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Powering Primary Healthcare Facilities through solar in India: Lessons from Chhattisgarh

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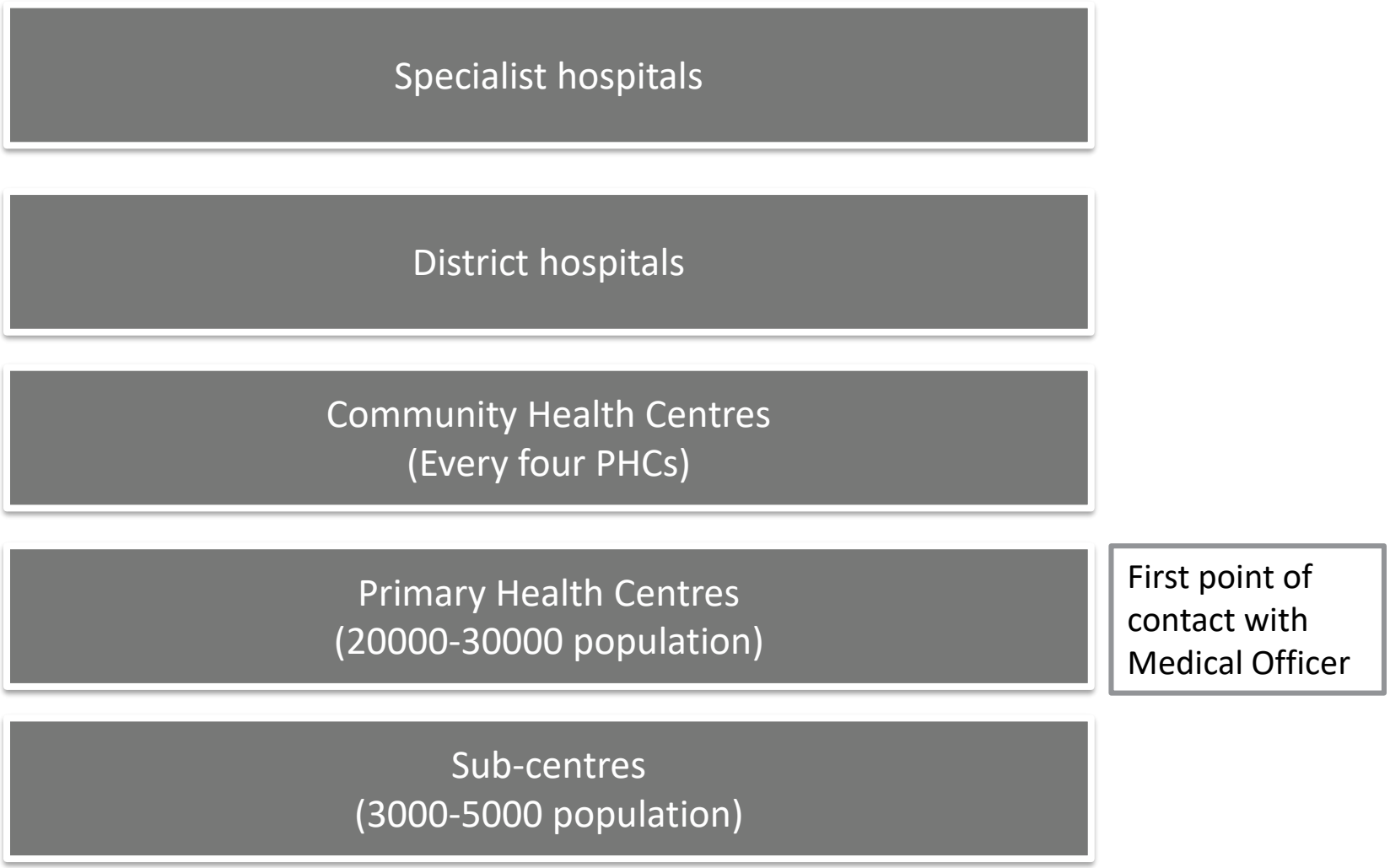
Agenda

- Change in electrification situation in Primary Healthcare Centres in India
- Impact of electricity access on service provision and other aspects of healthcare
- Chhattisgarh's experience with solar PV for Primary Health Centres
- Lessons and Discussions

Public healthcare system in India



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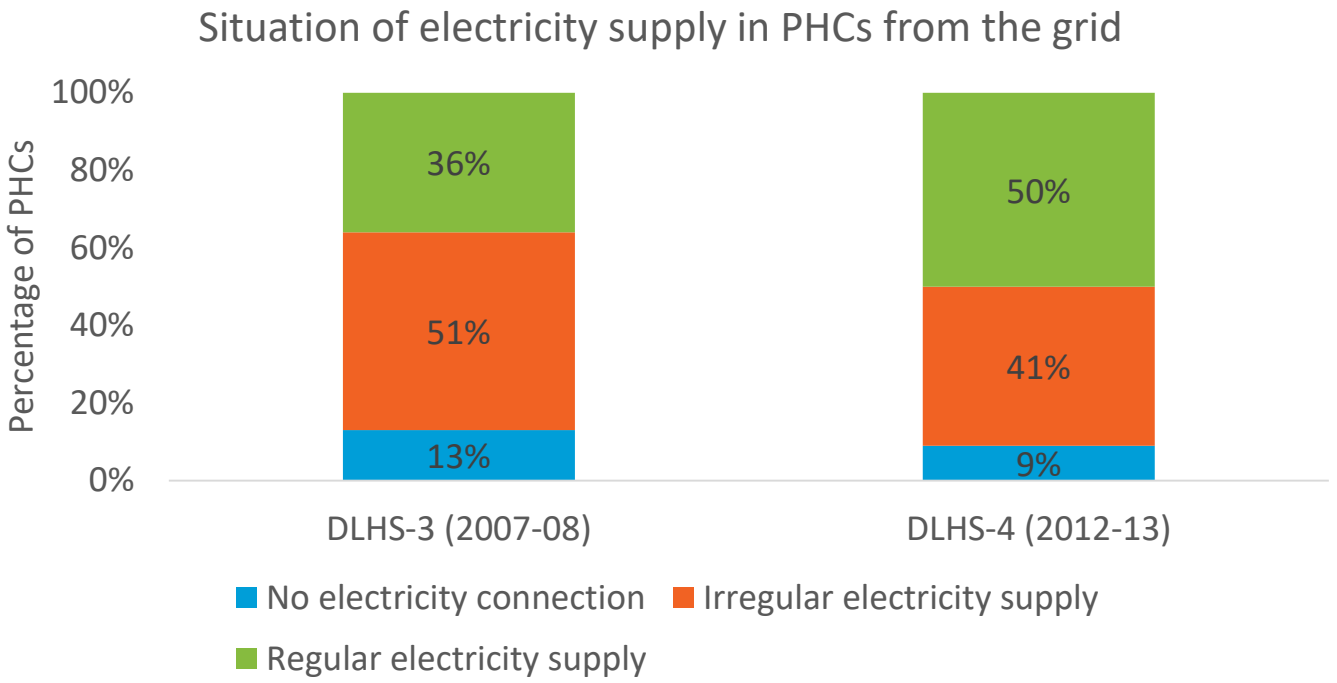
Access to regular electricity supply at PHCs in India has improved between 2007-08 and 2012-13



Situation improved yet half of the PHCs without regular electricity supply

Clarity around the term 'regular' in surveys

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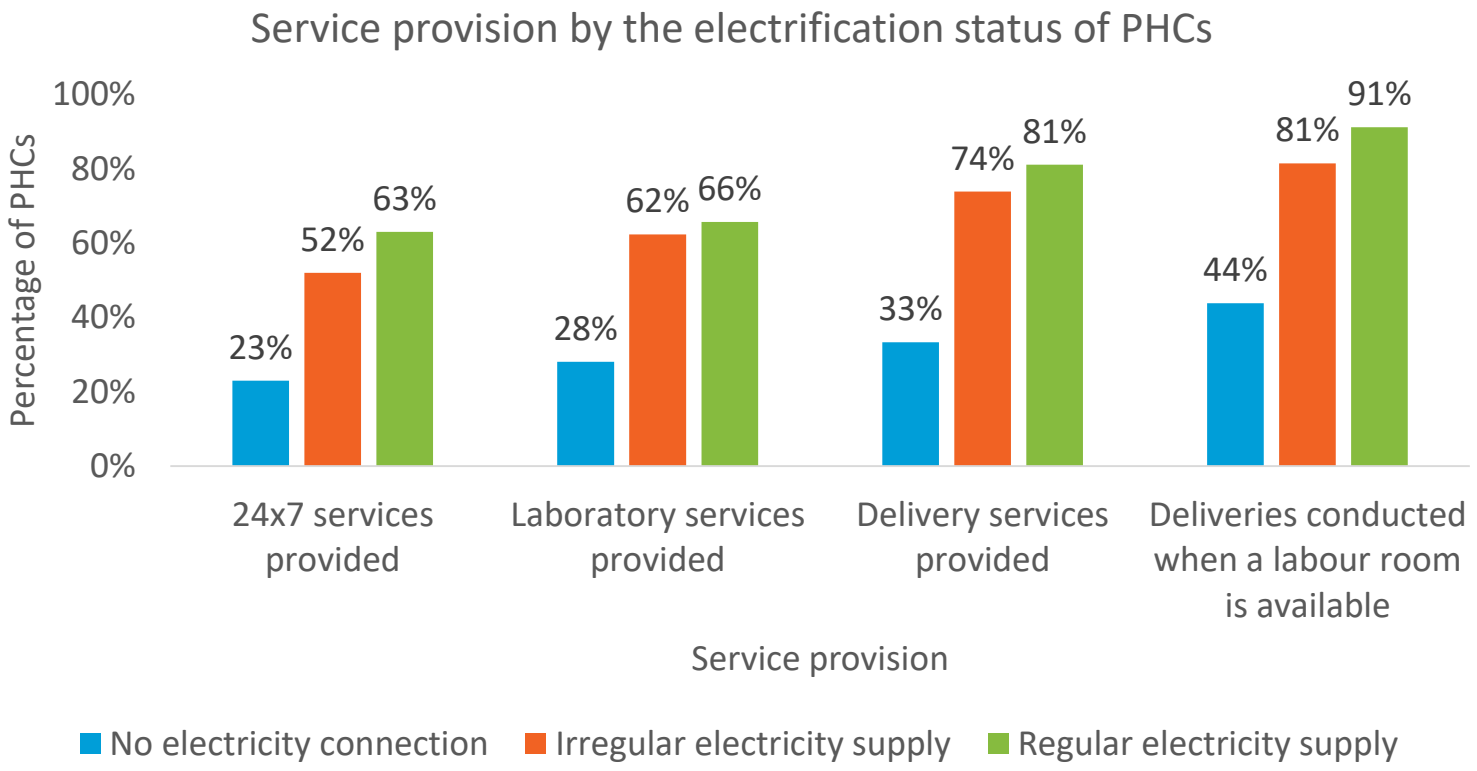
Service provision with improvement in electrification status of the PHCs



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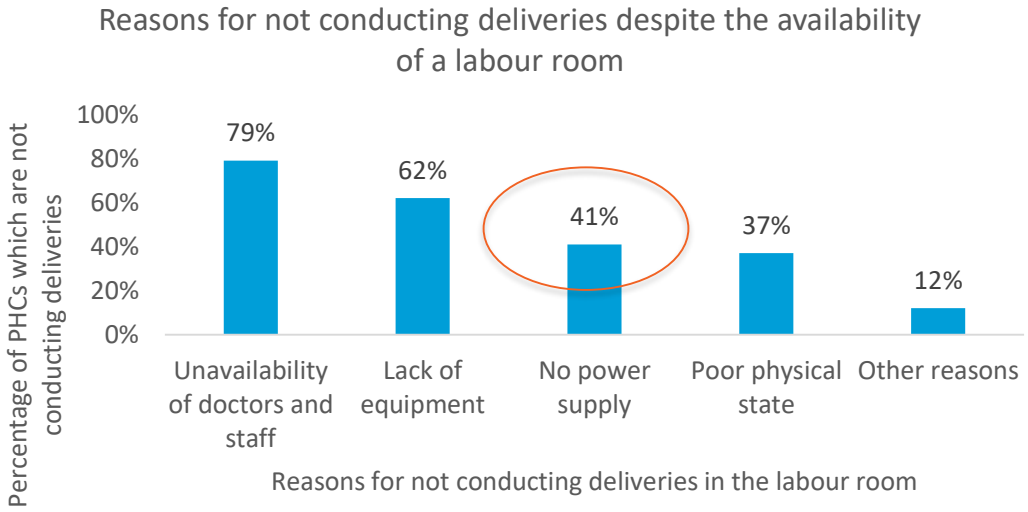
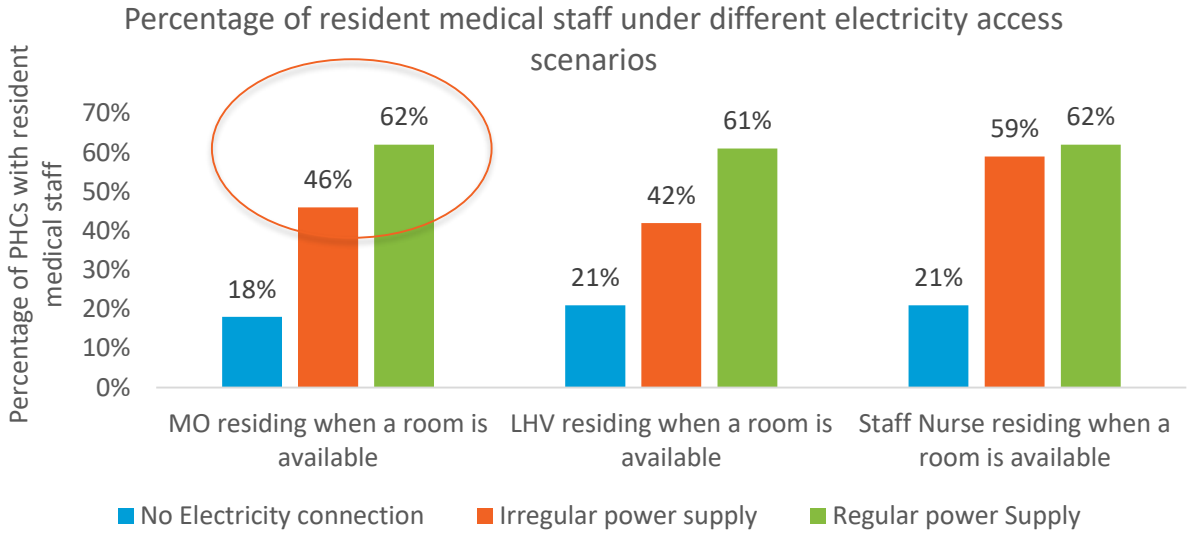
Indirect impact of lack of electricity access in primary health centres





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What does it take to run a Primary Health Centre?

Essential requisites for delivery of primary medical care

Infrastructure

- Building and Furniture
- Medical equipment
- Medicines

- Water
- Electricity

Manpower

Finance

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Evaluation of PHCs in Chhattisgarh

Evaluation of Solar PHCs in Chhattisgarh

Context:

- According to DLHS-4 (2012-13), one-third of the PHCs did not have regular power supply in Chhattisgarh.

Intervention:

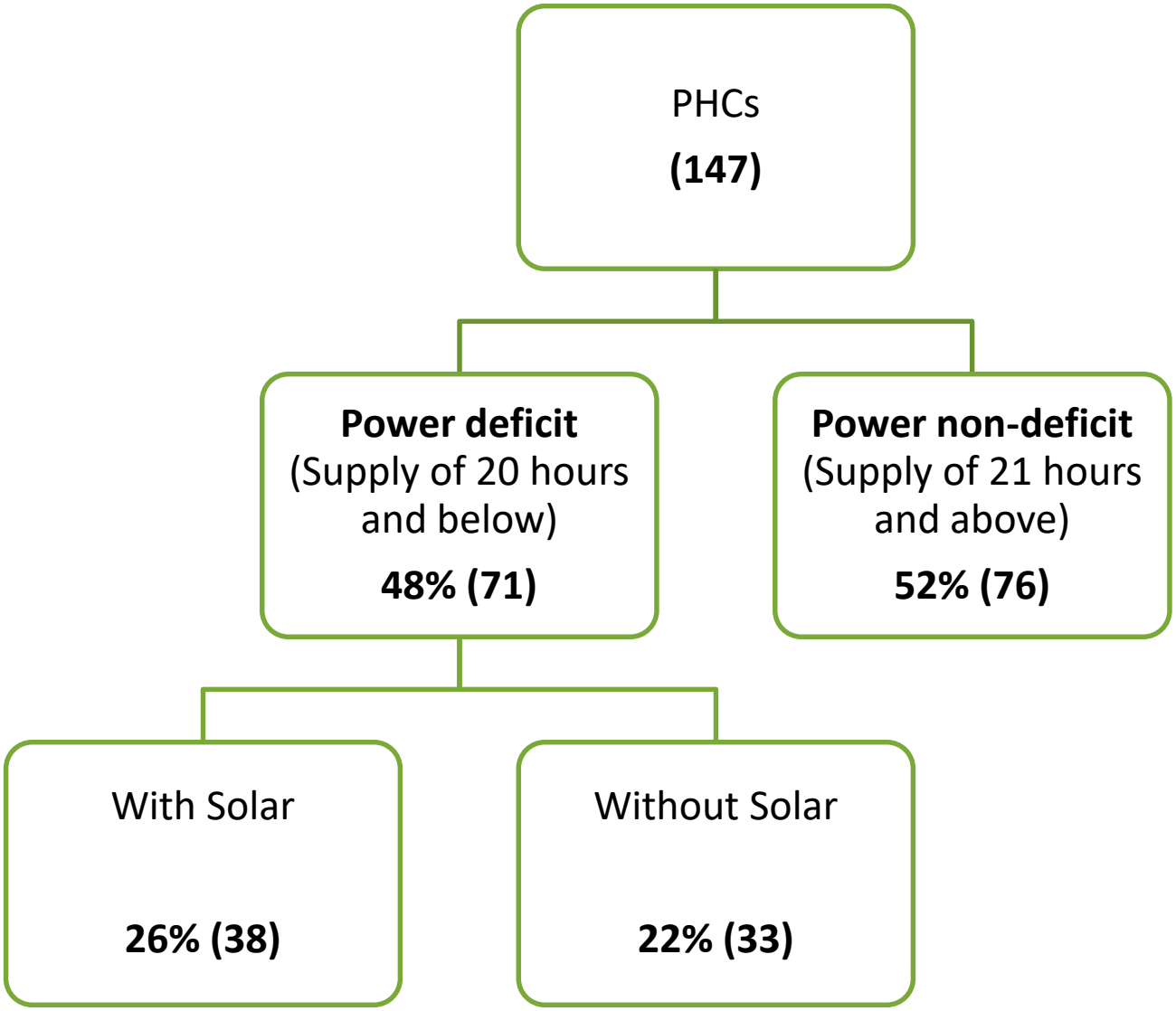
- CREDA installed 2 kWp solar PV rooftop systems across 570 PHCs between the years 2012 and 2016, which would provide a backup of three to four hours everyday.

Evaluation:

- In 2017, CEEW conducted a primary survey of 147 PHCs (83 solar and 64 non-solar) in 15 districts with the objective to understand the impact of improved electricity access (through rooftop solar PV system) on health service delivery.

Some key findings of the study

Lens for analysis



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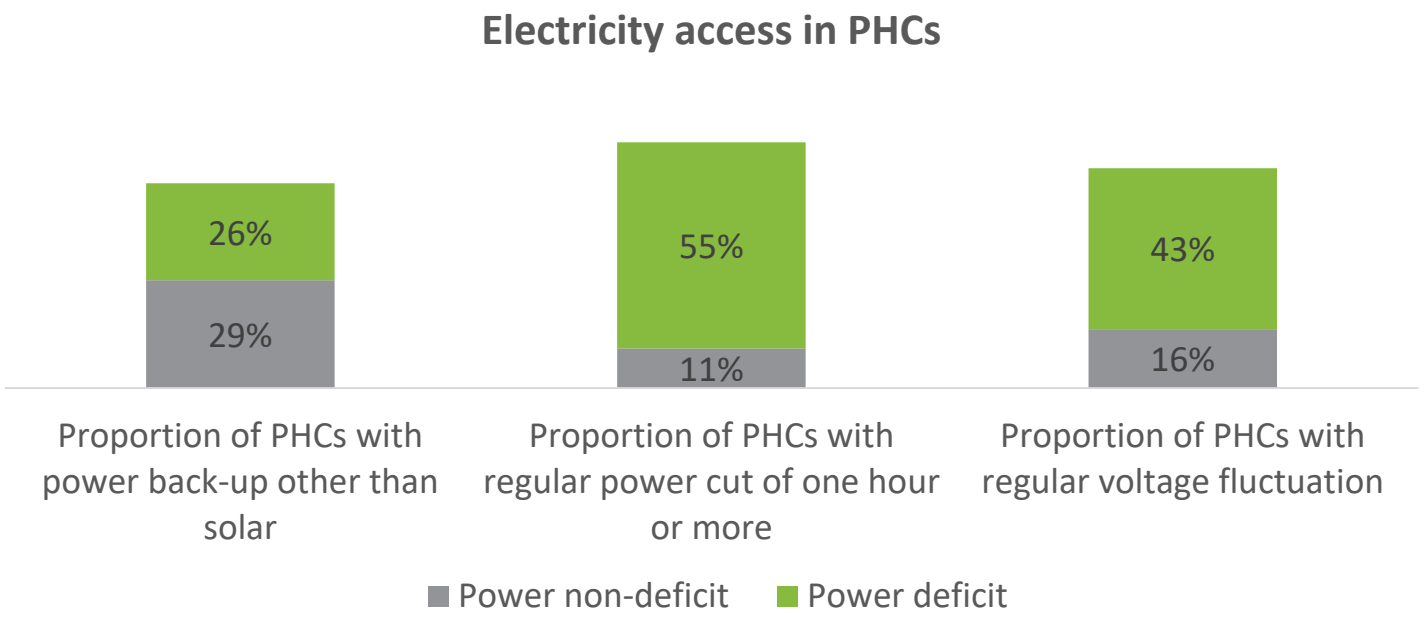
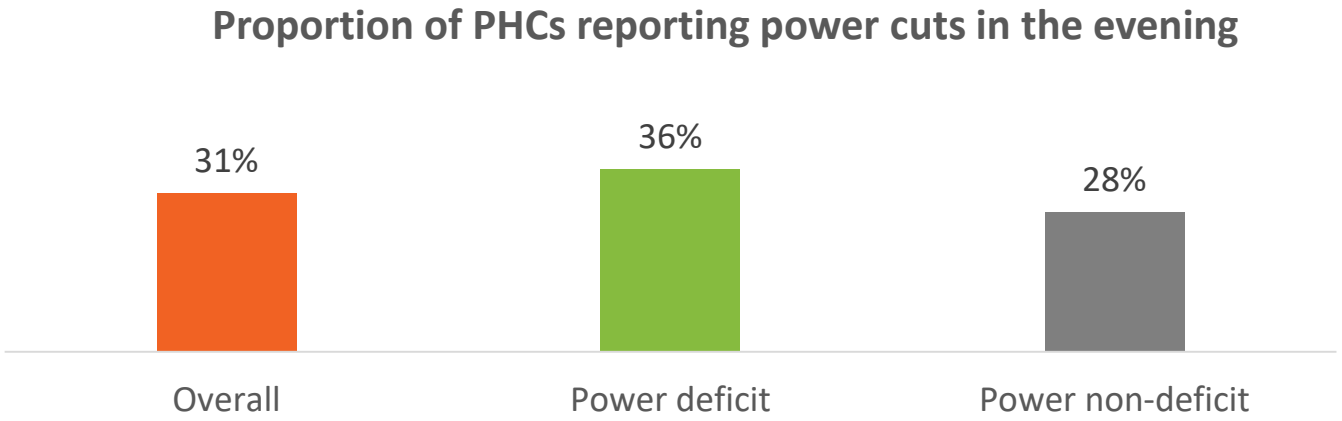
Electricity access situation in power-deficit and non-deficit PHCs





SOURCE: CEEW Analysis 2017

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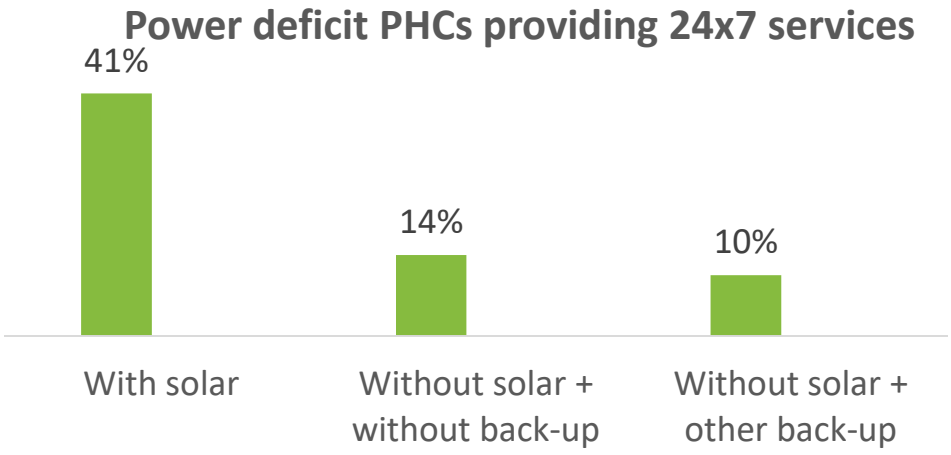
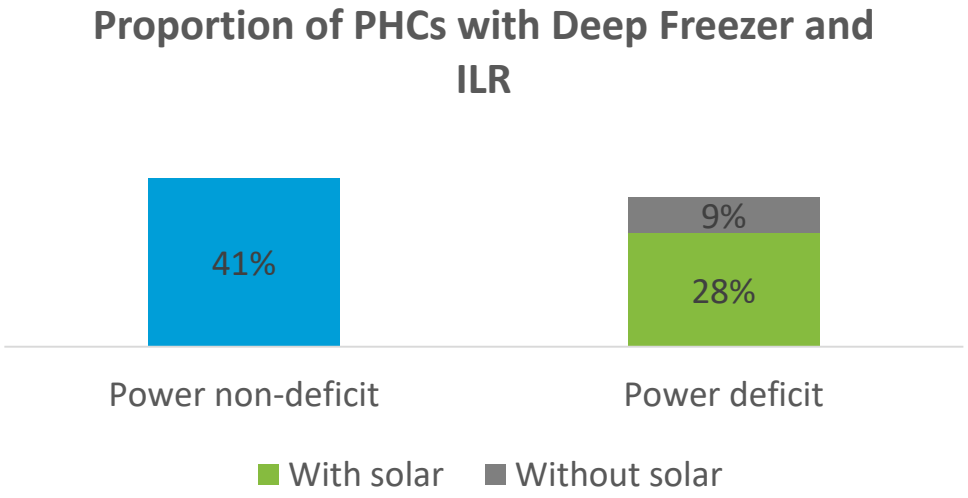
Prioritise alternative sources for key services among power deficit PHCs



- 41% of the power deficit PHCs that provide 24x7 services have a solar back-up, 14% deprived of any form of back-up



- 37% of power deficit PHCs have critical equipment, 28% are getting back-up from solar systems

SOURCE: CEEW Analysis 2017

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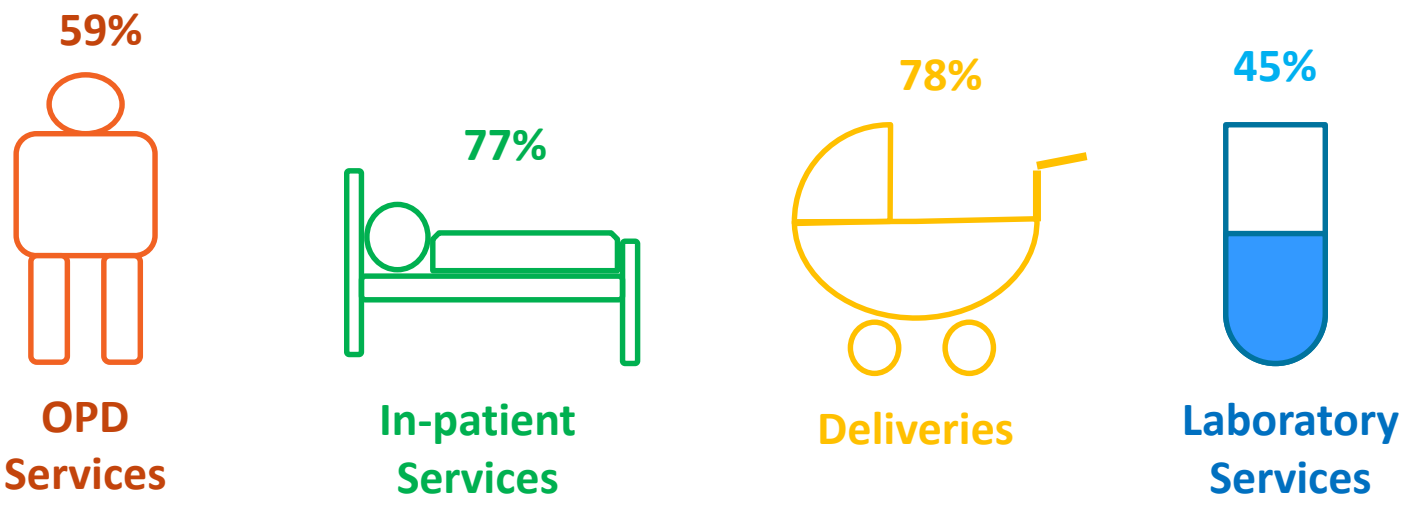
Staff perception (1/2)

Proportion of PHCs reporting ease in delivery of services due to solar



Source: CEEW Analysis 2017

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Staff perception (2/2)

Benefits:

- Overall PHC services less affected by power cuts
- Solar has also helped PHCs facing high voltage fluctuations, especially for cold chain points
- **Specific improvement in ease of services due to solar :** cold chain points, in-patient and delivery services
- Services during the night, especially delivery and emergency services have benefitted from solar

Concerns:

- Maintenance of solar was a concern raised, especially in PHCs with older systems
- Some PHCs asked for expansion in capacity of solar systems

Source: CEEW Analysis 2017

Lessons and Discussions (1/2)

- Mainstream electricity access as a critical component of health system infrastructure.

- Augment electricity supply with alternative systems with prioritisation:
  - Power-deficit health facilities and 24x7 services
  - Labour rooms
  - staff quarters for improving residential facilities
  - cold chain points in power deficit PHCs

- Tailor solar system design based on local needs. Need better understanding of energy needs at the facility level to design cost-effective and resilient solutions

- Criticality of O&M for sustainability and budget allocation for the same

- Energy efficiency important, even in existing set-ups

- Dependence on electricity defined by functions – e.g. delivery services vs in-patient services

SOURCE: CEEW Analysis 2017

Lessons and Discussions (2/2)

- Integrated approach – collaboration among ministries, but also explain the political economy (target setting, etc.)
- Accounting for the maintenance of systems in public financing
- Mixed methods of evaluation - not focus on numbers alone but include quality of service, short-term and long-term assessments
- Comprehensive approach to understanding infrastructure – **multidimensional** and **systems approach** (water access, staff retention, etc.)
- Recycling and re-use policies (now)

SOURCE: CEEW Analysis 2017

Thank You

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