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## COVID-19 Vaccine Hesitancy in South Sudan; What Lessons Can be Learned From Angola's Success Story?

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COVID-19 is a respiratory disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 and although most people who contract the disease do not show any symptoms, some experience blood clots, multi-organ failure, and septic shock, which may lead to death.<sup>1,2</sup> Globally, by 19th July 2021, there were 190 314 629 confirmed cases and 4 092 740 deaths, reported to World Health Organisation (WHO).<sup>3</sup> Although in South Sudan, a country in East Africa, there were only 10 917 cases with 117 deaths (approximately .006% and .003% of global figures, respectively) by 23rd July 2021, it appears that these prevalence and mortality data may be understated, reflecting the limited surveillance, and testing capacities in the country.<sup>4</sup>

Like other countries, South Sudan's Ministry of Health has advocated for adherence to WHO-recommended preventive measures like handwashing, mask-wearing, and social-distancing, to curb the spread of COVID-19.<sup>5</sup> However, poor adherence remains a challenge due to factors related to the country's history of civil conflicts including health system challenges such as insufficient health funding and human resources for health.<sup>5</sup> Other factors like poverty and illiteracy, which are well-established predictors of poor adherence to public health prevention measures, are also prevalent in South Sudan, with 76% of the population living in poverty (ie, at US\$1.90 a day, 2011 purchasing power parity) and an adult literacy rate of 35%.<sup>5-8</sup>

### Vaccine Hesitancy in South Sudan

Recently approved COVID-19 vaccines are safe and effective additions to existing COVID-19 prevention measures and in fact, recent soon-to-be published research examining their cost-effectiveness in 91 Low- and Middle-Income Countries (LMICs) found that over the course of 1 year, 20% vaccine coverage would prevent 2 million deaths and 294 million infections, saving 26 million years of life, at a cost of US\$6.4 billion.<sup>9</sup> As such, South Sudan's fragile health system

will benefit from mass COVID-19 vaccination, ultimately saving lives and resources.<sup>5</sup>

However, vaccine hesitancy (the refusal or delay in vaccine uptake despite its accessibility) which has been a long-standing challenge in South Sudan appears to be a barrier to the uptake of the COVID-19 vaccine.<sup>10</sup> By 18th July 2021, only 56 989 COVID-19 vaccine doses (out of the 3,568,861,733 doses administered globally) had been administered in South Sudan, a country with a population of 11,193,729 as at the last estimate in 2020.<sup>3,11</sup> More so, recent media reports showed that by June 2021, South Sudan returned 72 000 of the 132 000 AstraZeneca COVID-19 vaccine doses, received through the COVID-19 Vaccines Global Access facility in March 2021, due to concerns that they would not be administered by their expiry date.<sup>12</sup>

While at the time this article was submitted for publication, empirical studies examining factors underpinning this low uptake of COVID-19 vaccines in South Sudan were not found, existing research on hesitancy towards other vaccines identified mistrust for authority, as a major issue in the country.<sup>10</sup> In addition, stigma driven by anger, fear, misinformation, and low risk perception, which have been a problem globally, may also be contributing factors to COVID-19 vaccine hesitancy.<sup>13</sup>

South Sudan implemented a Risk Communication and Community Engagement (RCCE) strategy, as part of its COVID-19 response, to combat these factors at the beginning of the pandemic, reaching 3 380 000 at the end of May 2020.<sup>14</sup> One of the main aims of the RCCE component includes improving awareness of the signs and symptoms of the disease as well as adherence to prevention

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measures such as handwashing and social-distancing.<sup>14</sup> This initiative was supported by donors and partners and employed a variety of strategies which contributed to its effectiveness including high-level coordination (relying on existing Ebola Virus Disease structures), community leader engagement, and employment of diverse evidence-based communication techniques such as in-person discussions and media announcements.<sup>15</sup> Yet, a review of the COVID-19 response in South Sudan identified that stigma underpinned by poor knowledge remains a problem and recommendations were made to address them.<sup>15</sup> However, these recommendations did not explicitly outline measures to address vaccine hesitancy underpinned by stigma, misinformation, fear, and low risk perception, and at the time this article was submitted for publication, evidence was not found of such specific strategy.<sup>15</sup>

## Angola's Success Story

Angola is a country in South-West Africa and like South Sudan, Angola endured decades of civil conflict. While the country is currently peaceful, its health system remains fragile and underdeveloped.<sup>16,17</sup> Additionally, 50% of the population live in poverty (ie, at US\$1.90 a day, 2011 purchasing power parity) and the adult literacy rate is estimated at 66%.<sup>18,19</sup> By 23 July 2021, there were 41 405 confirmed cases of COVID-19 in Angola and 977 deaths.<sup>3</sup>

Although Africa continues to lag behind the rest of the world in COVID-19 vaccination rates, 1 of the rare success stories within the continent is Angola.<sup>20</sup> By 18th July 2021, 1 592 537 vaccine doses had been administered in the country with a population of 32,866,268, making Angola 1 of the countries with the highest proportion of total doses administered per population in Africa.<sup>3,21</sup> In fact, WHO described Angola's COVID-19 vaccination services as seamless and exemplary, in July 2021, suggesting that the strategies they employed to implement their COVID-19 vaccination program, may hold some important lessons for other African countries including South Sudan.<sup>20</sup>

Like South Sudan, Angola initially focused its COVID-19 community engagement response on awareness creation and encouraging adherence to prevention measures such as handwashing and social distancing, however, this strategy was adapted to reflect vaccine introduction.<sup>20</sup> Angola's Ministry of Health collaborates with local NGOs to train and engage volunteer community mobilisers who address vaccine hesitancy related to stigma and misinformation, at community level, by providing accurate information about the COVID-19 vaccine (as well as other prevention measures) to people in their homes and communal areas like markets, as well as persuading them to take the vaccine.<sup>22,23</sup> In addition, Angola's community engagement approach employs several strategies which appear to have contributed to its success including relying on donor and partner resources, targeting the most vulnerable, and employing digital registration platforms to eliminate convenience barriers among those who the mobilisers have convinced to receive vaccination.<sup>20,23</sup> While further evidence is needed to generate and adapt strategies specific to the South Sudan context, Angola's approach offers useful inspiration and may (in addition to existing strategies), improve vaccine acceptability in South Sudan.

## Declaration of Conflicting Interests

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: The views expressed in this op-ed are the author's own. Kelechi Udoh is a public health research specialist, with extensive experience leading public health research studies in different humanitarian settings including a recent COVID-19 study in South Sudan.

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