Solar-direct-drive cold chain performance in off-grid clinics

Plain-language research summary

Study type	Field evaluation, 36 months
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Authors	Mwangi J, Raghunathan P.

The finding, in one sentence

Temperature excursions fell by 62% against generator-dependent refrigeration, with maintenance cost lower after month fourteen.

How the study was done

- Forty clinics were fitted with continuous temperature logging for three years.
- Both capital and running costs were tracked, including fuel, parts and technician travel.

What it showed

- Excursions fell by 62%, and the remaining excursions clustered around door-opening rather than power failure.
- Higher purchase cost is recovered in under fourteen months where fuel must be transported more than 50 km.

What it does not show

- The evaluation covers one manufacturer's equipment and should not be read as a general finding about the technology.
- Three years does not establish end-of-life behaviour for the batteries.

Independence

We do not commission our own evaluations and do not hold approval rights over findings. Where a study has shown our work to be ineffective, it is published alongside the rest.