Need for task shifting and decentralization in treatment delivery to fight against hepatitis B: a situation analysis of Madagascar
Conflicts of Interest

Authors declare no conflicts of Interest
Madagascar island

- Madagascar: 587,041 km²
- Estimated population 24,894,551 (2016) – 35.2/km²
- 6 provinces: uneven distribution of care

- 20 CHU - CHRR
- 87 CHD1 – CHD2 (119 districts)
- 2600 CSB /17,485 localities
Hepatitis B : before 2017

- Previous studies: prevalence 5-26% (Boisier et al., 1996)
  - Sex worker, inmates, pregnant women
- Pentavalent vaccine since 2002 (W6 - W10 – W14)
- No national hepatitis program
- Marketing authorization
  - Lamivudine (2008)
  - Tenofovir (2009)

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- Cross-sectional survey (28 areas): stratified multi-stage sampling
- HBsAg detection (ELISA method)
- Assessment of laboratory capacities and facilities in HBV screening, clinical staging of hepatic disease and treatment delivery (WHO technical report 2016)
- Phylogeography studies: gene flow of 100 isolates
Seroprevalence HBsAg

- 1778 participants
- Sex-ratio : 1.02
- Median age : 35 years (IQR : 26, 47)
- Weighted seroprevalence of HBsAg : 6.9% [95% CI 5.6-8.6]
- From 2 to 26 %
- 56 sites :
  - 24 sites : [8-26]%
  - 16 sites : [5-7]%
  - 10 sites : [2-4] %
Seroprevalence AgHBs

Among 1600 municipalities:
- 50 urbain
- 150 suburbain
- 1400 rural
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Among study population (Socio-economic):
- Low: 52.5%
- Middle: 42.5%
- High: 5.0%

Andriamandimby et al., 2017
Seroprevalence AgHBs

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- Facilities test HBsAg:
  - Capital: 1.02/100,000 population
  - Outside the capital: 0.21/100,000 population
  - Lack of supply for reagents

- 5 hepatologists:
  - Capital: 3
  - Outside the capital: 2 (only in the main capital of province)

- No Fibroscan, No HBV DNA PCR

- Tenofovir is not available, no AMM for Entecavir
Gene flow of VHB between 3 areas

- Main gene flow are from rural area to suburban area: rural area is the infection source

Andriamandimby et al., J Clin Virol 2016
**Discussion and conclusion**

- Risk factor for HBsAg
  - Low socio-economic status
  - Rural residents
- Rural area is the main source of viral diffusion to suburban area
- Severely limited infrastructure of HBV diagnosis (accessibility via main national road)
- Poor/remote communities: low awareness of hepatitis care
  - Lack of knowledge of hepatitis B (*Shimakawa Y, Pourette D et al., Lancet Infect Dis 2017*)
  - Inaccessibility or unavailability of healthcare (Hepatologist are the only licensed to prescribe antiviral)
  - Hepatitis vaccine: prevention of MTCT is not yet possible (Neovac project)
- Government reluctant towards task shifting

Without task shifting and decentralization of treatment, delivering for equity is utopian, eliminating hepatitis B as public health is a goal unreachable by 2030.
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Thank you