

# IMPACT OF GREEN ENERGY INSTALLATIONS ON MATERNAL AND NEWBORN HEALTH – BUNGOMA COUNTY, KENYA

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## BACKGROUND

- In Kenya it is estimated that 50-75% of primary health facilities and 75% of hospitals are connected to the National Grid.
- To promote maternal and newborn health, power is required for various functions, including; prenatal care, child birth, emergency resuscitation, cold chain management – blood banks and vaccine fridges, laboratory, CS and Infection Prevention and control.
- WHO describes the Health and Energy Nexus as critical in ensuring quality of care at all levels of service delivery
- MANI Installed 57.5 Kwp capacity of Solar PV and 3500 Litre capacity of Solar Water Heating Systems



Ending preventable maternal and new-born deaths



Access to modern energy and increasing share of renewables



Resilience and adaptive capacity to climate-related hazards

## METHODS

- Cross-sectional study in 13 sampled facilities with Energy Remote Management Systems.
- Cost savings estimation using the RMS
- UNEP Carbon emissions calculator
- Workload analysis for MNH services using DHIS2 and EMONC assessments.

7.5KwP in Naitiri SC Hospital & 200 Litre Water Heating

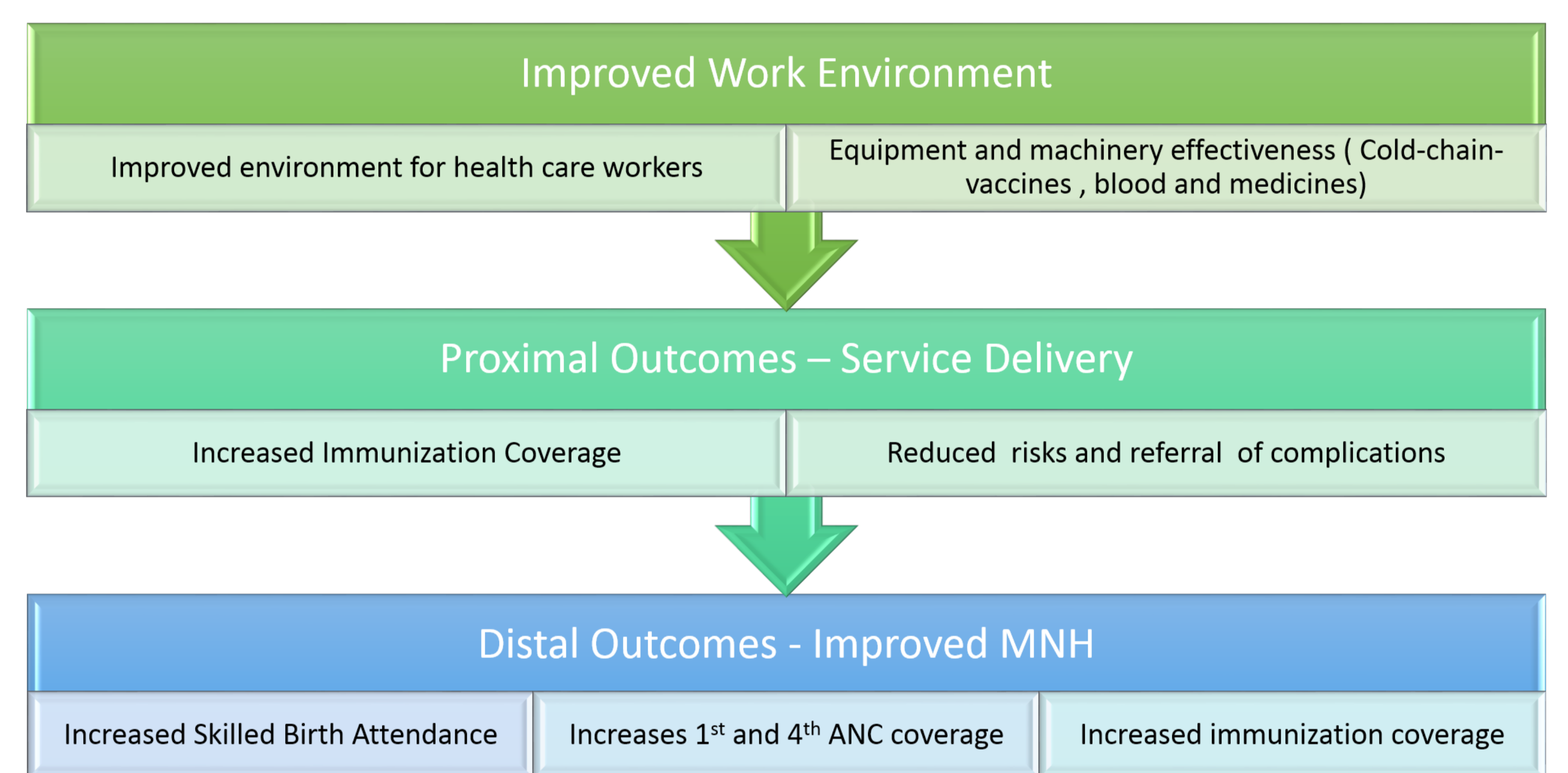


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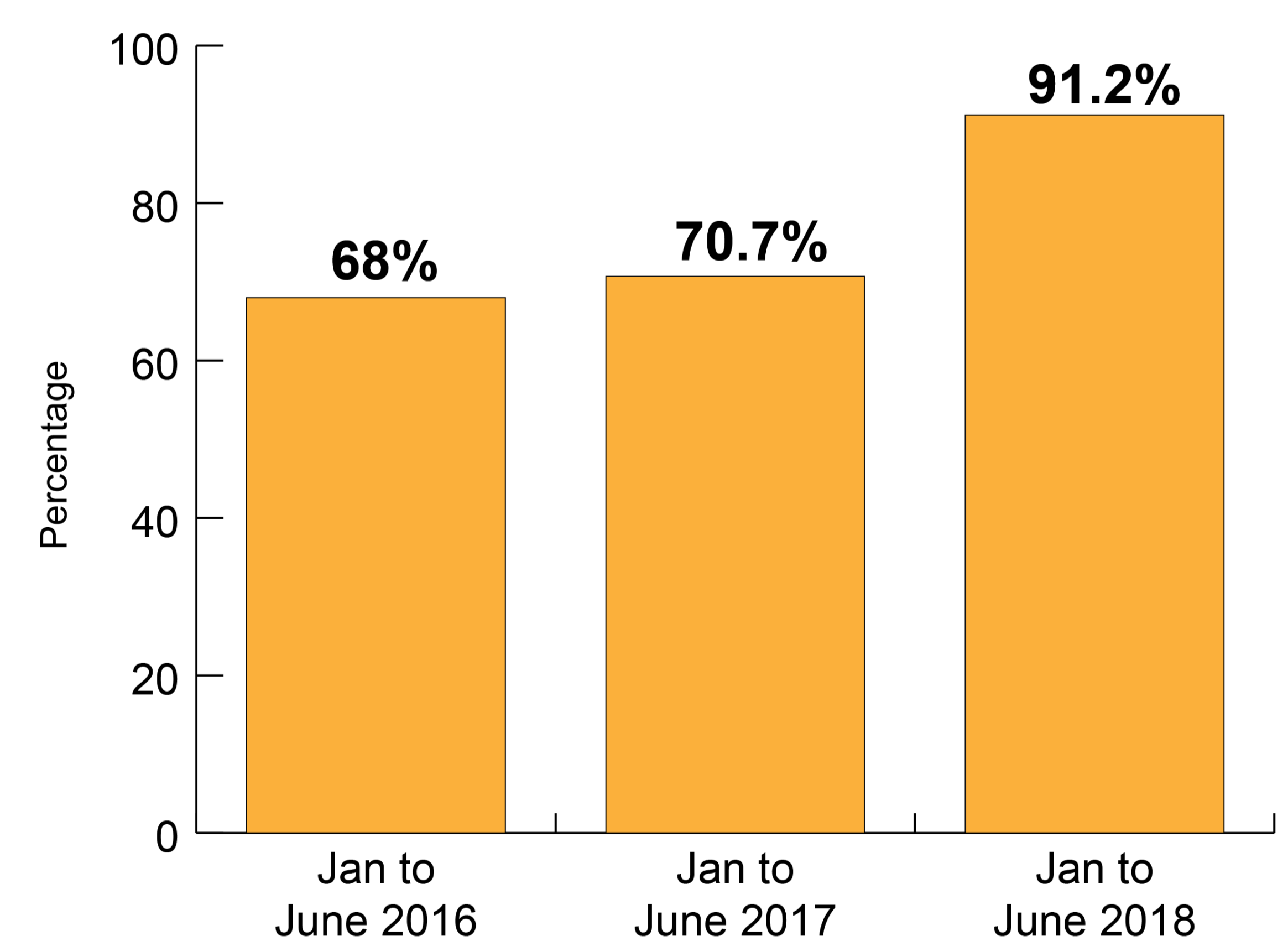


## FINDINGS

- 24,583 KwP generated between Jan – June 2018 with 17,208.1Kgs carbon evaded in the 13 Health Facilities
- Ksh 540,804 savings in 6 months (\$5,408 USD) if the facilities were to purchase grid power



Skilled Birth Attendance Coverage in 13 Facilities compared for Jan-June for 2016, 2017 and 2018



*“The solar energy has made us not refer a lot of premature babies. For example if a mother delivered a baby of between 28-32 weeks, we are able to keep the baby warm using solar and when they are stable we transfer them to kangaroo mother care, so it has reduced referral of low birth weight and premature babies in Bungoma.”*

Nurse Kabuchai Health Centre

## CONCLUSIONS AND RECOMMENDATIONS

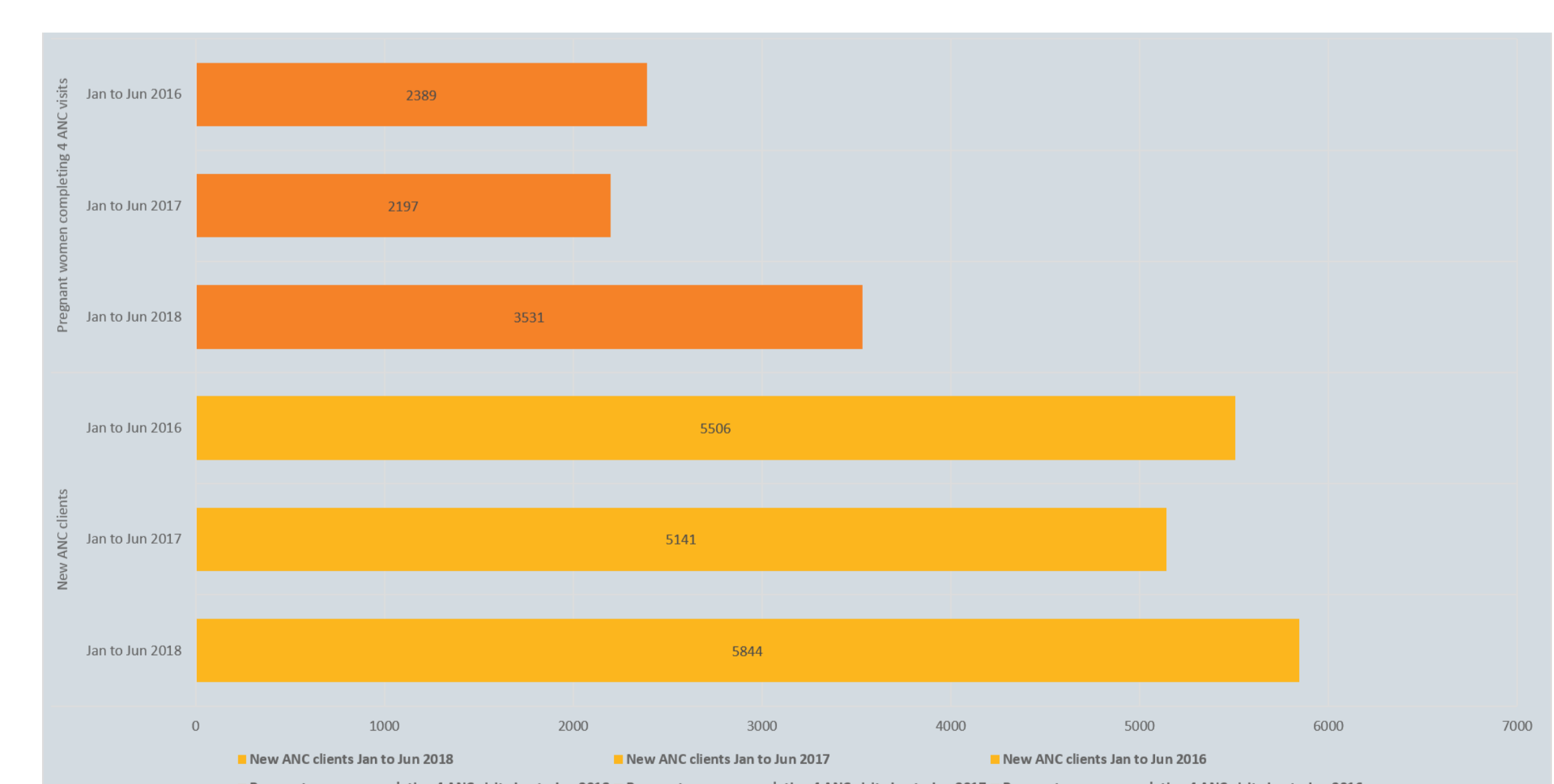
Embracing the health and energy nexus results in rapid change including cost savings and improved quality of care.

Significant indirect benefits are also achieved including increased staff motivation.

Use of solar power can result in improved outcomes at remote and hard to reach facilities.

A large scale study of the impact of the health and energy nexus is needed, collecting quantitative and qualitative data on a range of outcomes.

Comparison of First and Fourth ANC for the period Jan-June 2016, 2017 and 2018



## References

- 2015 Mikul Bhatia, Nicolina Angelou; Access to modern Energy Services for Health facilities in resource-constrained settings
- 2017, Timothy A. Bouley; Climate-Smart Healthcare, Low Carbon and Resilient Strategies for Health Sector World Bank
- 2015, UNDP Sustainable Development Goals