Sustainable Intensive Care Unit for Newborns

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Every year 4 million newborns die from easily preventable pathologies.

While child mortality has been decreasing steadily in the last decade, neonatal mortality has remained constantly high (currently, 50% of all child deaths occur in the neonatal period).

A very high number of children every year develop long-term disabilities caused by the lack of appropriate interventions immediately after birth.
Intensive newborn care in developing countries

- Lack of functioning essential technologies

- If technologies are available, they often do not match the conditions in low-resource countries:
  - High cost of ownership over time (expensive and/or difficult to provide disposables)
  - Machines too complex for low skilled healthcare providers
  - Lack of spare parts, technical expertise in maintenance and reparation
A case-study: The Breath of Life Program
Theoretical architecture

The four "A"

- Appropriateness
- Affordability
- Accessibility
- Availability
Appropriate technologies for newborn care

- Locally produced from a team of local and international researchers
- Low price
- Disposable free
- Software developed for low-resource settings
- Local technical support
- Easy to use, with local language manuals and instructions
- Durable and reliable
CPAP machine
LED phototherapy
Key features of the program

Appropriate Technology

- Intensive training
- Long-term technical support
- Private-public partnership
- Continuous medical follow-up
Main achievements (2005-2010)

- Distributed more than 3,000 devices in over 200 hospitals in 4 countries (Vietnam, Cambodia, Laos, East Timor)
- Trained more than 2,000 healthcare providers
- Every year, 45,000 infants are treated with BOL machines
- On average, hospitals have reduced 24-hour mortality by 70%
- Exchange transfusion reduced to 0 for the inborn infants
Thank you very much!