Background

- Bangladesh began offering vaccines against COVID-19 on January 27, 2021, to those aged ≥40 years.
- The number of new vaccination decreased significantly during COVID waves, particularly in rural areas.
- A Health and Demographic Surveillance System (HDSS) was established in 2017 as part of Child Health and Mortality and Prevention Surveillance (CHAMPS) in Bialiakandi, a rural subdistrict of Bangladesh.
- Bialiakandi has a population of 245340, where 32% of the population is ≥ 40 years old.

Objective

- To find out the sociodemographic factors associated with the vaccination over time of the population aged ≥40 years in a rural area of Bangladesh.

Methods

- HDSS staff visited each household in 3 months intervals and asked all respondents about their COVID vaccination status and verified by reviewing vaccination cards, where possible.
- The first dose of vaccination dates was classified into four quarters from February 1, 2021, to January 31, 2022.
- Socio-demographic factors were compared between vaccinated and unvaccinated populations aged ≥ 40 years in four quarters.
- We used multinomial logistic regression to identify the association between demographic factors and vaccination over time, where the 1st quarter was considered as the reference category.

Results

- Only 6% of the population aged ≥40 received vaccinations in the first quarter.
- By the end of January 2022, 75% of those aged ≥40 were vaccinated, compared to only 64% of those aged >65.
- Population with higher education and working in healthcare and administration, 55% got vaccinated in the 1st quarter compared to only 8% of the remaining population.

![Cumulative measure of vaccination with at least one dose population aged ≥40 years over time](image1)

**Figure 1:** Cumulative measure of vaccination with at least one dose population aged ≥40 years over time

![Percentage of population of different age groups vaccinated in the 1st year](image2)

**Figure 2:** Percentage of population of different age groups vaccinated in the 1st year

- Healthcare and administrative workers and the population with higher education had higher odds of receiving vaccination throughout all the quarters.

![Percentage of population vaccinated over time based on their education and occupation](image3)

**Figure 3:** Percentage of population vaccinated over time based on their education and occupation

Conclusions

- Preliminary data indicates people aged ≥40 years with higher education and working in healthcare or administrative offices, who make up only 12% of the rural population, started receiving vaccinations earlier than others.
- There are more difficulties in vaccinating older adults, but given the importance of age in COVID-19 mortality, they are the most important to reach.

Recommendations

- A particular focus should be given to educating people without formal education about the importance of vaccination and encouraging them to receive it early.
- Education-based interventions, outreach vaccination centers, community leaders, and the media may all be of assistance in this initiative.