 ($47 - $96)
Average amount per PHC per month spent on electricity from grid and fuel generators

Government Health Expenditure

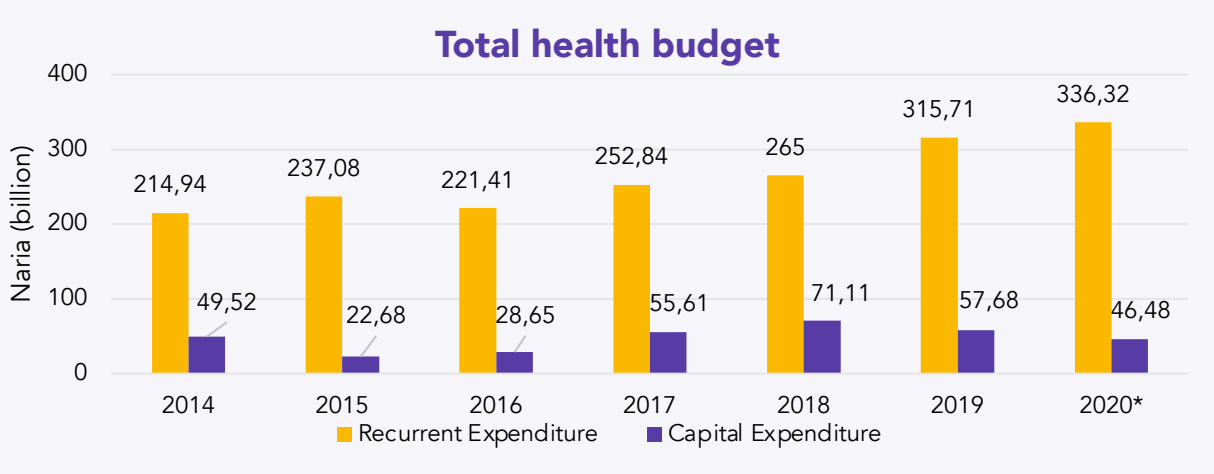
Total Government health expenditure was ₦588 billion (~US$2.2 billion) amounting to barely
1% of GDP, $11 per capita compared with US$80 in LMICs, $15 in LICs, and $57 in SSA

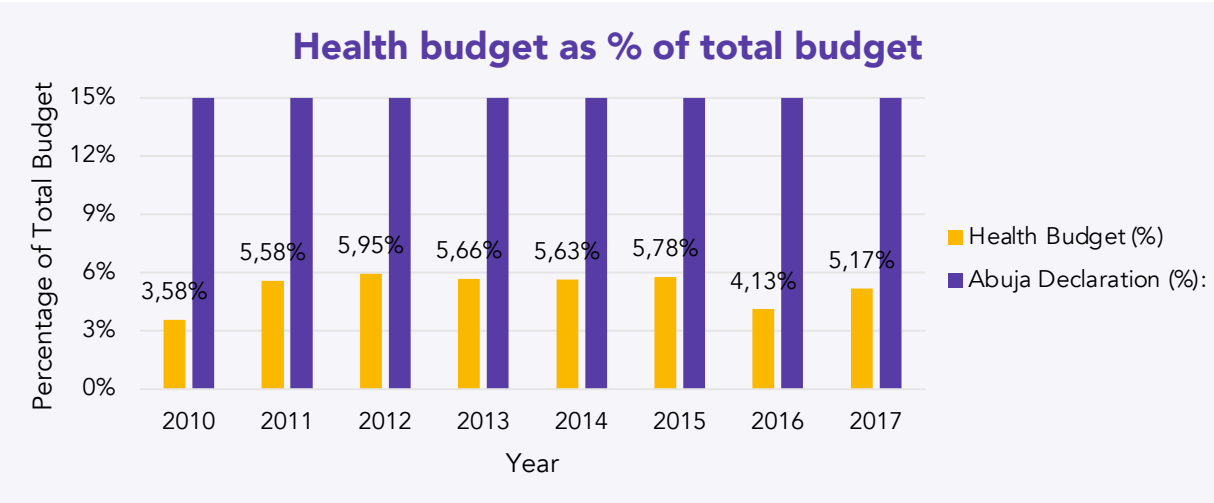


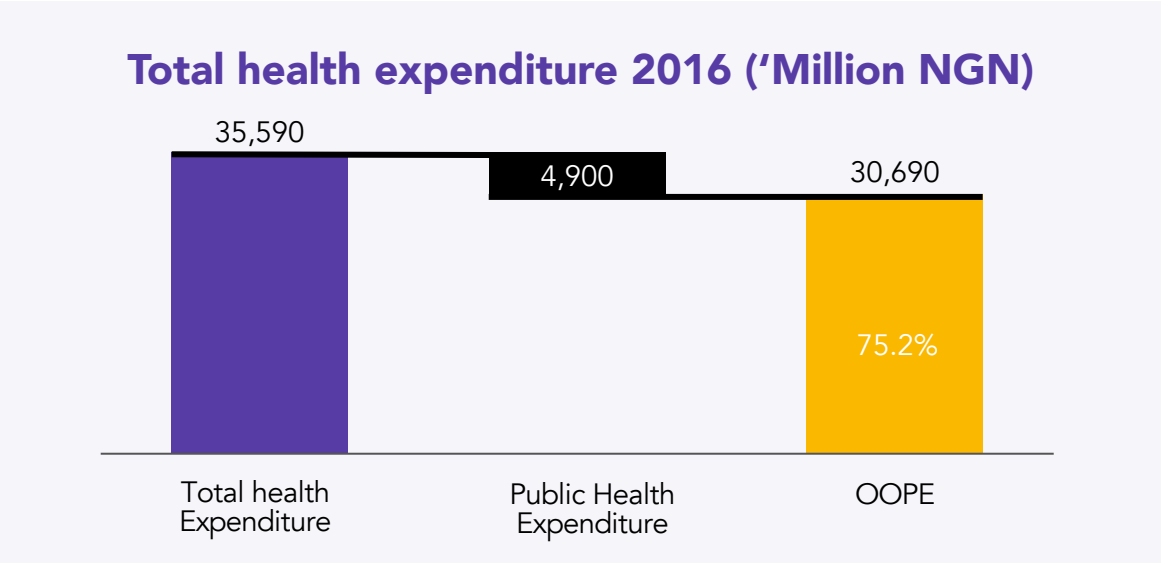


Source: World Bank (2018) World Development Indicators.

Health Sector Budget and Expenditure





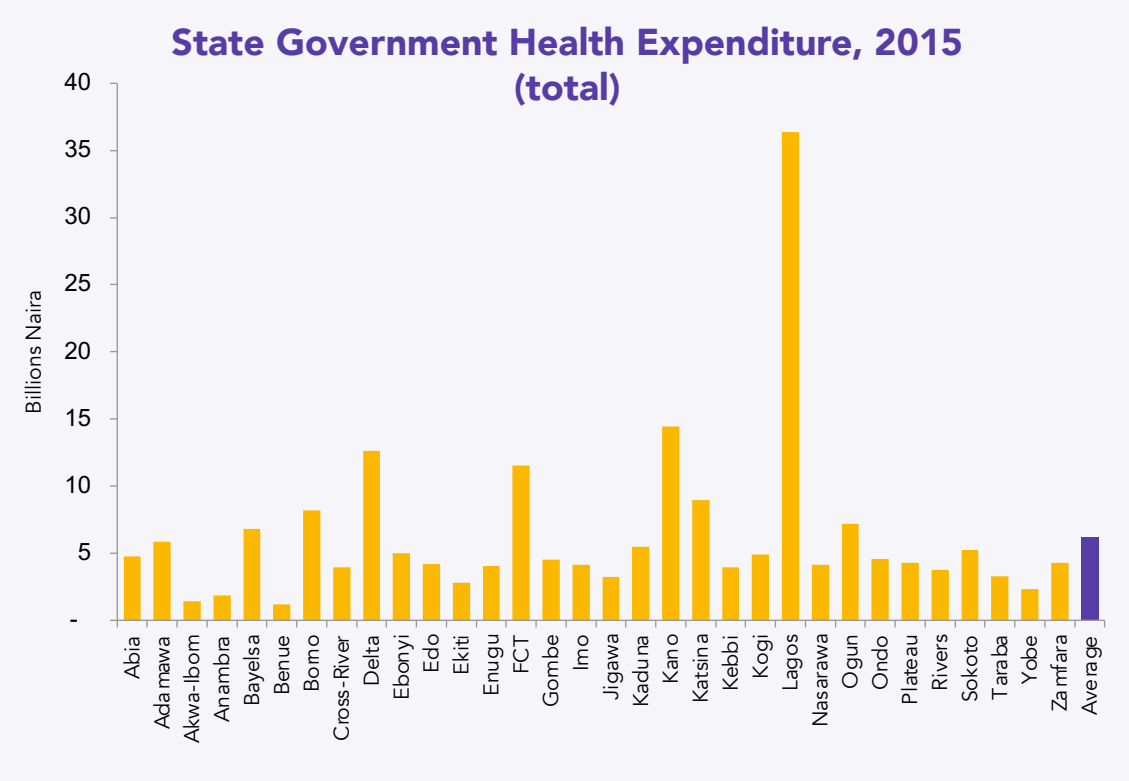


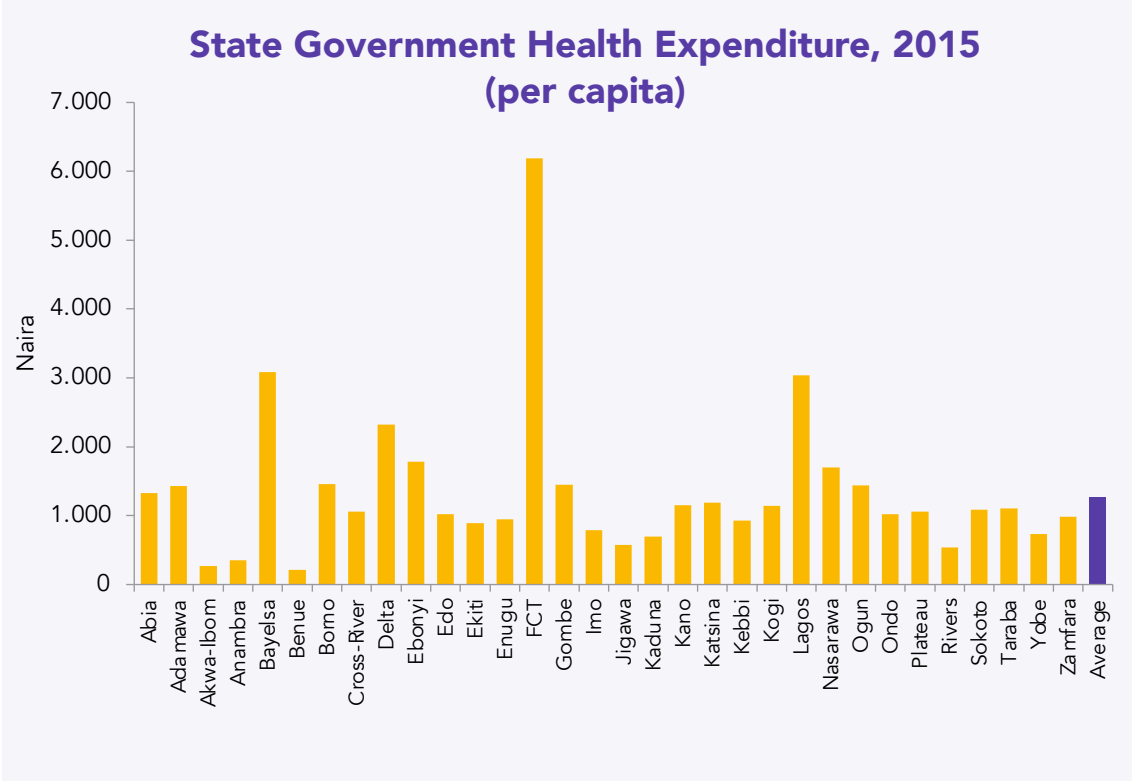
Public budgets and expenditure on health are sub-optimal resulting in high private out-of-pocket expenditure.

- Out-of-pocket expenditure accounts for more than 75.2% of total health expenditure.
- Health budget falls consistently short of 15% Abuja declaration.
- Nigeria spent ~ N 1.3 trillion ($3.56 billion) on PHC, or ~35% of its current health expenditure, in 2016 this corresponds to ~ N 7,300 (~20 USD) PHC expenditure per capita.
- Vast majority (~92%) of PHC expenditure goes to services and administrative costs.

State-level Health Expenditure

Health spending at the subnational level varies widely in Nigeria with 25% of states spending above NGN5.2bn ($10.4m), and 32% spending above NGN1,200 ($2.4) per capita





Sources: Federal Republic of Nigeria 2017a, National Health Accounts 2010 - 2016.
Nigerian Medical Association National Executive Council meeting August 2019

Sources of cash in PHCs

PHCs receive little operating budget; available cash is mainly sourced from user fees

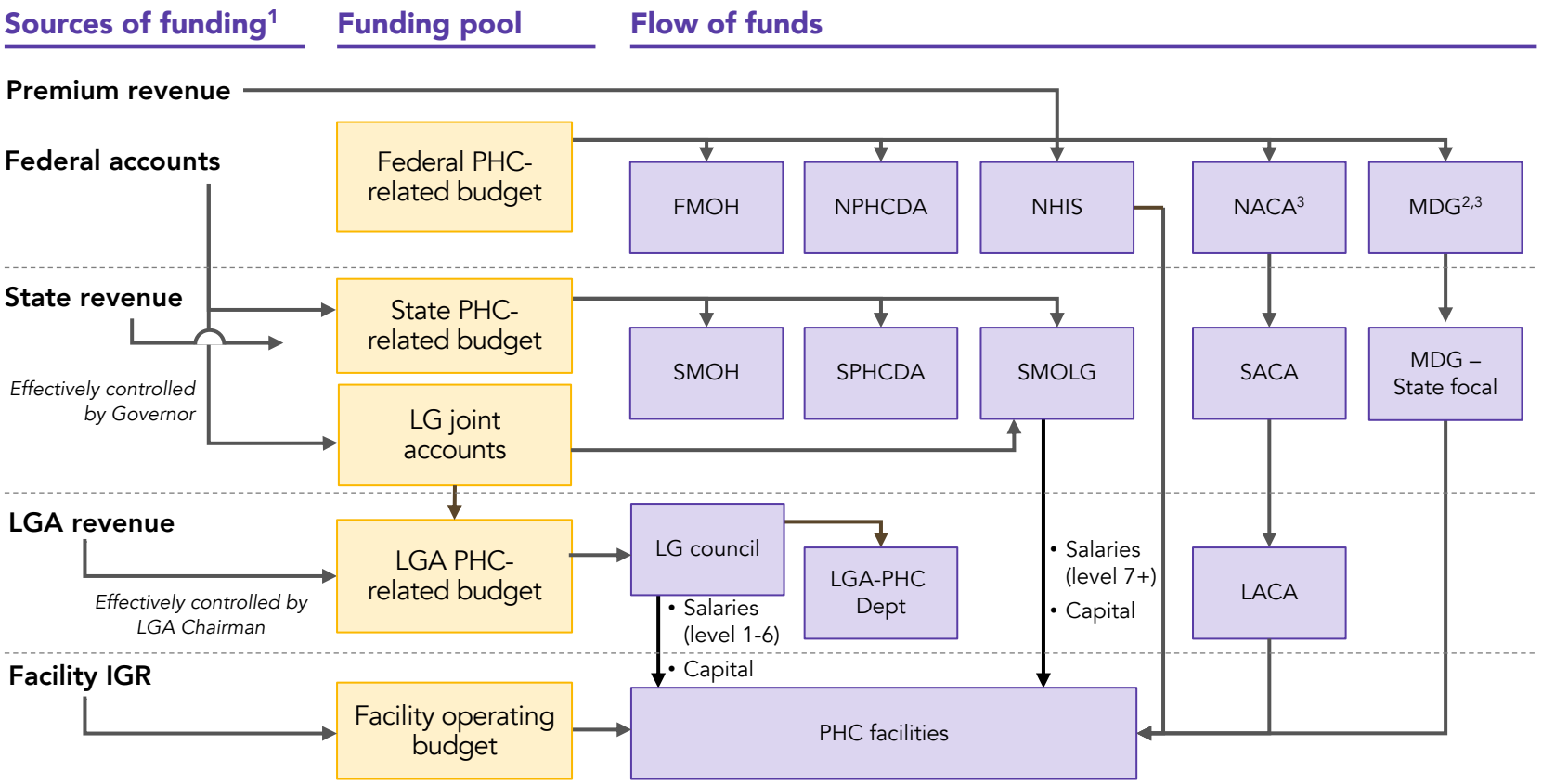
User fees and private expenditures by insurance, employers or individuals through out-of-pocket form another source of health expenditure. Overall, 77% of facilities report charging user fees especially at private and secondary facilities; user fees are predominantly collected for drugs, delivery services and antenatal care.

Drug revolving funds of different forms exist in Nigeria. Fees are charged for medicines dispensed. Facilities often have cost recovery objectives that may include financing of aspects of PHCs.

Government funding of PHCs is carried out by the 3 tiers of government – Federal, State, LGA, with weak interaction between them. The Federal government intervenes, through NPHCDA, NHIS and BHCPF funding directly at the facility level, while the State and LGA funds for PHCs are channeled through the SMOH and Ministry of Local Government as two separate pools.

National Health Insurance Scheme (NHIS) provides social health insurance in Nigeria where health care services of contributors are paid from the common pool of funds contributed by the participants of the Scheme. NHIS has developed various programmes to cover different segments of the society including formal sector, informal sector, vulnerable groups, public private partnership and community-based health insurance programmes.

Source and Flow of Public Funds in Health Sector

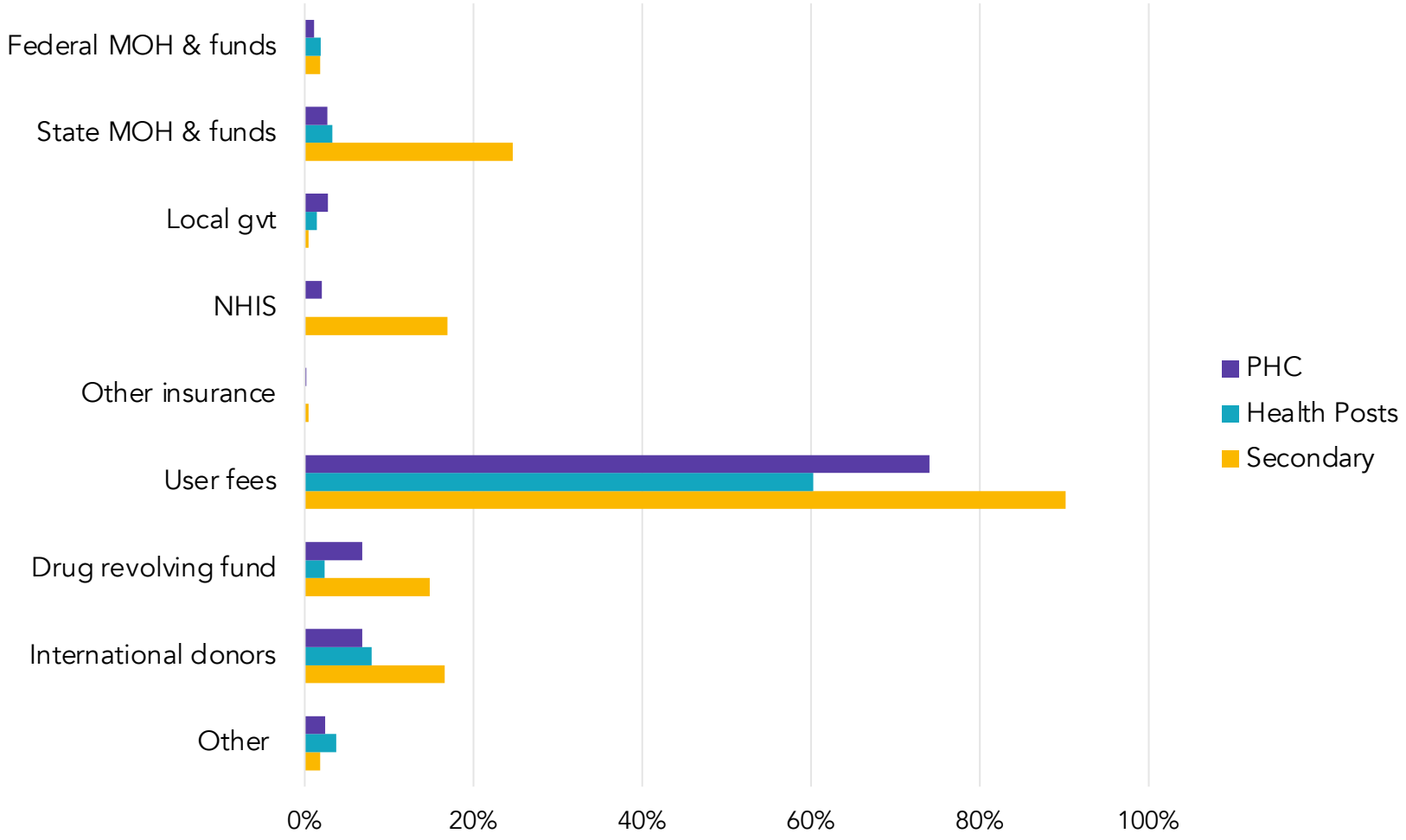


FMOH	Federal Ministry of Health
SMOH	State Ministry of Health
NHIS	National Health Insurance Scheme
NACA	National Agency for the Control of AIDS
SACA	State Agency for the Control of AIDS
SMOLGA	State Ministry of Local Government Affairs
SDGs	Sustainable Development Goals
SPHCDA	State Primary Healthcare Development Agency

1. Donor funding not depicted
2. MDG also receive funding from states
3. MDG and NACA funds only reach select facilities
4. Federal PHC related budget includes the Basic Health Care Provision Fund (BHCPF) and other appropriated budgets

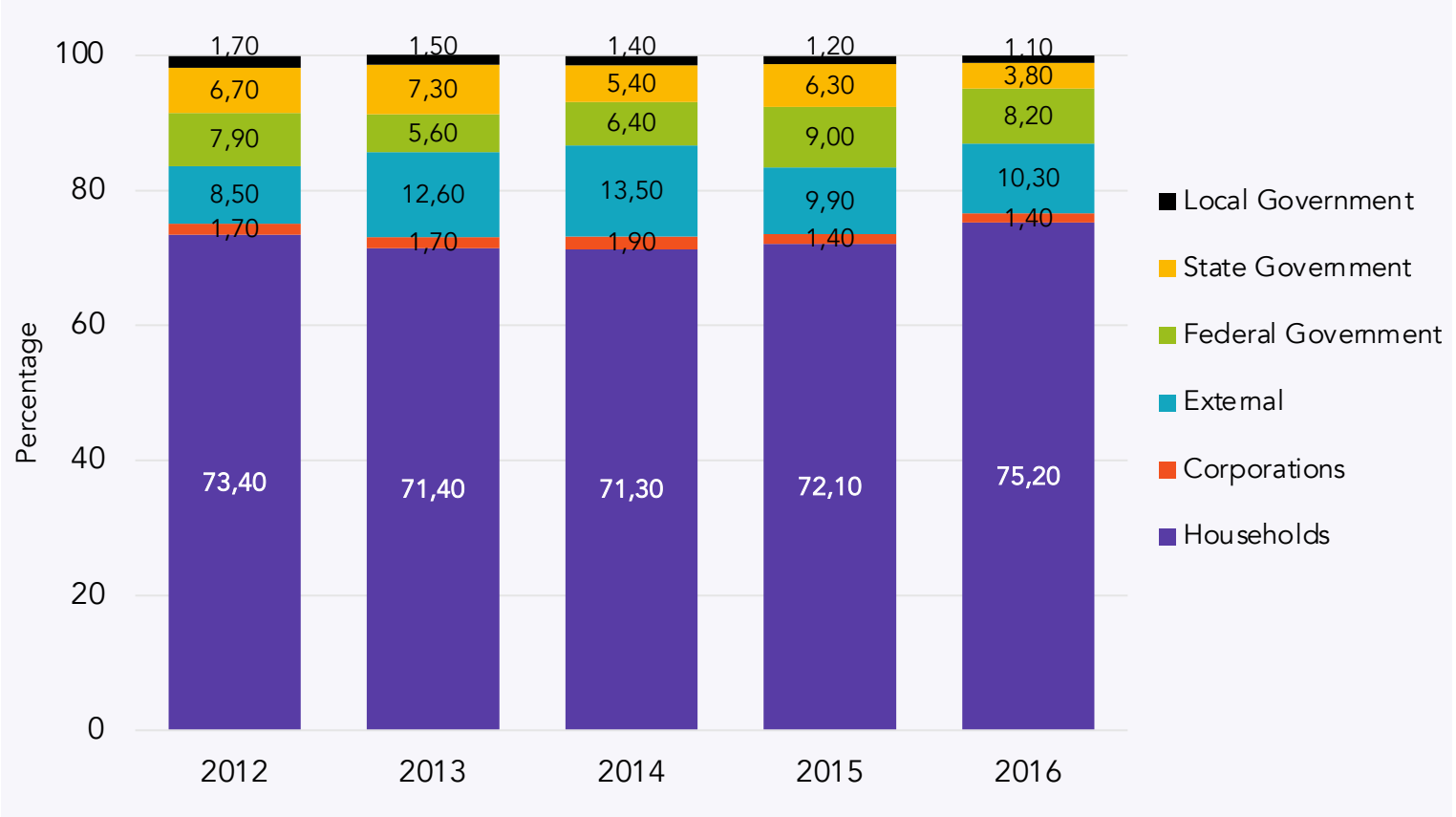
Source: Expert interviews, Resource tracking survey

Proportion of facilities receiving cash funding, by source



Sources of total health spending

~75% of total health spending comes from households' Out-of-Pocket-Expenses



Anticipated Funding from Health Sector Donors and Partners

Funding source	Amount (USD)**	Funding duration	PHC-level funding (%)	Extrapolated to 10 years	Comment
World bank MPA/IMPACT (DFF)	430,000,000	5 years	29%	125,000,000	DFF, minor renovation
BMGF (Catalytic fund)	3,000,000	2 years	10%	300,000	Some performance bonus to PHC
GAVI-NSIPS	2,700,000,000	11 years	30%	810,000,000	RI Component at PHC Facility
ANRIN	1,600,000	-	10%	160,000	Some RBF to PHC
BMGF (TSU support)	771,000	3 years	5%	38,550	Some performance bonus to health workers
FGN health budget*	894,736,842*	Annually	10%	894,736,842*	Estimated proportion to PHC
State Gov't/LGA health budget*	880,000,000**	Annually	10%	880,000,000	Estimated proportion to PHC

NPHCDA Post polio PHC summit (2021 - 2030) Discussion Document.
*2018 health sector budget **BudgetiT 2018

Anticipated funding from health donors/partners for the period 2021-2030 are mostly targeted towards critical systems strengthening initiatives that do not directly impact PHC infrastructure. However, innovative financing programs have recorded some success in the sector

Major donors for health programmes in Nigeria

USAID FROM THE AMERICAN PEOPLE
DFID Department for International Development
THE WORLD BANK
World Health Organization
unicef
Gavi The Vaccine Alliance
Canadian International Development Agency

Notable Health Sector Innovative Financing Programmes

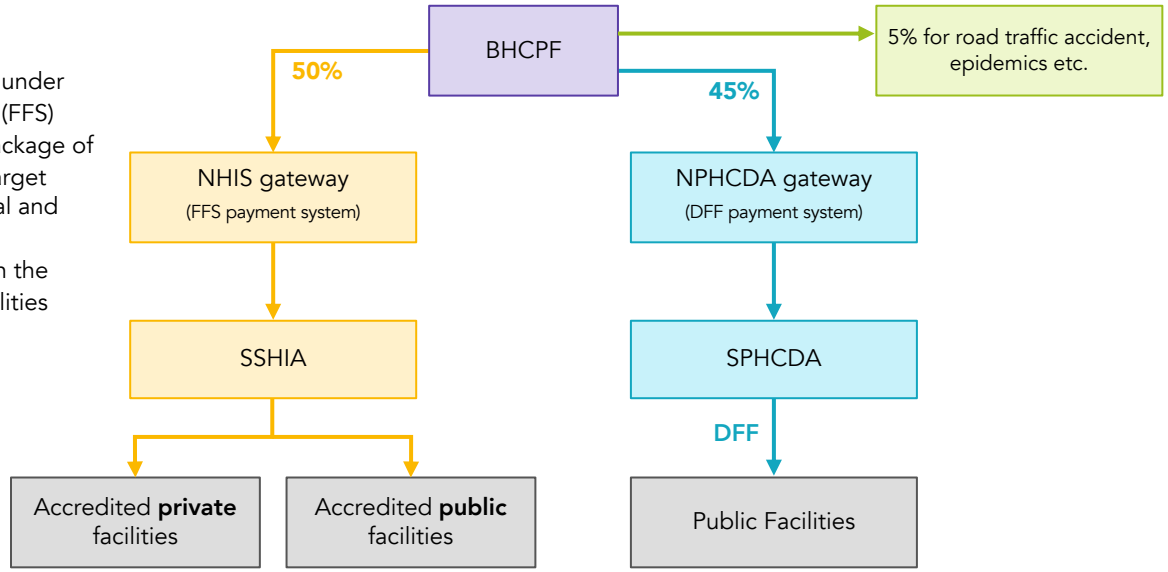
$500 million (four year) World Bank program-for-results (P4R) Saving One Million Lives (SOML) initiative provided performance-based grants to states based on quantity and coverage of basic PHC services delivered as well as other PHC facility development milestones.

The Routine Immunization (RI) and PHC innovative financing MOUs with the Bill and Melinda Gates Foundation, Dangote Foundation and the States, as part of a performance-based financing strategy (with a State counterpart funding mechanism) to sustain the gains of polio eradication while building strong, sustainable immunization and PHC programs across key northern States. The innovative financing mechanism provided funding for critical operational expenses related to solar and cold chain infrastructure.

Basic Healthcare Provision Fund (BHCPF)

The various sources of government funding are inadequate to meet the PHC financing needs. However, BHCPF may be a source of contribution to pay for monthly O&M costs in some settings.

* Beneficiaries under NHIS gateway (FFS) receive free package of services that target critical maternal and child health interventions in the accredited facilities



NHIS	National Health Insurance Scheme	**SPHCDA**	State Primary Health Care Development Agency
NPHCDA	National Primary Health Care Development Agency	**FFS**	Fee-for-Service
SSHIA	State Social Health Care Development Agency	**DFF**	Decentralized Facility Financing

- The BHCPF (averaging ₦55+ billion ($110m) annually) represents a dedicated source of funding PHC backed by law.
- The Nigerian Federal Ministry directly allocates roughly ₦100,000 ($ 243) a month to some primary health facilities in seven states through the Decentralized Financing Facility under the Basic Health Care Provision Fund.
- Under the BHCPF NPHCDA Gateway, Operational Cost (OpEx) is channeled to PHCs through SPHCB/A for daily overhead and maintenance of the PHC averaging ₦1.2m ($2,400) per annum
- A part of this allocated budget may be sufficient to pay the monthly O&M costs to the private sector.
- The BHCPF presents a unique opportunity for PHC/community level coverage for health and if fully released annually, represents assured FG funding that needs to be significantly supplemented.

Corporate, Philanthropic and Impact Investors

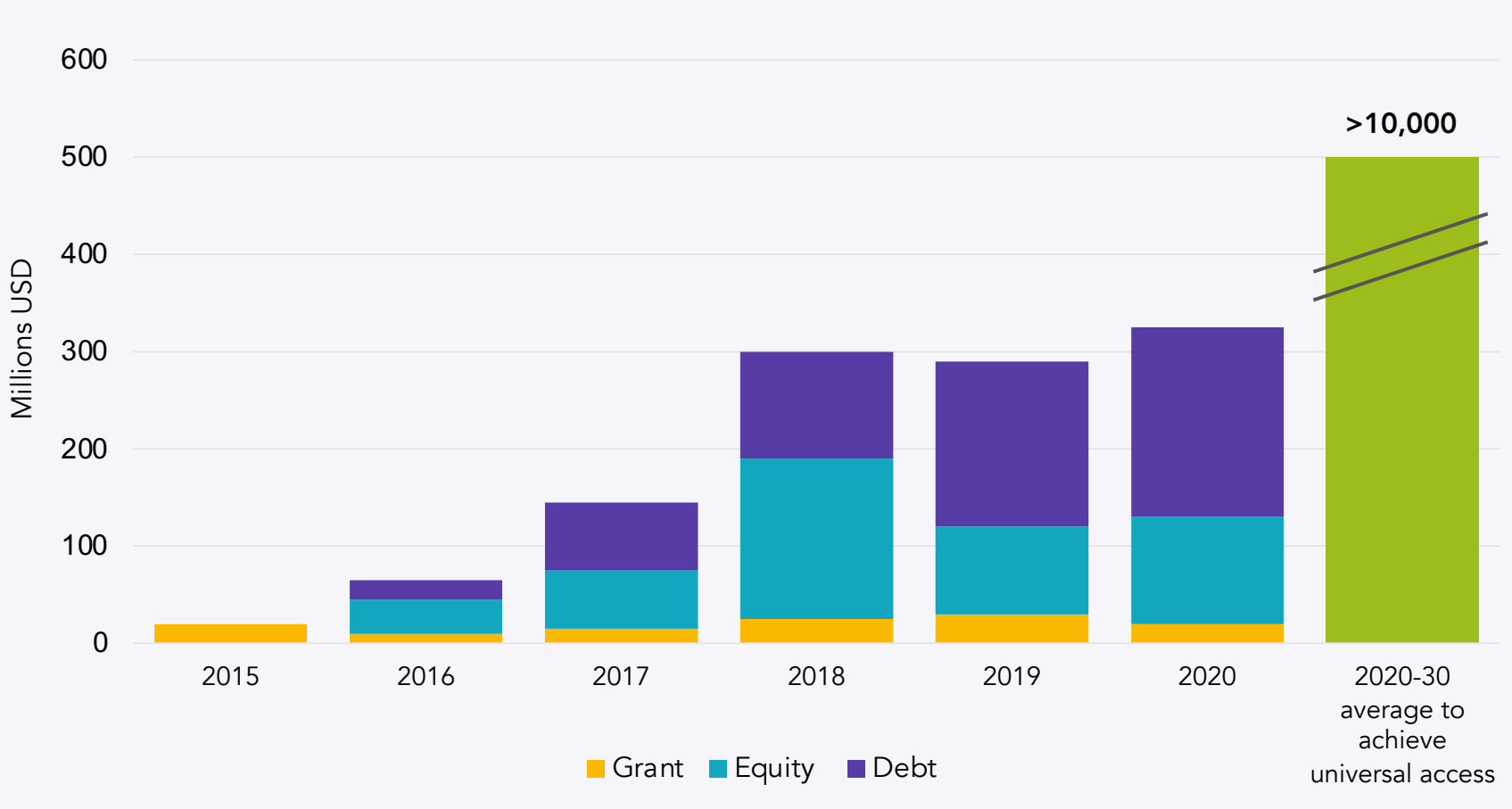
Corporate, Philanthropic and Impact investments accounted for 60% of equity investment in 2019, but their role is moderated in 2020

- Among investors, international oil and gas majors as well as power utilities have increased interest in off-grid start-ups, largely through their venture capital arms.
- Philanthropies and companies in telecommunications and diversified conglomerates are also among the investors. They participate in different ways, ranging from direct investments to taking minority shares through funds.
- These funds may seek social impact via energy access while investing in new businesses or technologies which could be acquired in the future.

Company	Investment approach features	Investment examples
ENGIE	Impact fund provides equity, incubation services; corporate acquisitions	Acquisition of SHS manufacturers and distributors (Fenix, Mobisol), mini-grid operators (PowerCorner)
Total	Venture fund provides equity and incubation services	Companies in SHS, PAYG software, smart meters, micro-grids and cold-chain solutions
Shell	Venture fund provides equity, research and development support	SHS distributor and mini-grid operators, and also investment in funds
EDF	Joint ventures, co-founding companies or direct investment	Joint ventures in Cote d'Ivoire, Ghana, Morocco, Senegal, South Africa; solar pump and SHS firms.

Source: Financing Clean Energy Transition in EMDE World Energy Investment 2021 Report

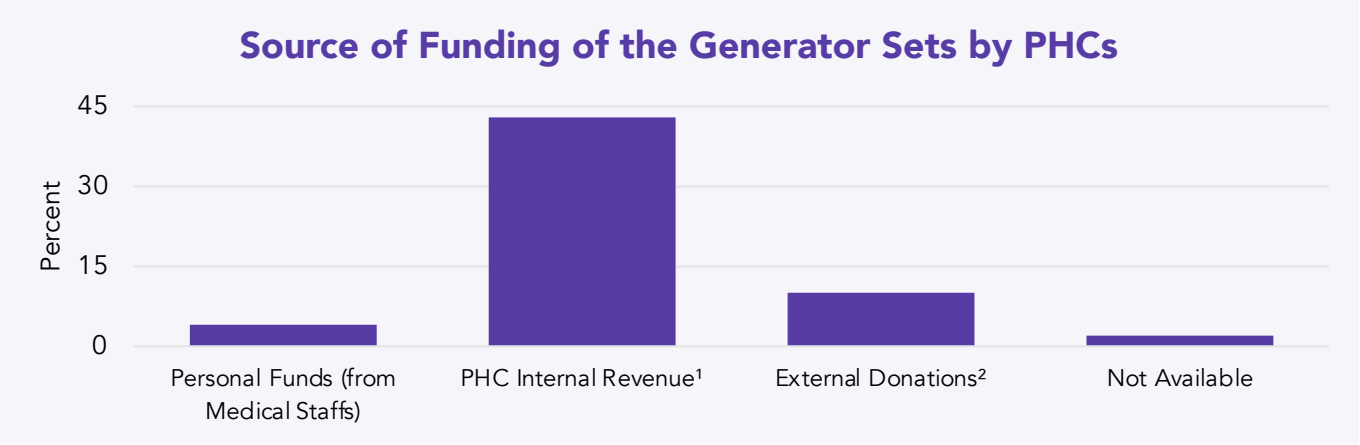
Trends for Commercial Financing to Private Sector Developers

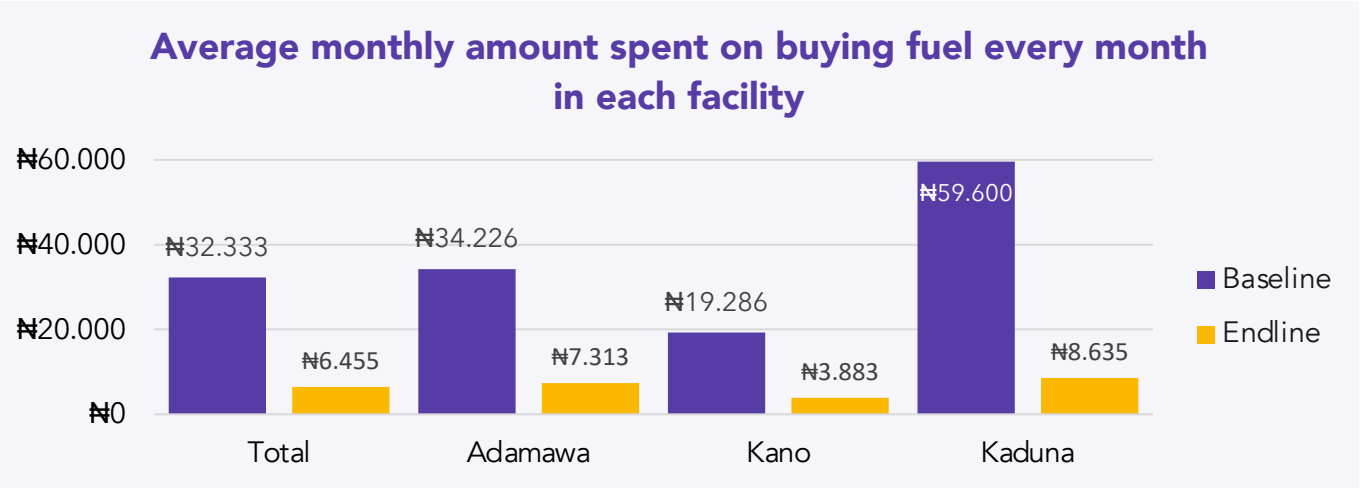


Private sector commercial funding for SHS and mini-grids has shifted towards debt funding in recent years. The total amount committed to the sector has stabilized in recent years, though the impact of COVID-19 is still being felt. Note that the total amount raised is still well below the requirement (~$250bn as estimated by IEP) needed to achieve universal access to energy.

Source: Financing Clean Energy Transition in EMDE World Energy Investment 2021 Report

Health Facilities' Electrification: Energy spend on fuel generators

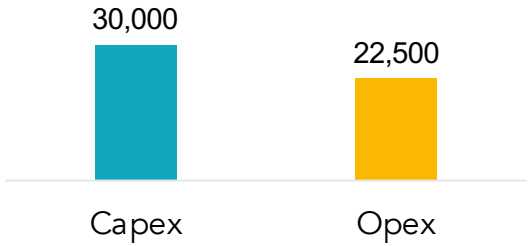
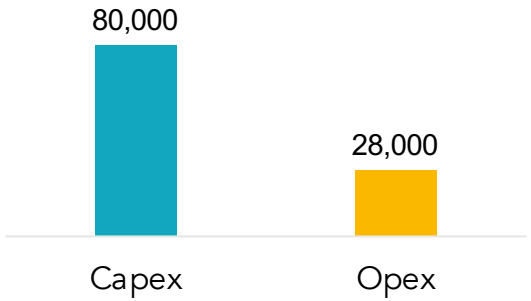




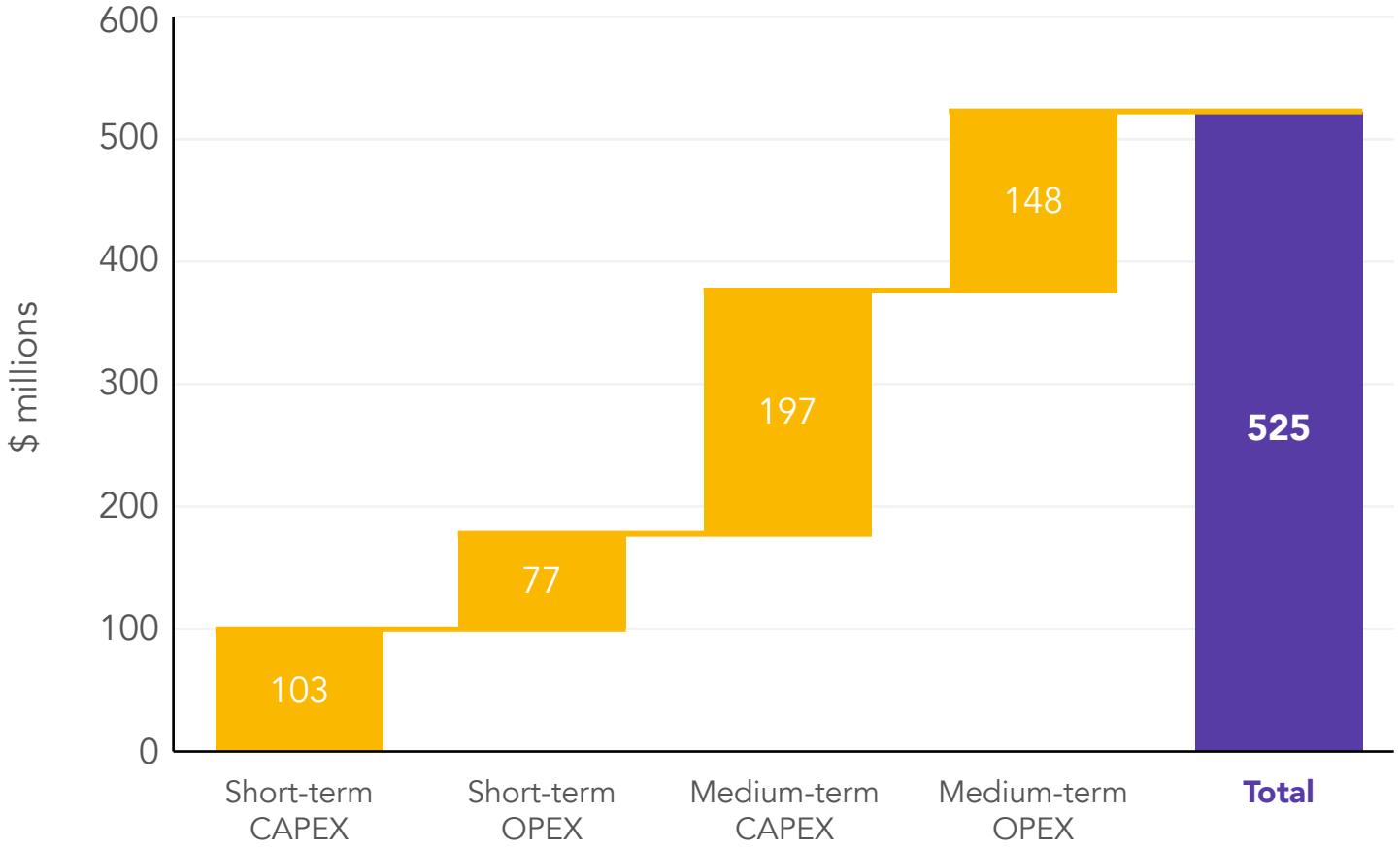
- HBF FCT PHCs spend between **₦23,500 to ₦48,000 ($47 - $96) per month on average for electricity** from grid and fuel generators, from IGR of PHCs mostly charged to patients
- SNP Lessons Learnt for General Hospitals after 1 year of operation shows average of **₦32,333 ($65) per month on fuel generator spend**
- VESTA Diagnostic report estimates **₦71m annual spend ($142,000) on diesel for hospitals surveyed**

1. Includes revenue obtained from the sales of drugs, opening of cards, lab tests, consultancy fees etc.
2. From individuals, area council and NGOs.

Highlights of findings

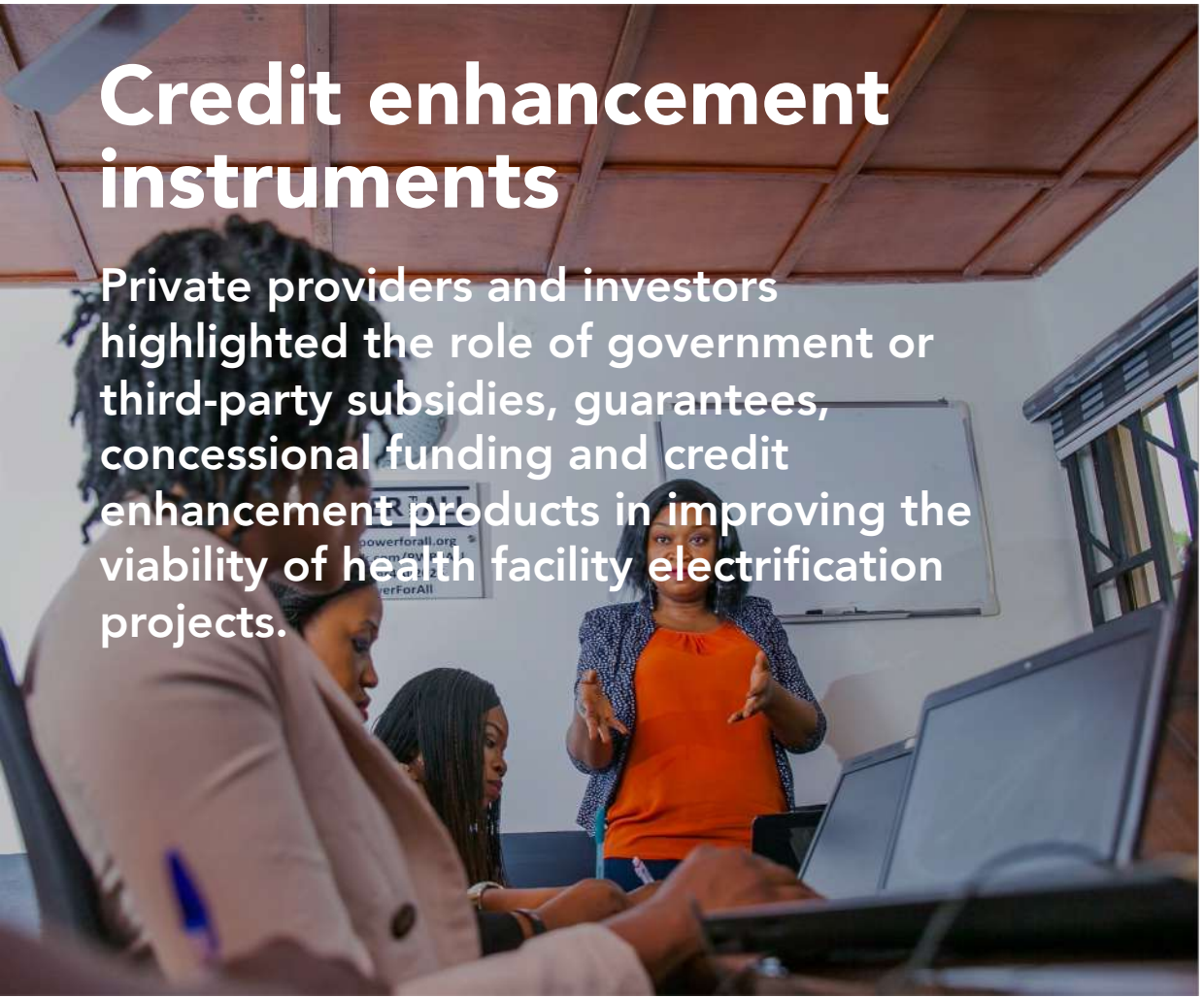
Scenarios	Base case assumption	Capex and Opex per PHC for 15 years ($)
1 PHC with 5kWp solar system without generator	$6/Wp is the estimated CAPEX cost of installed system 5% is the estimated OPEX cost per year for system without generator	
1 PHC with 10kWp solar system hybrid with generator	$8/Wp is the estimated CAPEX cost of installed system 35% is the estimated lifetime OPEX for hybrid system with generator	

Short and medium-term functional type 2 PHC electrification implications



Key insights:

- With approximately 3,433 functional Type 2 PHCs readily available for electrification in the short term, an estimated $180m is required to provide 17.2MW installed solar PV systems ($103m CAPEX and $77m OPEX cost at 5kWp per PHC, $6/kWP CAPEX, and OPEX estimated at 5% of CAPEX).
- In the medium-term, an additional 6,567 PHCs would require $345m to provide 32.8MW and achieve NPHCDA's overall target of 10,000 functional and electrified PHCs ($197m in CAPEX and $148m in OPEX).



Credit enhancement instruments

Private providers and investors highlighted the role of government or third-party subsidies, guarantees, concessional funding and credit enhancement products in improving the viability of health facility electrification projects.

Guarantee mechanisms

Guarantees are sometimes required to attract appropriate funding, particularly for technologies and markets that are not yet mature. In many countries, governments and states provide off-take guarantees for real asset projects. These guarantees are often offered by a third party to hedge the project against default and loss of revenue.

Example: Donor, Federal or State Government backed guarantees

Grant subsidies

There are a number of ways to deliver subsidies, all of which reduce the direct or indirect cost. Grants may be made to subsidize capital expenditure. Optimal outcomes are approximated with two forms of subsidy: one on outputs, and the other at the market-entry or investment point.

Example: NEP OBF, PBG

Concessional funding

A strategic blend of concessional funding (from development finance and philanthropic funds) and commercial funding by investors, encourages private capital flows, reduces risks and creates a lower blended costs. This helps provide comfort to private investors and addresses their concerns around market and project risks.

Example: All-On USADF Off-grid Challenge Funds

Solar Renewable Energy Credits

A solar installation generating electricity in a year can trade in its equivalent value for credits which can be monetized as additional income. These could raise additional funds to add to the pool of revenue for health facilities

Example: Distributed Renewable Energy Credits (D-RECs)

Possible Public and Private Pools of Capital

Sources of possible (sample) public sector capital pools

Complementary (sample) Financial Investors

Rockefeller Foundation	• Rockefeller is working on a Nigeria strategy to drive growth for investments at the DisCo level • Has a US$1 Bn power sector initiative with IKEA Foundation to end energy poverty. This initiative has Nigeria as one of its key focus countries
CDC Group	• CDC Group has the financial capacity to provide debt facilities to funding pools • Able to leverage the technical expertise of its investee companies; Gridworks and Globeleq
Emerging Africa Investments Fund (EAIF)/ Ninety-One	• EAIF has indicated a debt ticket size of up to US$50 Mm for Nigeria • Able to provide LCY financing via capital market or loan solutions
Investment Fund for Developing Countries (IFU)	• IFU indicated a ticket size of US$20 – 40 MM for Nigeria.
The Electrification Financing Initiative (ElectriFI)	• ElectriFI has €25 MM dedicated allocation for the Nigeria and this quantum is likely to be increased • ElectriFI's participation is able to crowd in other European DFIs

Findings and recommendations

Situation

- Nigeria's health sector is inadequately funded to meet its PHC financing needs. As a percentage of total national budget, health budget is on average 5%, far below the Abuja declaration of 15%.
- Nigeria spent ~₦1.3 trillion ($3.56 billion) on PHC, or ~35% of its current health expenditure, in 2016 this corresponds to ~₦7,300 (~20 USD) PHC expenditure per capita.
- States and Local Governments play an important authorizing role in facilitating payments of PHC utilities.
- As a result of the long delays in PHCs accessing allocated government funds, the major burden of contribution is financed by out-of-pocket expenses and user fees (~ 75% of total health expenditure).
- User fees are often charged by PHCs to plug financing deficits and pay for operational expenses including power utilities and maintenance.
- Anticipated health sector focused donor funds for the next 10 years are mostly targeted towards critical systems strengthening initiatives such as renovations, drugs, vaccines, performance and results-based incentives for PHCs and health workers that will not directly impact PHC infrastructure or electrification.

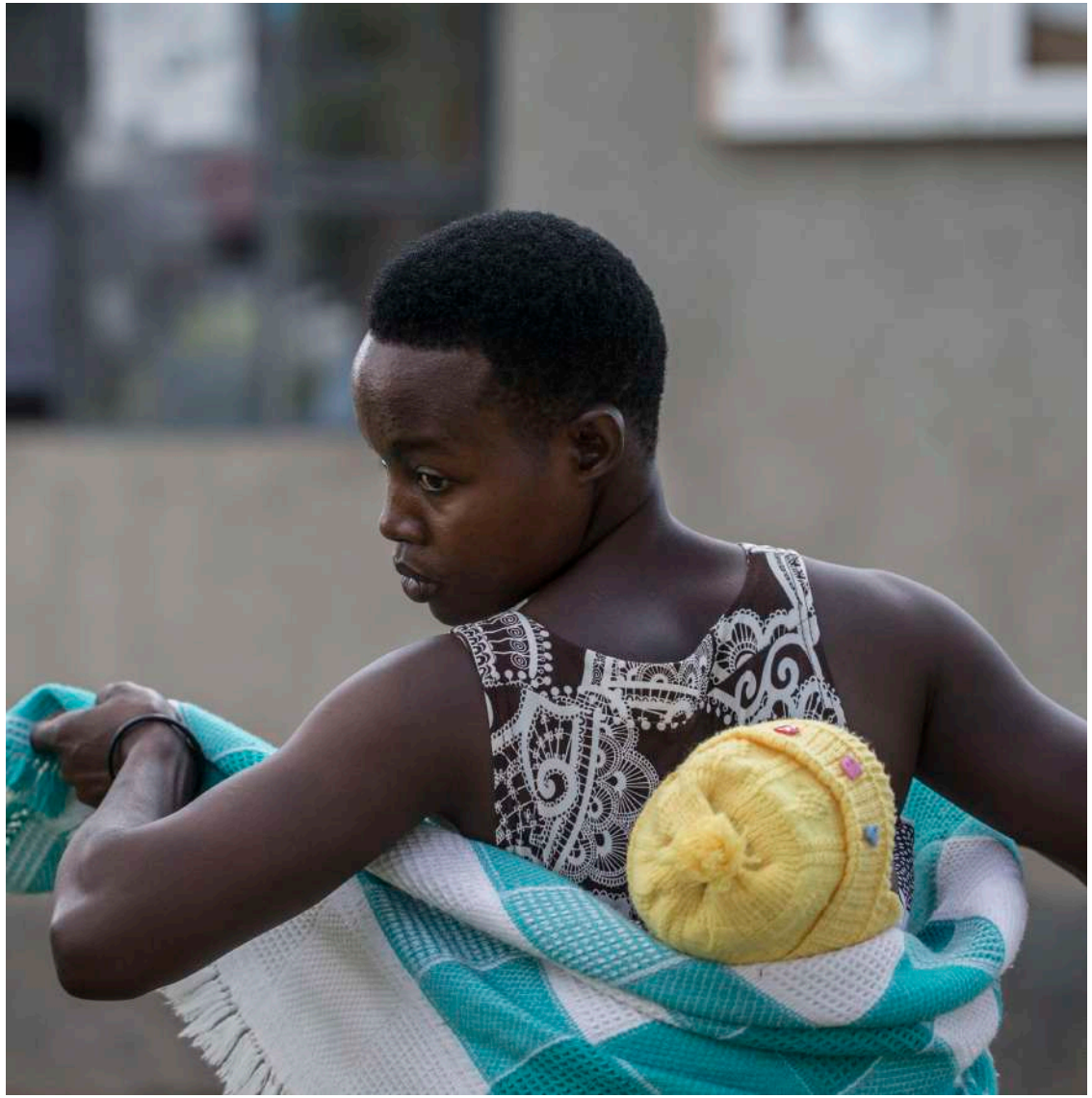
Findings

Public financing

- The majority of PHCs are publicly owned and therefore have limited budgets for affording electricity supply investments or payments for operational activities.
- Government funding of PHC is carried out by the 3 tiers of government - Federal, State, LGA, with weak interaction between them. The Federal government intervenes through NPHCDA, NHIS and BHCPF funding, directly at the facility level, while the State and LGA funds for PHC are channeled through the State Ministry of Health (SMOH) and Ministry of Local Government as two separate pools, in some cases.

Private financing

- Private sector commercial funding for SHS and mini-grids has shifted towards debt funding in recent years. The economics are suboptimal for the energy service provision to a social good on a fully commercial basis, as a result of access to capital constraints and other regulatory and market failures.
- Risks of non-repayments for services rendered is high, especially where institutions and agreements are weak. Private providers and investors highlighted the role of government or third-party subsidies, guarantees, concessional funding and credit enhancement products in improving the viability of HFE projects.



Gaps and opportunities

- With ~₦1.2 million ($2,400) per year per facility from NPHCDA Gateway and ~₦1.5 million ($3,000) per PHC per year from the NHIS Gateway, the Basic Healthcare Provision Fund (BHCPF), though sub optimal, may at best contribute partly to pay for monthly O&M costs in some settings, if implemented successfully.
- NPHCDA investment plan for the 1 PHC per ward programme makes provisions for solar power infrastructure and maintenance expenses.
- If successfully harnessed, BHCPF and NPHCDA's 1 PHC per ward programme investments may provide promising opportunities for funding more sustainable delivery models for HFE. However, Health Facilities Electrification plans cannot solely depend on anticipated government funding that has not yet been fully implemented or proven.
- Innovative financing grants such as performance-based financing and counterpart funding have recorded some success in the PHC system in Nigeria including the $500 million World Bank program-for-results (P4R) Saving One Million Lives (SOML) initiative and the Routine Immunization and PHC innovative financing MOUs with donors and selected states.

Investment considerations and recommendations

- With approximately 3,433 functional Type 2 PHCs readily available for electrification in the short term, an estimated $180 million ($103m CAPEX and $77m OPEX cost) is required to provide 17.2MW installed solar PV systems (at 5kWp per PHC, $6/kWP CAPEX and 5% of CAPEX as OPEX estimate).
- In the medium-term, an additional 6,567 PHCs would require $345 million ($197m in CAPEX and $148m in OPEX) to provide 32.8MW and achieve NPHCDA's overall target of 10,000 functional and electrified PHCs.
- Work towards mitigating financial risks by providing blended financing options including performance-based grants, subsidies, equity and debt financing for private sector energy services companies.
- Explore funding opportunities with the BHCPF and community-based funding models to supplement O&M costs in some settings, if implemented successfully.
- Donor grants and subsidies can facilitate purchase of energy efficient appliances and retrofits for health facilities, cover a portion of CAPEX expenses for private ESCOs and fund indicated capacity building programs.
- Long-term concessionary loans from impact investors are required to encourage private sector energy service companies to participate in health facilities electrification.

About SEforALL

Sustainable Energy for All (SEforALL) is an international organization that works in partnership with the United Nations and leaders in government, the private sector, financial institutions, civil society and philanthropies to drive faster action towards the achievement of Sustainable Development Goal 7 (SDG7) – access to affordable, reliable, sustainable and modern energy for all by 2030 – in line with the Paris Agreement on climate.

We work to ensure a clean energy transition that leaves no one behind and brings new opportunities for everyone to fulfil their potential.

About Power Africa

Power Africa is a U.S. government-led initiative that addresses one of the most pressing challenges to sustainable economic growth and development in Sub-Saharan Africa: access to electrical power. Power Africa provides coordinated support from the U.S. public and private sectors to add cleaner, more efficient electricity generation capacity, which benefits residents and businesses across the continent.

In support of Power Africa, USTDA provides critical early-stage planning to spur new power generation, and transmission and distribution infrastructure. These activities support a range of energy development and deployment from power generation to grid modernization, which increase efficiency and improve access.

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Contact us to learn more

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