

## Knowledge, attitudes, and perceptions (KAP) of maternal respiratory syncytial virus (RSV) vaccines among healthcare workers in Cape Town, South Africa: a mixed-method study protocol

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### **Annex 1: draft questionnaire**

<b>Survey Among Maternal/Child Healthcare Workers in Cape Town</b>	
Study ID (not personal ID)	<input type="text"/>
Participation Date (Today)	<input type="text"/>
<b>Demographic Information</b>	
<b>Sex</b>	<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Prefer not to say
<b>Race</b>	<input type="checkbox"/> African <input type="checkbox"/> Indian <input type="checkbox"/> Asian <input type="checkbox"/> Coloured <input type="checkbox"/> White
<b>Date of birth</b>	(D-M-Y)

<b>Highest level of education</b>	<input type="checkbox"/> Secondary School/ Matric <input type="checkbox"/> Higher Certificate <input type="checkbox"/> Diploma <input type="checkbox"/> Undergraduate Degree <input type="checkbox"/> Postgraduate Degree
<b>Profession</b>	<input type="checkbox"/> Doctor <input type="checkbox"/> Midwife <input type="checkbox"/> Nurse <input type="checkbox"/> Pharmacist <input type="checkbox"/> Counselor <input type="checkbox"/> Other (please specify)
<b>Number of years of experience as a healthcare worker :</b>	<input type="text"/>
<b>Number of years of experience as a healthcare worker in maternal and/or child healthcare services</b>	<input type="text"/>
<b>Current workplace (if more than one, please select your current workplace and thereafter indicate in the textbox below if you are rotating at more than one of the listed facilities)</b>	<input type="checkbox"/> Mowbray Maternity Hospital <input type="checkbox"/> Groote Schuur Hospital <input type="checkbox"/> New Somerset Hospital <input type="checkbox"/> Midwife Obstetric Unit (MOU) <input type="text"/>
<b>Is your work experience in</b>	<input type="checkbox"/> The Public Health sector only <input type="checkbox"/> The Public Health sector and previously Private Health sector <input type="checkbox"/> Currently both Public and Private Health sectors
<b>Training</b> <b>The following questions are based on training that you may have received <i>in the last five years</i> .</b>	
<b>In the last five years , have you attended any training on <u>maternal and/or child health</u> ?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>In the last five years , have you attended any training on <u>prevention and control of infectious diseases among pregnant women and their babies</u> ?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>In the last five years , have you attended any training on <u>maternal vaccination/immunization</u> ?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>In the last five years , have you attended any training on <u>Respiratory Syncytial Virus (RSV)</u> ?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>What type/form of training are you referring to above ? (select all that apply)</b>	<input type="checkbox"/> Colleague/Peer Presentations <input type="checkbox"/> Seminars/Webinars

	<input type="checkbox"/> Conferences <input type="checkbox"/> Supervision <input type="checkbox"/> Medical School <input type="checkbox"/> Short Course <input type="checkbox"/> Other (please specify)
<p><b>The following questions are based on your Knowledge, Attitudes/Awareness and Practices (KAP) towards maternal vaccination and Respiratory Syncytial Virus (RSV). Your responses ARE NOT attached to identifying information , please respond as honest as possible.</b></p>	
<b>I trust vaccines as a critical Public Health tool</b>	<input type="checkbox"/> Strongly Agree <input type="checkbox"/> Agree <input type="checkbox"/> Neutral <input type="checkbox"/> Disagree <input type="checkbox"/> Strongly Disagree
<b>I adhere to national vaccination guidelines when getting myself vaccinated</b>	<input type="checkbox"/> Always <input type="checkbox"/> Often <input type="checkbox"/> Sometimes <input type="checkbox"/> Rarely <input type="checkbox"/> Never
<b>Are you aware of the vaccines that are recommended for pregnant women in South Africa ?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>If yes , select all that apply from the list :</b>	<input type="checkbox"/> Tetanus Toxoid vaccine <input type="checkbox"/> Pertussis (whooping cough) vaccine <input type="checkbox"/> Tdap (tetanus , diphtheria , and pertussis) vaccine <input type="checkbox"/> Influenza vaccine <input type="checkbox"/> Measles vaccine <input type="checkbox"/> Human papilloma virus (HPV) vaccine <input type="checkbox"/> Respiratory syncytial virus (RSV) vaccine <input type="checkbox"/> Covid-19 vaccine
<b>Is it safe to administer multiple recommended vaccines (e.g., Tdap, Influenza, etc) during the same antenatal visit?</b>	<input type="checkbox"/> Yes, if recommended by national guidelines <input type="checkbox"/> No, vaccines should be spaced out during pregnancy <input type="checkbox"/> Unsure
<b>In your opinion, what is the <u>biggest</u> barrier to maternal vaccination in your workplace/practice?</b>	<input type="checkbox"/> Lack of awareness among healthcare workers <input type="checkbox"/> Patient hesitancy <input type="checkbox"/> Logistical challenges <input type="checkbox"/> Safety concerns <input type="checkbox"/> Other (please specify)
<b>How would you rate the burden of RSV in South Africa ?</b>	<input type="checkbox"/> Don't Know <input type="checkbox"/> Very Low <input type="checkbox"/> Low

	<input type="checkbox"/> Moderate <input type="checkbox"/> High
<b>How would you rate your knowledge about RSV?</b>	<input type="checkbox"/> No Knowledge <input type="checkbox"/> A little Knowledge <input type="checkbox"/> Average Knowledge <input type="checkbox"/> Good Knowledge <input type="checkbox"/> Excellent Knowledge
<b>What are the primary symptoms of RSV infection? (Select all that apply)</b>	<input type="checkbox"/> Cough <input type="checkbox"/> Fever <input type="checkbox"/> Difficulty breathing <input type="checkbox"/> Apnoea (in infants) <input type="checkbox"/> Unsure
<b>How is RSV primarily transmitted?</b>	<input type="checkbox"/> Airborne droplets <input type="checkbox"/> Food consumption <input type="checkbox"/> Direct contact with contaminated surfaces <input type="checkbox"/> Mother-to-child <input type="checkbox"/> Unsure
<b>What period of the year is considered as <u>peak</u> RSV season in South Africa?</b>	<input type="checkbox"/> February-May <input type="checkbox"/> August-October <input type="checkbox"/> November-March <input type="checkbox"/> Unsure
<b>Children are often exposed to RSV at childcare facilities or from older siblings who are attending school.</b>	<input type="checkbox"/> True <input type="checkbox"/> False
<b>The most common complications of RSV are bronchiolitis, bronchitis and pneumonia</b>	<input type="checkbox"/> True <input type="checkbox"/> False
<b>Almost all children will have RSV before their second birthday, and many will get more than one RSV infection before they are 5 years old.</b>	<input type="checkbox"/> True <input type="checkbox"/> False
<b>Is there a safe and effective vaccine against RSV?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unsure
<b>Are there approved antibiotic treatments for RSV?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unsure
<b>Are there approved antiviral treatments for RSV?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unsure
<b>Can transferred maternal antibodies reduce RSV risk in infants?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No

	<input type="checkbox"/> Unsure
<b>Which group/groups are recommended for RSV vaccination? (If more than one , select all that apply)</b>	<input type="checkbox"/> Pregnant women <input type="checkbox"/> Infants under 6 months <input type="checkbox"/> Adults > 65 years <input type="checkbox"/> All adults <input type="checkbox"/> Unsure
<b>Which infant is <u>most</u> at risk for severe RSV?</b>	<input type="checkbox"/> Term infant with no comorbidities <input type="checkbox"/> Preterm infant (32 weeks gestation) <input type="checkbox"/> Infants are not at risk for severe RSV <input type="checkbox"/> Unsure
<b>When should the RSV vaccine be administered to be most effective?</b>	<input type="checkbox"/> To the pregnant mother during the first trimester of pregnancy <input type="checkbox"/> To the pregnant mother during the second trimester of pregnancy <input type="checkbox"/> To the pregnant mother during the third trimester of pregnancy <input type="checkbox"/> To the infant/baby <input type="checkbox"/> There is no safe and effective RSV vaccine
<b>What factors influence/would influence your recommendation of a Respiratory Syncytial Virus (RSV) vaccine ? (select all that apply)</b>	<input type="checkbox"/> Vaccine efficacy <input type="checkbox"/> Safety Profile <input type="checkbox"/> Cost-effectiveness <input type="checkbox"/> National guidelines <input type="checkbox"/> Patient preferences <input type="checkbox"/> Other (please specify)
<b>How strongly do you support including a Respiratory Syncytial Virus (RSV) vaccine for pregnant women in South Africa's immunization program?</b>	<input type="checkbox"/> Strongly Agree <input type="checkbox"/> Agree <input type="checkbox"/> Neutral <input type="checkbox"/> Disagree <input type="checkbox"/> Strongly Disagree
<b>How likely are you to recommend a RSV vaccine to pregnant women?</b>	<input type="checkbox"/> Very Likely <input type="checkbox"/> Likely <input type="checkbox"/> Neutral <input type="checkbox"/> Unlikely <input type="checkbox"/> Very Unlikely
<b>Have you managed RSV cases in the past year ?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Have you previously recommended RSV prophylaxis (e.g., monoclonal antibodies)?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>What is your suggestion for the effective delivery of maternal RSV vaccines?</b>	<input type="checkbox"/> Integration into Antenatal Care (ANC) <input type="checkbox"/> Mass campaigns <input type="checkbox"/> Mobile outreach

	<input type="checkbox"/> Other (please specify)
<b>Do you believe you need more information on maternal RSV vaccines to better guide your patients?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Do you feel that healthcare workers receive adequate training on promoting maternal vaccination?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No

## Annex 2: interview guide

### Semi-Structured Interview Guide for Healthcare Workers (HCWs) on Maternal RSV

#### Vaccination

*Adapted from the WHO Behavioural and Social Drivers (BeSD) of Vaccination In-Depth Interview Guide for Health Workers*

Introduction: Hello, my name is ..... , and I am conducting a study on healthcare workers' perspectives regarding the anticipated maternal RSV vaccine. Your insights are valuable in understanding potential barriers and facilitators to vaccine uptake. This interview is voluntary and confidential, and you may decline to answer any question or withdraw at any time. With your permission, I will audio-record this discussion to ensure accuracy.

Would you be comfortable proceeding with this interview?

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#### Section 1: Background and Role

1. Can you tell me a little about your professional role and experience?

- Probe: What are your responsibilities in maternal and child healthcare?
- Probe: Have you had prior experience with vaccine counselling or administration?

2. To what extent does your role involve discussions about vaccination with pregnant women?

- Probe: What aspects of vaccine communication do you find most challenging or rewarding?

### **Section 2: Perceptions and Knowledge of RSV and Maternal RSV Vaccination**

3. What do you currently know about RSV and its impact on infants and pregnant women?

- Probe: Where have you received this information from?

4. What are your initial thoughts on an RSV vaccine for pregnant women?

- Probe: Do you think it will be beneficial? Why or why not?

### **Section 3: Anticipated Barriers and Facilitators to Maternal RSV Vaccine Uptake**

5. In your opinion, what factors might influence pregnant women's willingness to accept an RSV vaccine?

- Probe: Concerns about safety, side effects, necessity?
- Probe: Influence of family, community, or cultural beliefs?

6. What do you think would help improve maternal RSV vaccine uptake?

- Probe: Education, healthcare worker recommendations, policy interventions?

7. Are there any logistical or healthcare system challenges you anticipate in implementing RSV vaccination?

- Probe: Workload, availability of vaccines, cold chain storage, staffing issues?

### **Section 4: Healthcare Worker Readiness and Role in Vaccine Advocacy**

8. How confident do you feel in counselling pregnant women about the RSV vaccine?

- Probe: What resources or training would improve your confidence?

9. Do you foresee any hesitancy among HCWs regarding this vaccine?

- Probe: What concerns might your colleagues have?
- Probe: What strategies could address these concerns?

10. What support or training do you believe would help HCWs effectively advocate for the maternal RSV vaccine?

- Probe: Workshops, guidelines, mentorship programs?

### **Section 5: Closing and Additional Insights**

11. If you could suggest one thing to improve the acceptance and successful rollout of the maternal RSV vaccine, what would it be?

- Probe: Anything else you would like to add?

*Thank you for your time and valuable insights! Your responses will help inform future vaccination programs and policy recommendations*