Optimising the impact of BCG on neonatal mortality

Age and missed opportunities

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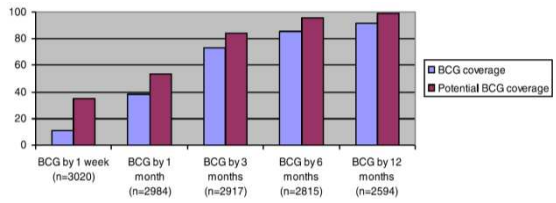
BCG coverage and missed opportunities in rural Africa



Thysen et al, BMC Public Health, 2014

Current wastage policy

BCG 20 dose vials
Opened for 10-12 children

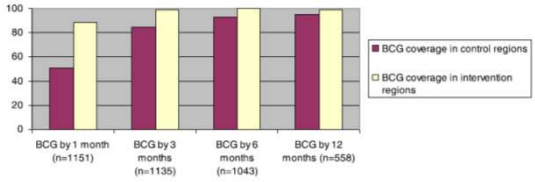
Implications of wastage policy

Rural Guinea-Bissau

Monthly visits

BCG vaccination at a local vaccination post during village visits

Implications of wastage policy



Thysen et al, BMC Public Health, 2014

BCG → Scar

Determinants for BCG scar

Post-vaccination wheals → BCG scarring

Larger post-vaccination wheals → more BCG scars

Funch et al, under preparation
Frankel et al, Vaccine, 2016

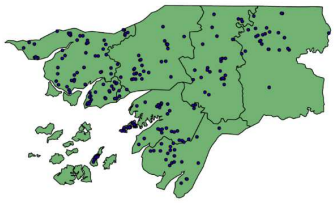
Determinants for BCG scar

Experienced nurses and training → more scars

No underlying health marker affected BCG scarring

Funch et al, under preparation
Frankel et al, Vaccine, 2016

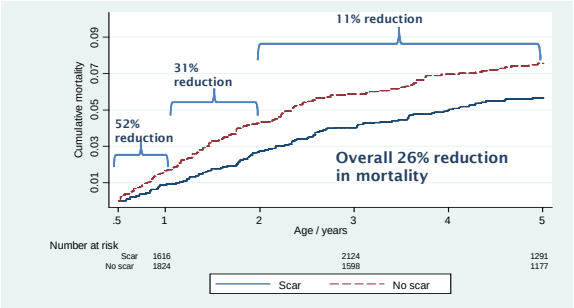
BCG scar and mortality Rural Africa



Scar prevalence 52% among BCG vaccinated children

Storgaard et al, CID, 2015

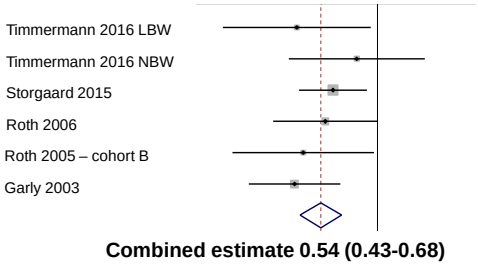
BCG scar and mortality Rural Africa



Storgaard et al, CID, 2015

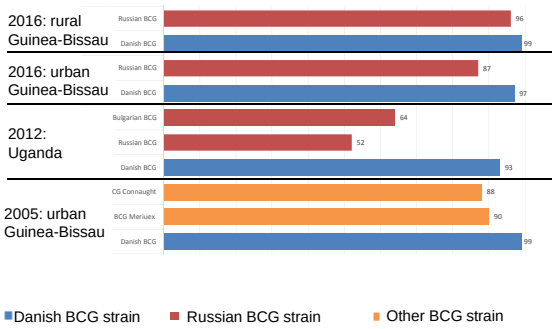
Mortality

Consistent results in 6 studies covering both high and low scar prevalence cohorts



Combined estimate 0.54 (0.43-0.68)

BCG strain and scar frequency

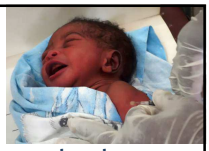


Conclusions and recommendations

BCG vaccination policy

- Age of BCG vaccination is important
  - Remove wastage policy
- BCG scar is associated with lower mortality
  - Consider re-vaccination of scar-negative children

Conclusions and recommendations



- Vaccination technique is important
  - Intensive training in vaccine administration
  - Monitor BCG scar and vaccination technique in assessment of the BCG program
- Strain of BCG is important
  - Study overall effect of different BCG strains
  - Consider overall effect when approving vaccines