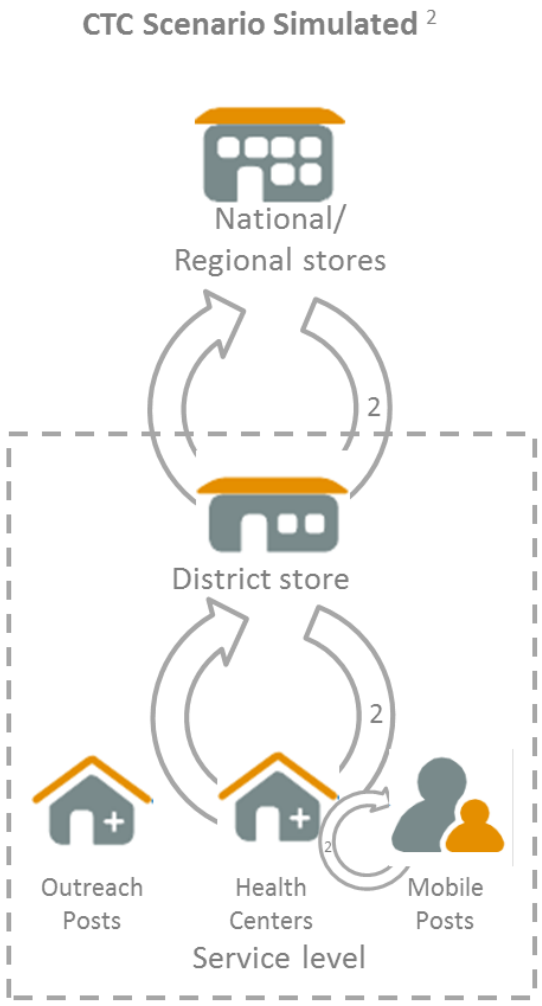
# The Economics of CTC

## Potential Economic Impact
## Modelling Exercise in Chad during 2012 MenAfriVac Campaign

*Patrick Lydon (WHO)*


**Additional explanation**:

1. This figure illustrates the cold chain and logistics system as was implemented during the Men-A campaign in Chad and for which, costing data was collected for this analysis.
2. The circular arrows depict the continuous supply and re-supply of vaccines and ice-packs. At the start of each day, the vaccines and cold chain equipment needed to be transported to the vaccination sites. From the district level drivers would be dispatched to provide cold boxes, ice-packs and vaccine and to re-supply vaccination sites with vaccines and fresh ice-packs and to collect the used ice-packs so that these could be placed back into the ice-pack freezers for the next day. At the end of the day, a driver would return to the vaccination site to collect the cold boxes, ice-packs and any unused vaccines to store back at the district.
3. This figure illustrates the cold chain and logistics system scenario used to simulated the impact of implementing CTC from the district storage level down to service delivery. The dashed boxing represents the part of the CCL system where vaccines would be kept at ambient temperatures rather than in the cold chain and logistics system.


Logistics of vaccine arrival for the campaign

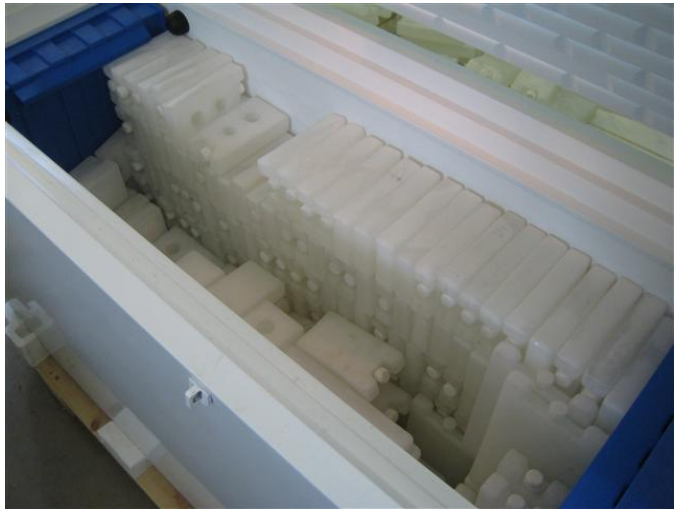
Logistics of preparing all the ice-packs

Freezing ice-packs in advance of the campaign

Managers overseeing the CCL work ;-)

Deploy cold chain equipment


Deploy systems for electricity



Important production of ice packs

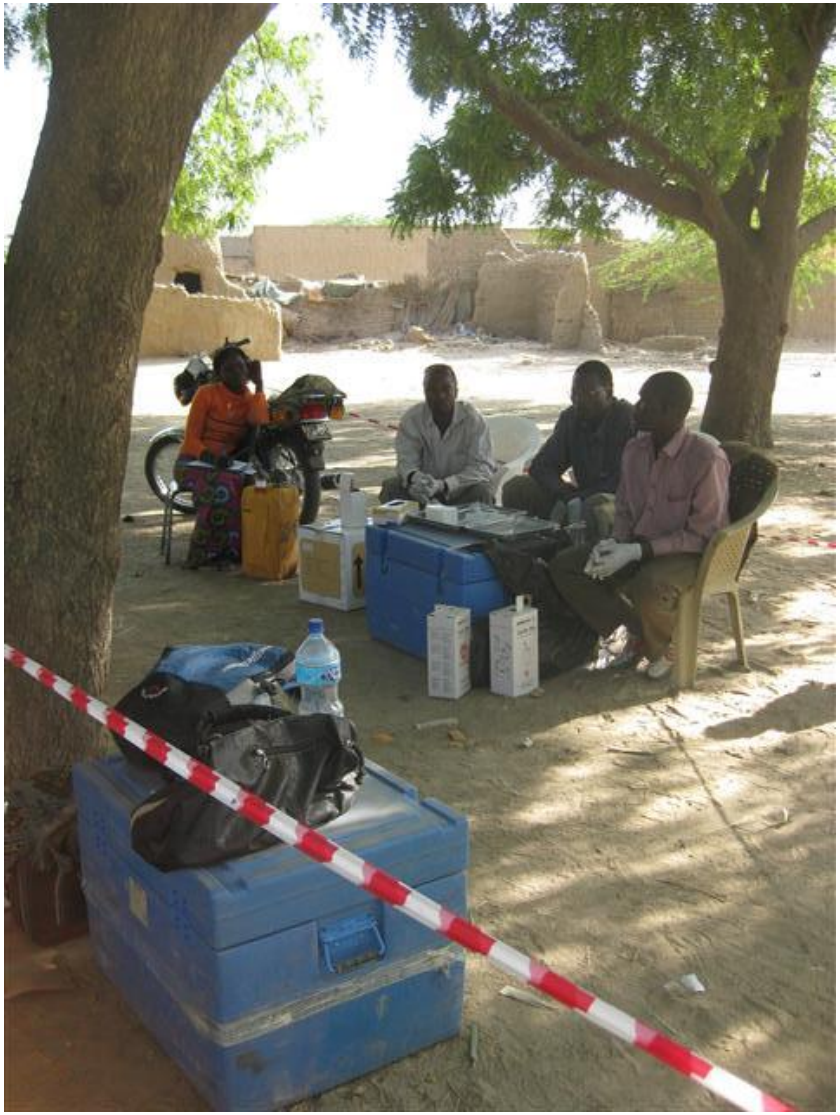
Temporary setups just of the campaign


Rental of trucks to deploy cold chain equipment

Utilization of existing vehicles for immunization


Rental of vehicles at district level

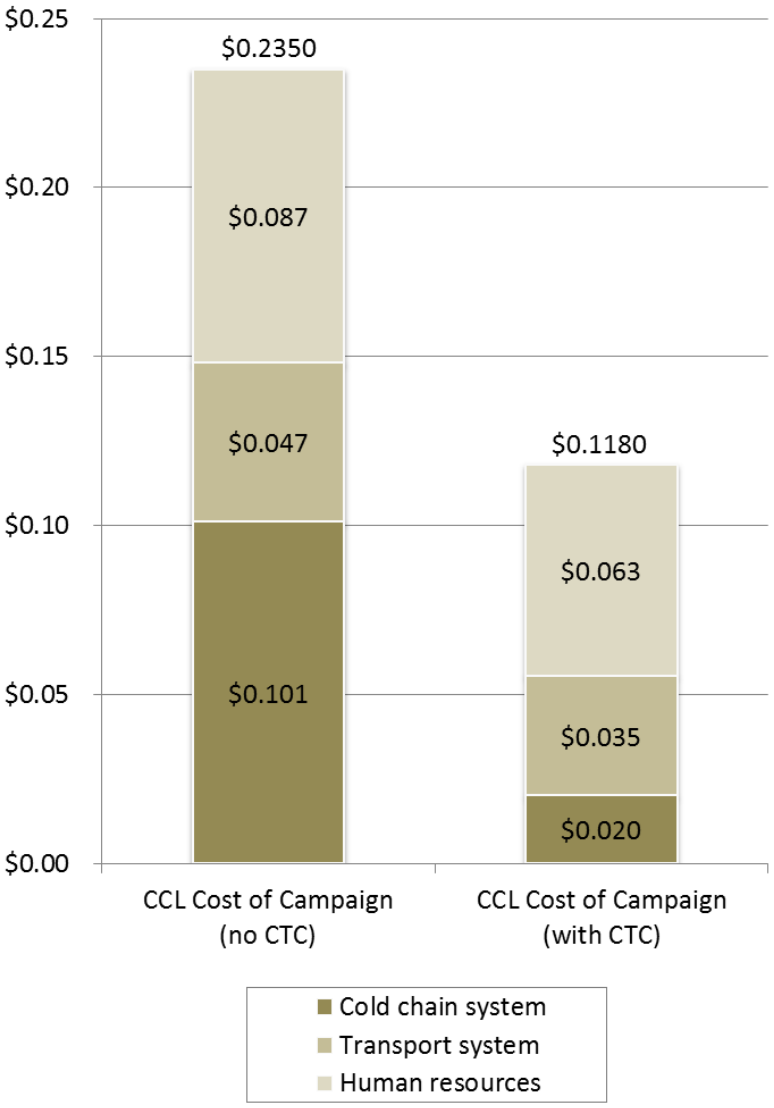
Utilization of private/personal vehicles

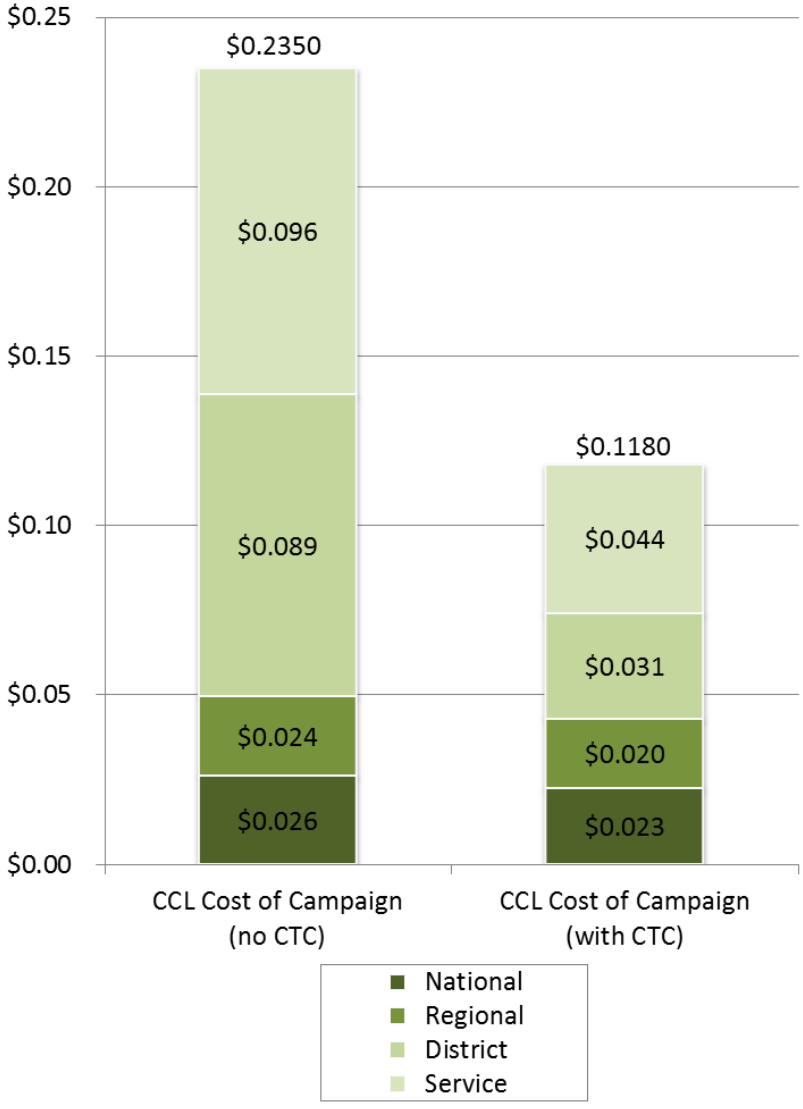


Outreach post (< 15 kms from a fixed site)

Fixed site


Mobile Team (>15 kms from a fixed site)


$0.25
$0.20
$0.15
$0.10
$0.05
$0.00
$0.2350
$0.087
$0.047
$0.101
$0.1180
$0.063
$0.035
$0.020
CCL Cost of Campaign (no CTC)
CCL Cost of Campaign (with CTC)
Cold chain system
Transport system
Human resources


$0.25
$0.20
$0.15
$0.10
$0.05
$0.00
$0.2350
$0.096
$0.089
$0.024
$0.026
$0.1180
$0.044
$0.031
$0.020
$0.023
CCL Cost of Campaign (no CTC)
CCL Cost of Campaign (with CTC)
National
Regional
District
Service