

Willingness to receive a future adult tuberculosis vaccine in Lusaka, Zambia: Perspectives from community members and healthcare workers

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Disclosures and Disclaimers

- I have no conflicts to disclose
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Background

- One or more new adult TB vaccines could become available in high TB burden settings in the next 5-7 years.
 - The COVID-19 pandemic was associated with high levels of vaccine hesitancy, which could undermine trust and uptake of a new adult TB vaccine.
 - Misinformation/disinformation/inadequate information.
 - Acceptance of future, novel adult vaccines, including TB in the post-COVID-19 pandemic era is largely unknown.
 - Limited evidence suggests that prior vaccine uptake and stated vaccine intention strongly predict future vaccine uptake → largely from high-income settings.
 - To reach adult community members and HCWs in high TB burden settings, it is crucial to understand both preliminary willingness to receive a TB vaccine and communication preferences to design strategies to optimize demand and acceptance.
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Methods

- **Design**: Cross-sectional, structured survey
- **Setting and Period**: Lusaka, Zambia; Nov. to Dec. 2023
- **Enrollment criteria**: Adults(18+); provide informed consent
 - **Community members**: Residing in study community
 - **Healthcare workers**: Provide direct clinical care
- **Sampling approach**:
 - **Community members (n=400)**:
 - 4 high-density, low-income communities with low COVID vaccine uptake.
 - All 4 are also high TB burden communities
 - Systematic random household sampling (1 per household; 10 households per community).
 - **Healthcare workers (n=100)**:
 - 10 health facilities; diverse in size and location in Lusaka
 - Randomly drawn from 4 departments: ART, MCH, TB, OPD (10 / facility)



Source: CIDRZ

Methods

- **Survey content:**

- Sociodemographics
- COVID-19 vaccine uptake
- Relative preference for future disease-specific vaccines
- TB risk perception; intention to receive a new TB vaccine
 - *"What would be your vaccine intention if there was a vaccine that could prevent TB (definitely get to definitely not get it)?"*
 - Participants given a brief, standardized description of TB
- Preferred and trusted sources for vaccine information

- **Analysis:**

- Descriptive statistics
- Mixed-effects Poisson regression was used to estimate the adjusted marginal probability of TB vaccine intention & most trustworthy vaccine sources.
 - Intention to vaccinate = "Definitely intend to get"

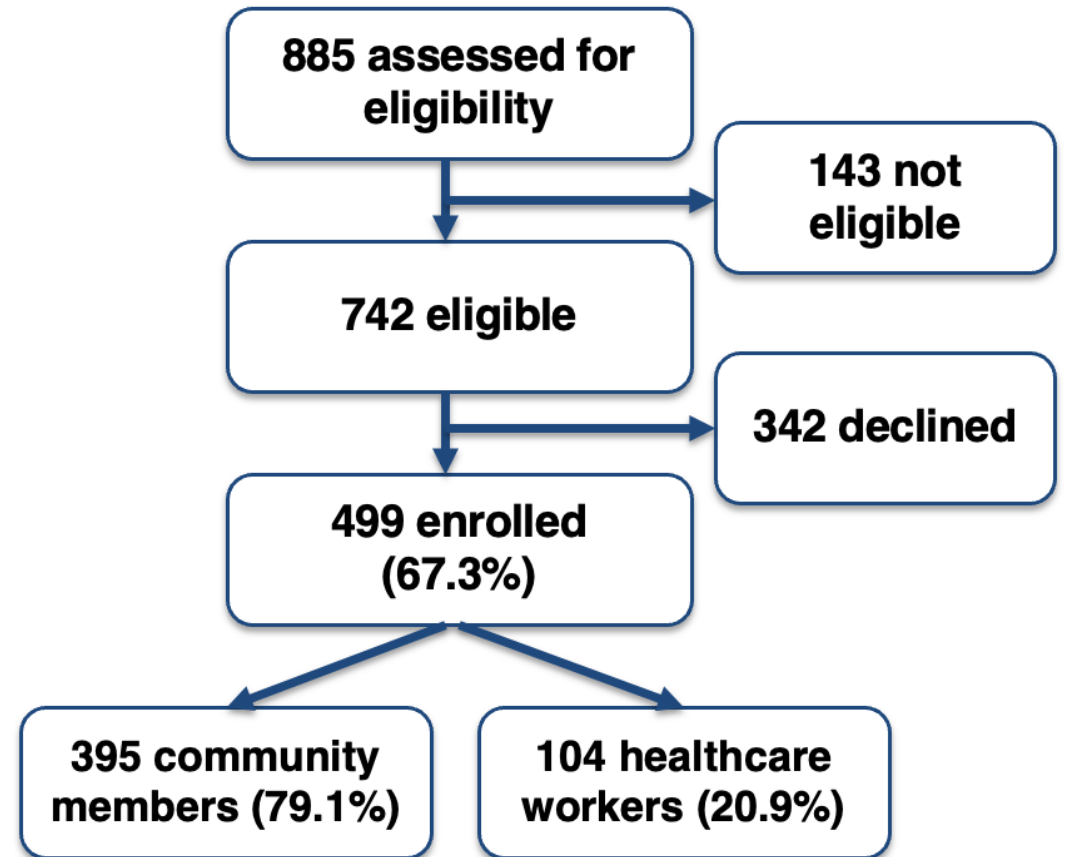
Standardized Description of TB

"Tuberculosis (TB) is spread by having close contact with people infected with TB. Symptoms include a cough, fever, sweats at night, and unintentional weight loss over a period of many weeks to months. It can be treated with a 4-drug antibiotic course for 6 months but will cause severe illness for most people if not treated, and you can die from it. If not diagnosed and treated quickly it can also spread to others including family members and friends. Young children, older people, and people with chronic medical problems are at higher risk of developing TB disease after exposure to the germ."

Results – Participant Characteristics

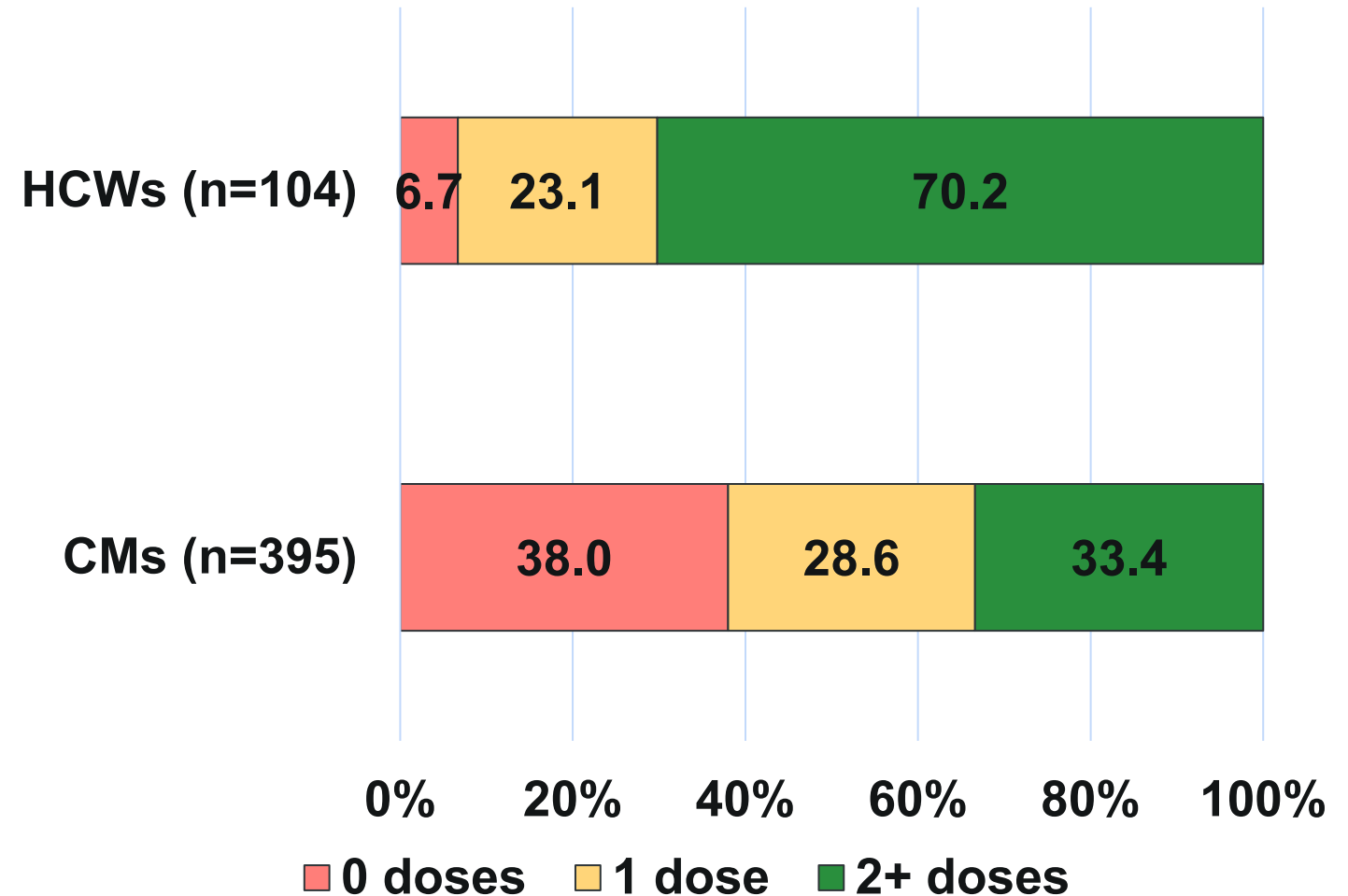
- **Of 499 participants included**

- 79.1% community members; 20.9% HCWs
- Median age: 30 years old
- 52.7% female
- 10.9% people living with HIV
- 61.8% completed at least secondary school
- 44.7% married
- Median monthly income: 2,000 Kwacha (~\$75)



Results – Self-Reported COVID-19 Vaccine Uptake

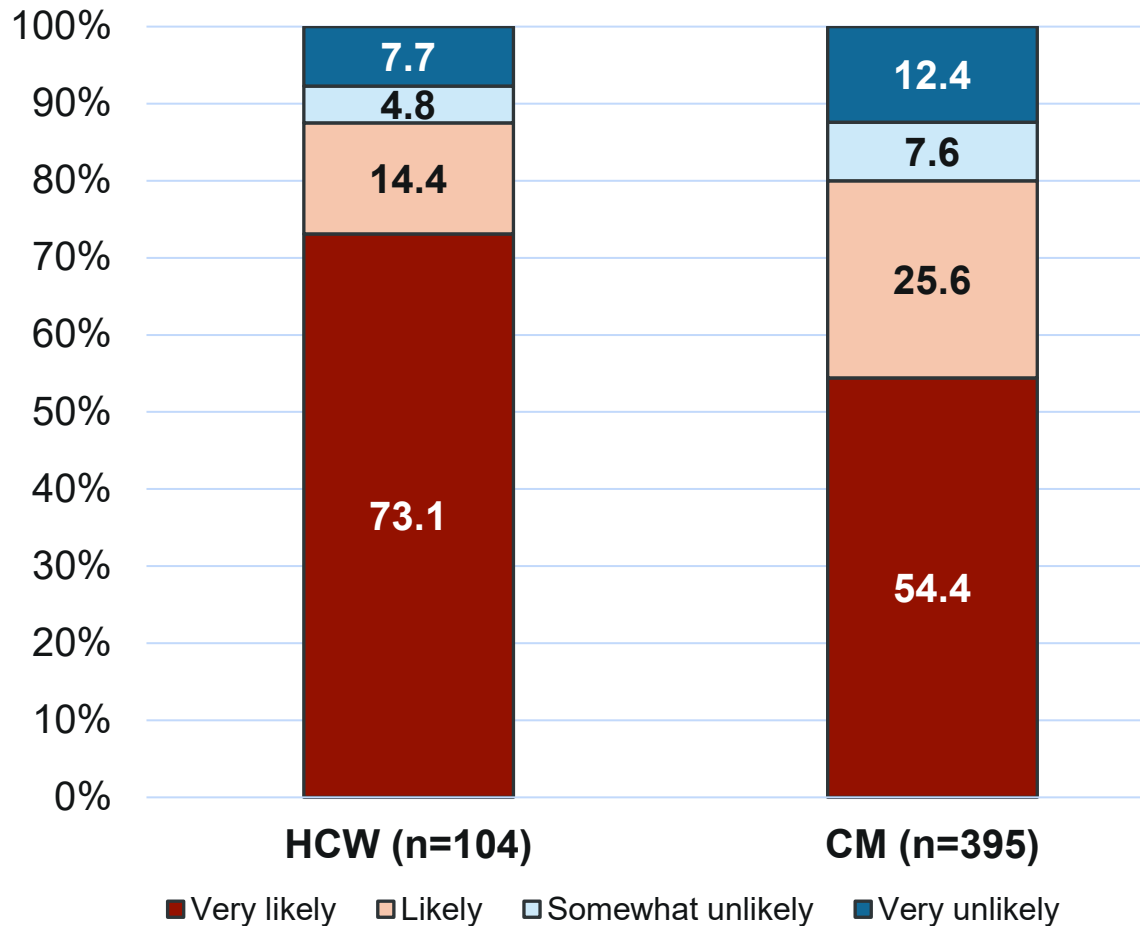
- Overall, 59.0% received 0 or 1 COVID-19 doses
 - 23.1% of HCWs
 - 66.7% community members



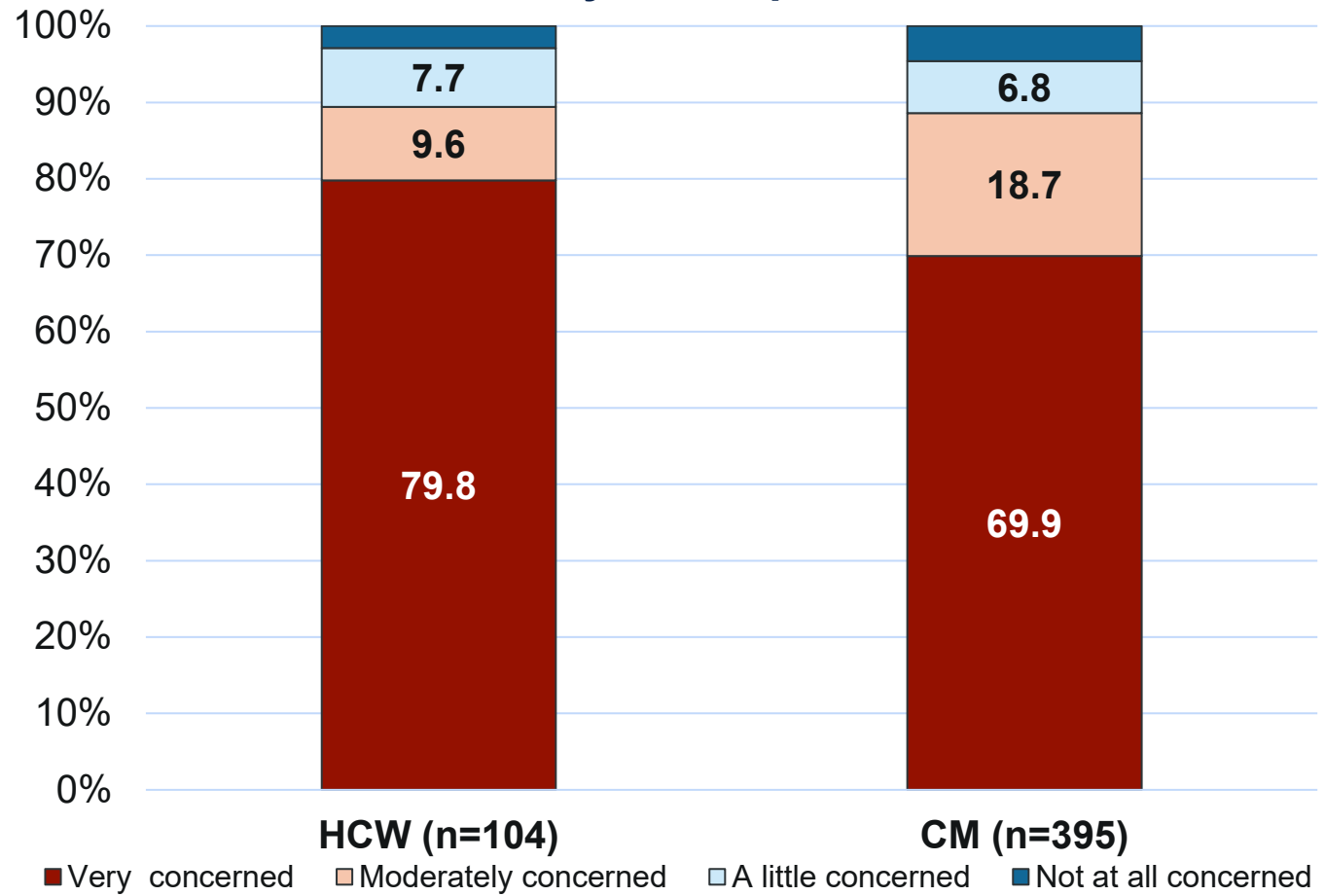
Results – TB risk perception

Participants, especially HCWs, felt at risk for and concerned by TB

Perceived risk of developing TB



Concern about serious illness or death if they develop TB

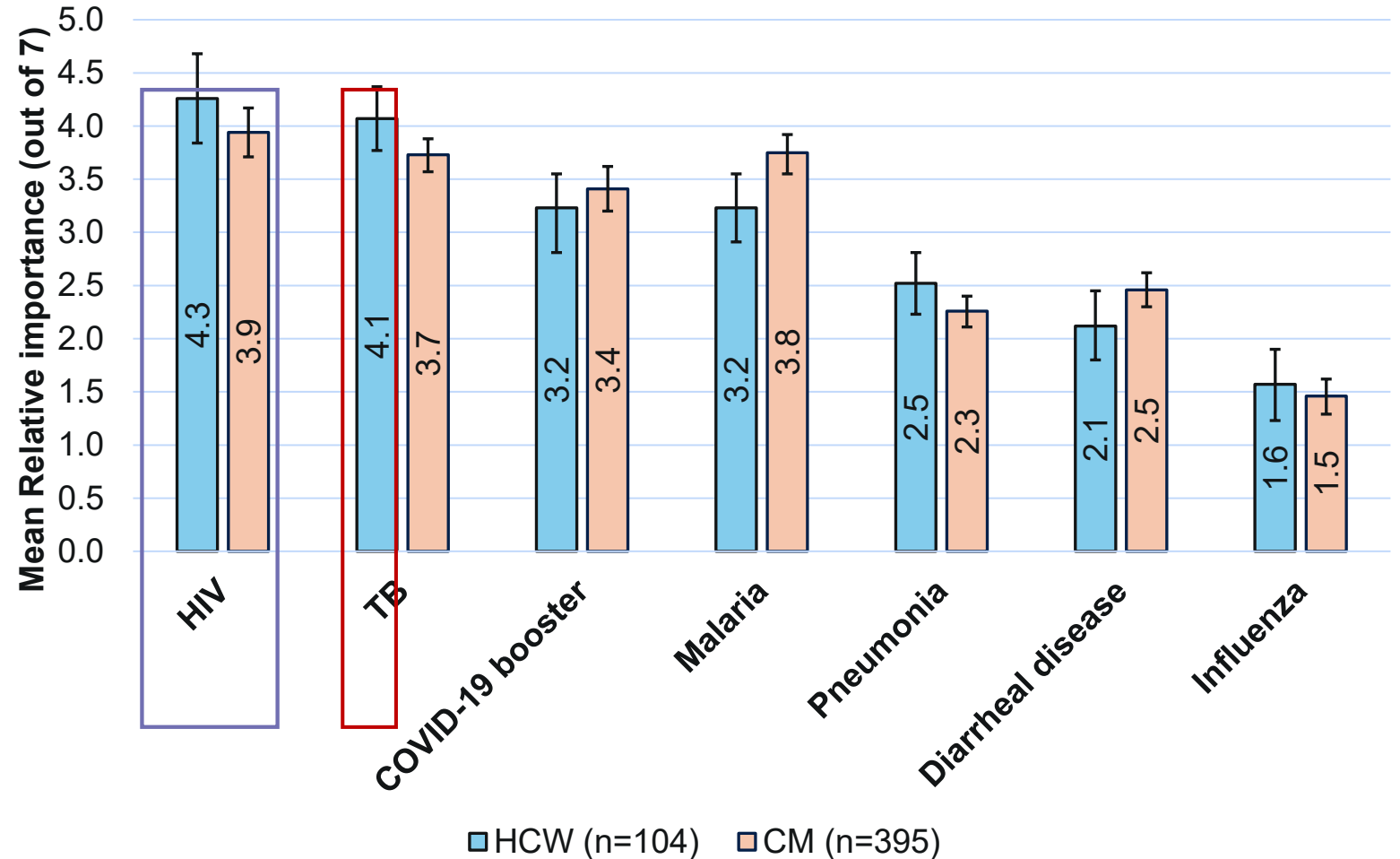


Results – Disease-Specific Vaccine Preferences

A new TB vaccine was:

- **2nd most prioritized vaccine by HCWs**
 - 14.4% ranked 1st
 - 71.1% ranked top 3
- **3rd most prioritized vaccine by community members**
 - 12.9% ranked 1st
 - 58.7% ranked top 3

An HIV vaccine most prioritized by HCWs and community members



Results – Predicted Intention of TB Vaccination

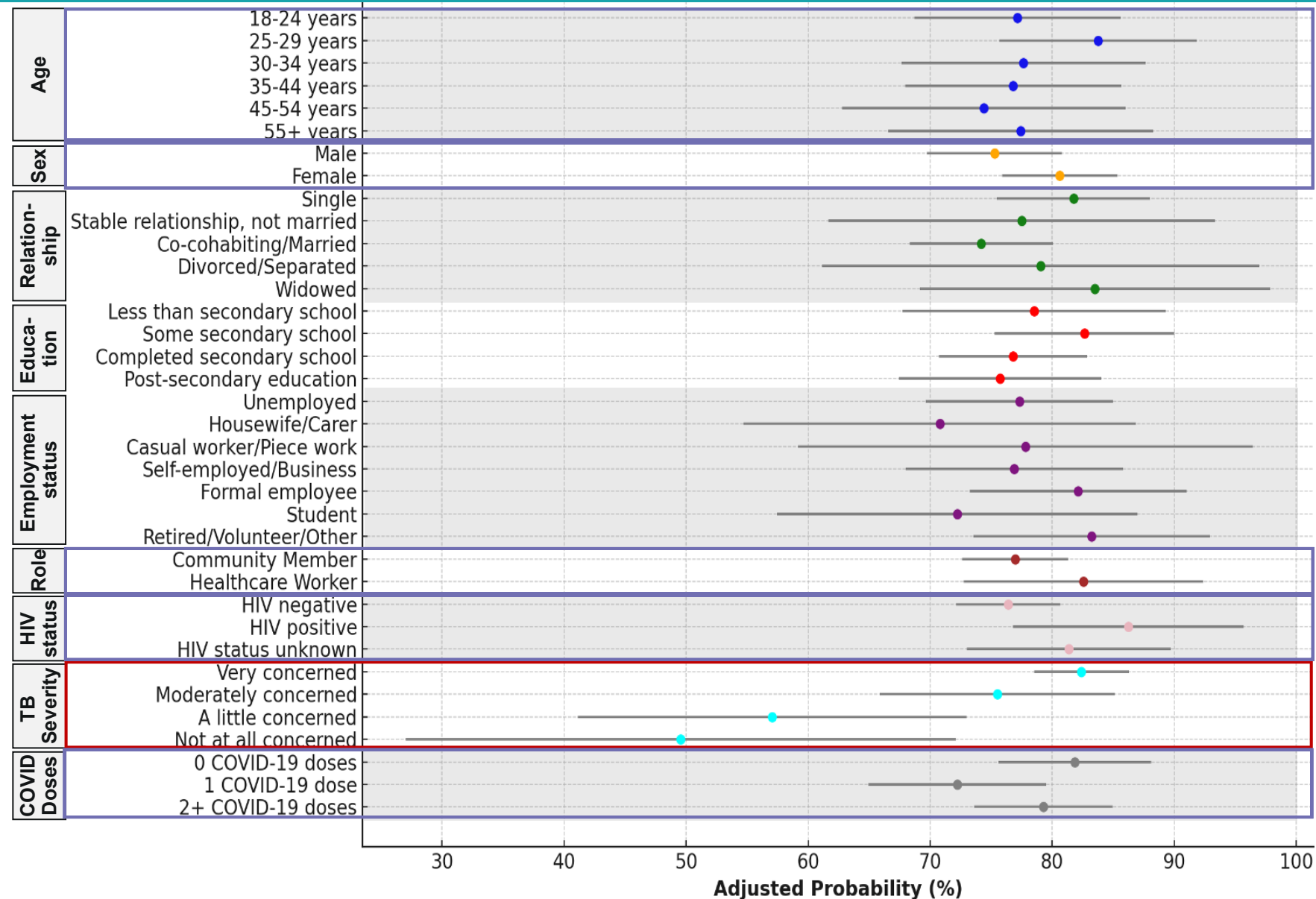
- High predicted TB vaccine intention across most subgroups and no major differences.

- HCWs (83%) and CMs (77%), age, sex, or HIV status

- No association with number of COVID-19 vaccine doses.

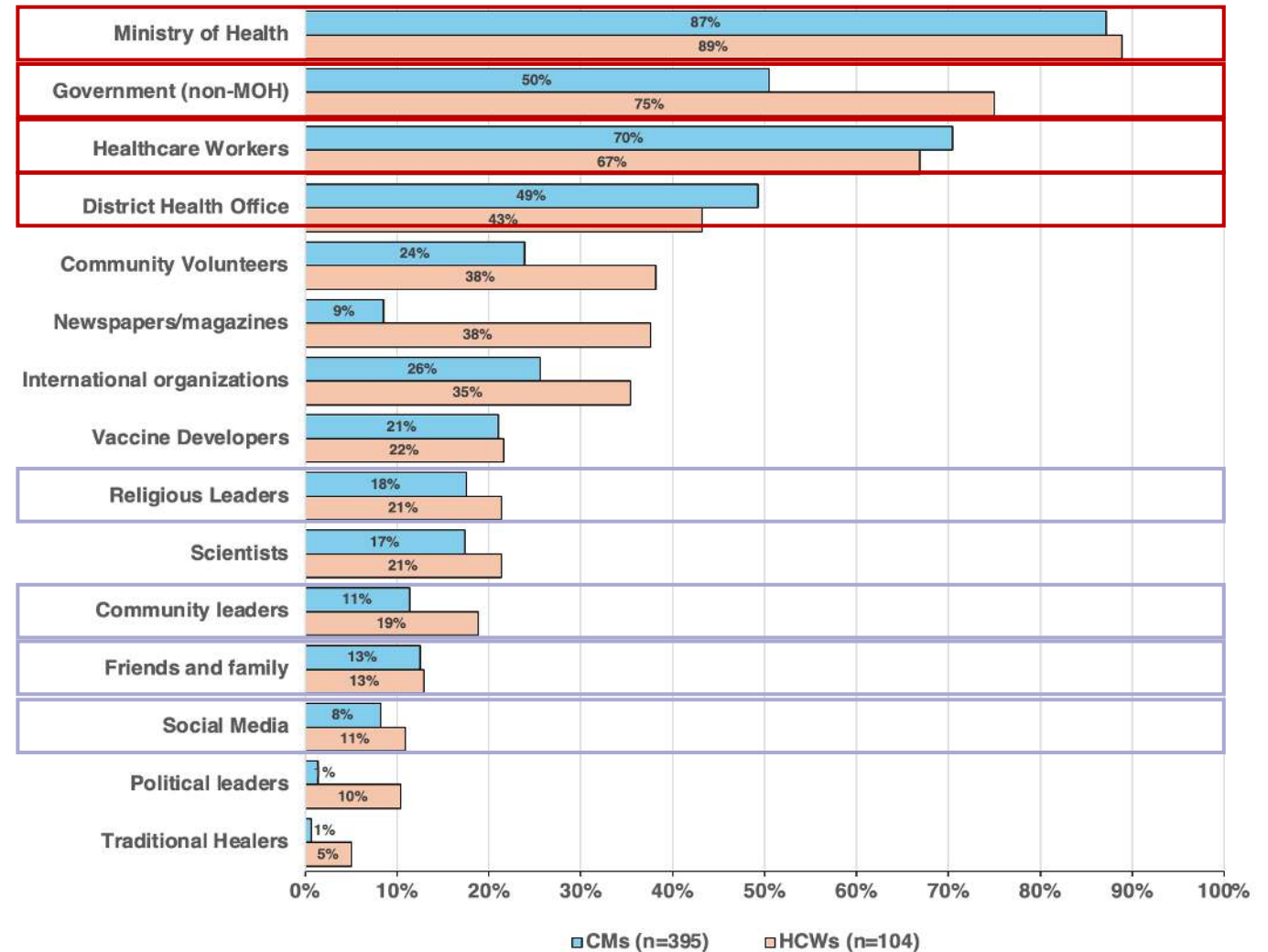
- Intention strongly associated with perceived TB threat.

- Both TB risk perception and concern about TB severity



Results – Trusted Vaccine Sources

- Ministry of Health most trusted among HCWs and Community Members
- HCWs also highly trusted by both other HCWs and Community Members
- Other government sources also trusted by many HCWs and Community Members
- Religious and other community leaders, friends and family, and social media are trusted by a minority of HCWs and Community Members



Strengths/limitations

- **Strengths**

- Recruitment from the lowest COVID-19 vaccine coverage communities in Lusaka
- Random selection of participants
- Inclusion of community members and HCWs
 - Equal balance of men and women
 - Mix of professional and lay HCWs from different departments

- **Limitations**

- Lack of known TB vaccine characteristics & specific delivery considerations
 - Likely to influence demand and uptake of a future TB vaccine
- Limited to urban settings and a single province/country
 - Potentially limited generalizability

Key takeaways

- In COVID-19 vaccine hesitant communities in Lusaka, Zambia, there were high intentions to receive a future TB vaccine among community members and HCWs.
- Perceived TB risk and severity were strongly associated with willingness to vaccinate.
 - Underscores the need to clearly communicate TB risks and vaccination benefits upon availability.
- The Zambian Ministry of Health (MOH) and HCWs were the most trusted sources of vaccine-related information among both community members and HCWs.
- In anticipation of new TB vaccines, it is crucial to keep governments informed and educate HCWs about upcoming TB vaccines, ensuring they are well-prepared to serve as *advocates* in the role of a trusted source for vaccine information (recipient + deliverer)

Thank you for your attention

