

Adolescent BMI shifts after a whole-of-government, whole-of-society intervention in Bangladesh

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BACKGROUND

- Adolescent malnutrition in Bangladesh reflects a double burden, with persistent undernutrition alongside rapidly rising overweight and obesity (Tariqujjaman et al., 2022).
- In response to growing NCD risks, the Government of Bangladesh introduced a Multisectoral Action Plan (MAP) in 2018, promoting a whole-of-government, whole-of-society (WG-WS) approach.
- This study implemented a package of non-communicable interventions in Birganj, Bangladesh adopting the (WG-WS) approach.
- This multisectoral multicomponent intervention model included a nutrition focused component that enabled us to assess its impact on the changes in body mass index (BMI) of adolescents.

METHODS

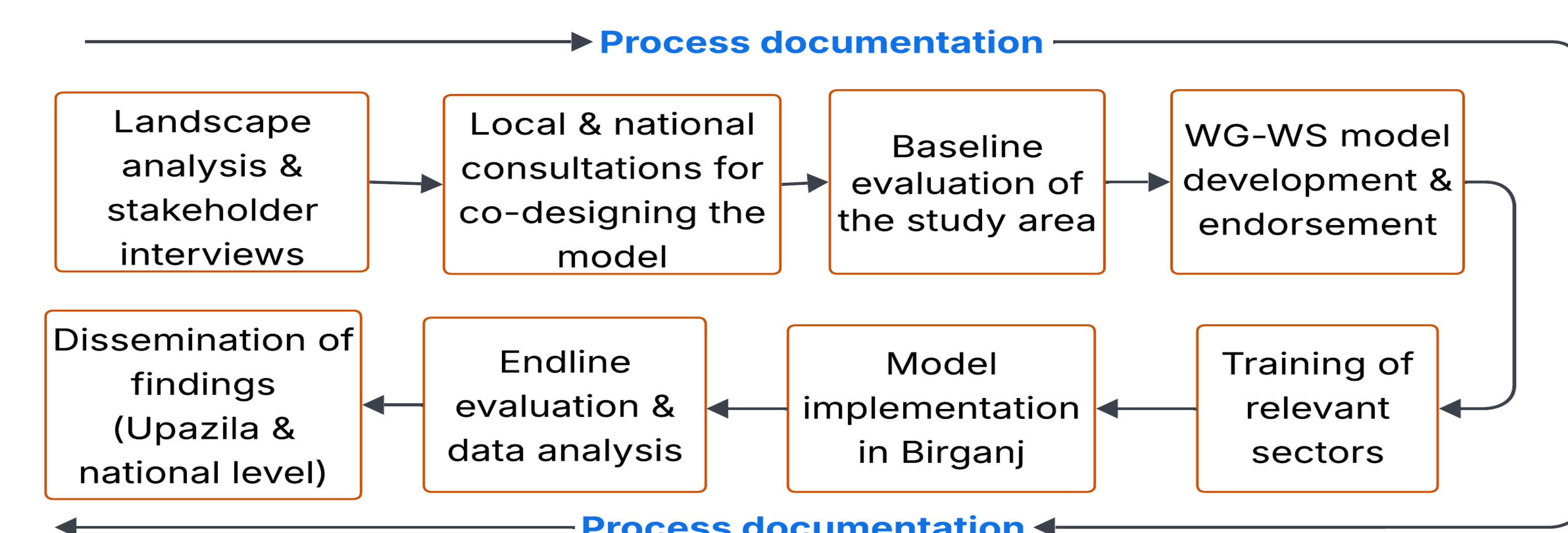
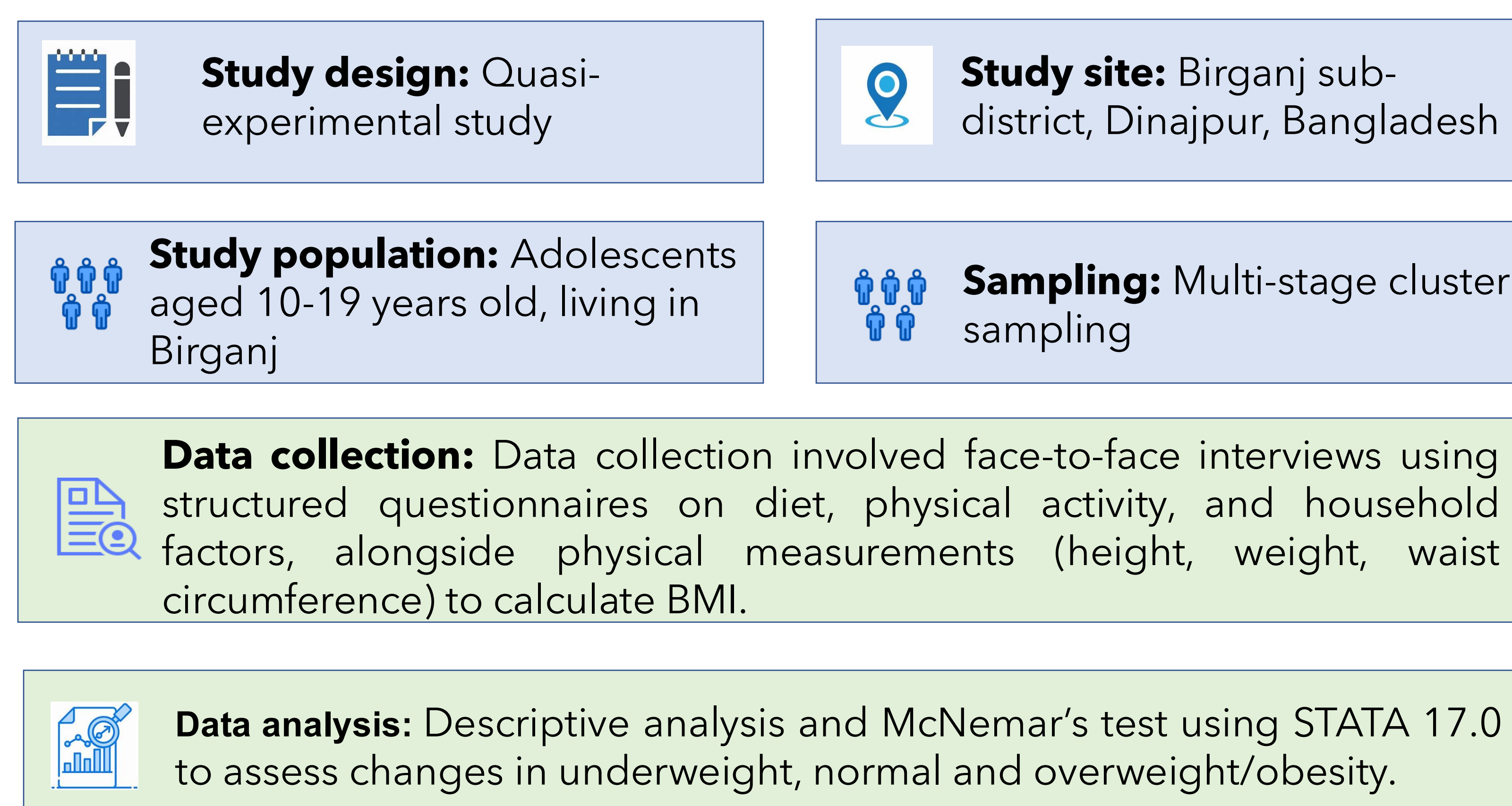


Figure 1: Process of development of WG-WS model

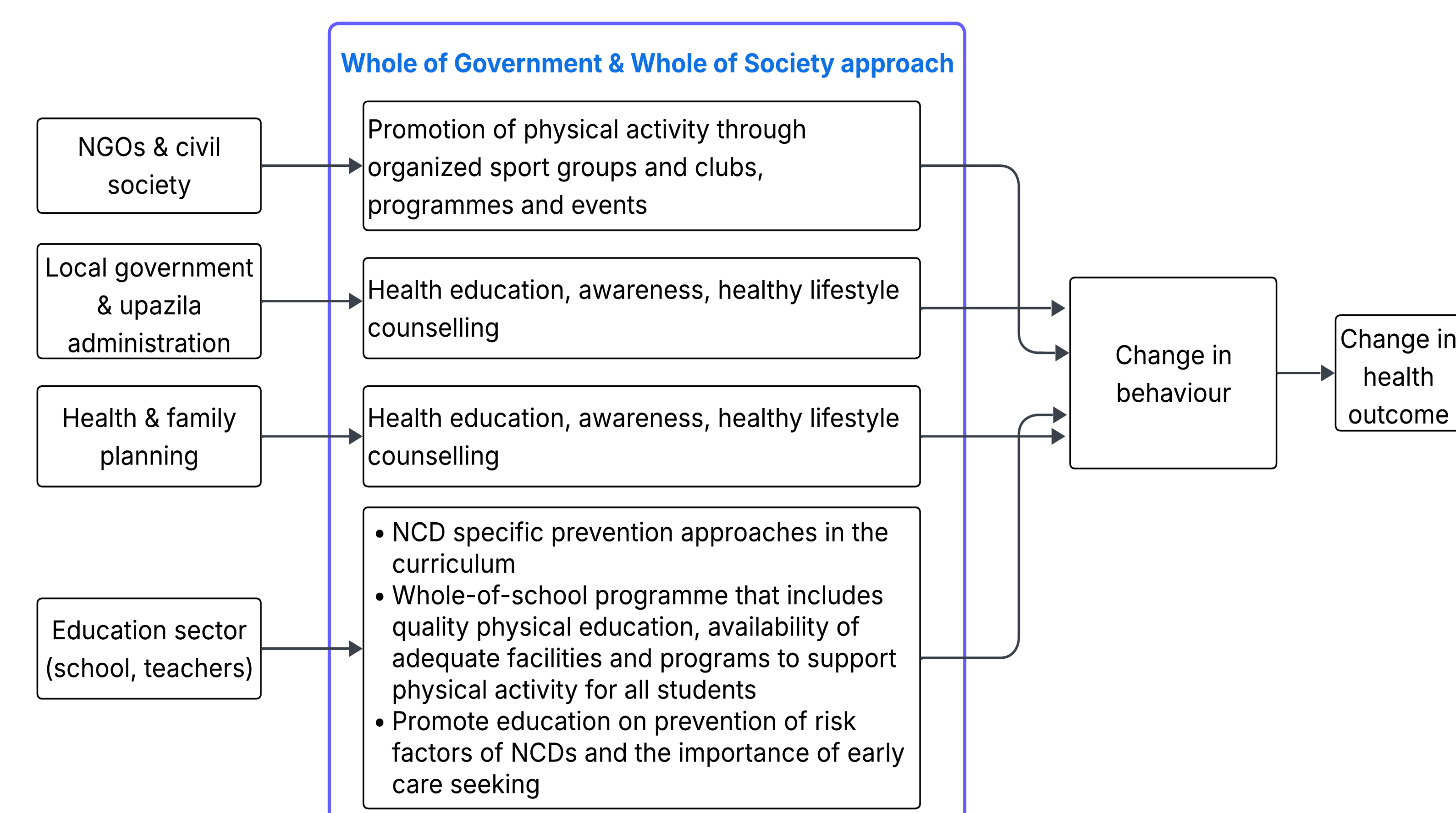


Figure 2: Performed activities by relevant stakeholders for model implementation

Acknowledgement: Representatives from the Directorate General of Health Services, local administration, various sectoral stakeholders, the BRAC JPGSPH implementation team, and the study participants.



Figure 3: Wall writing in schools on prevention and control of non-communicable diseases

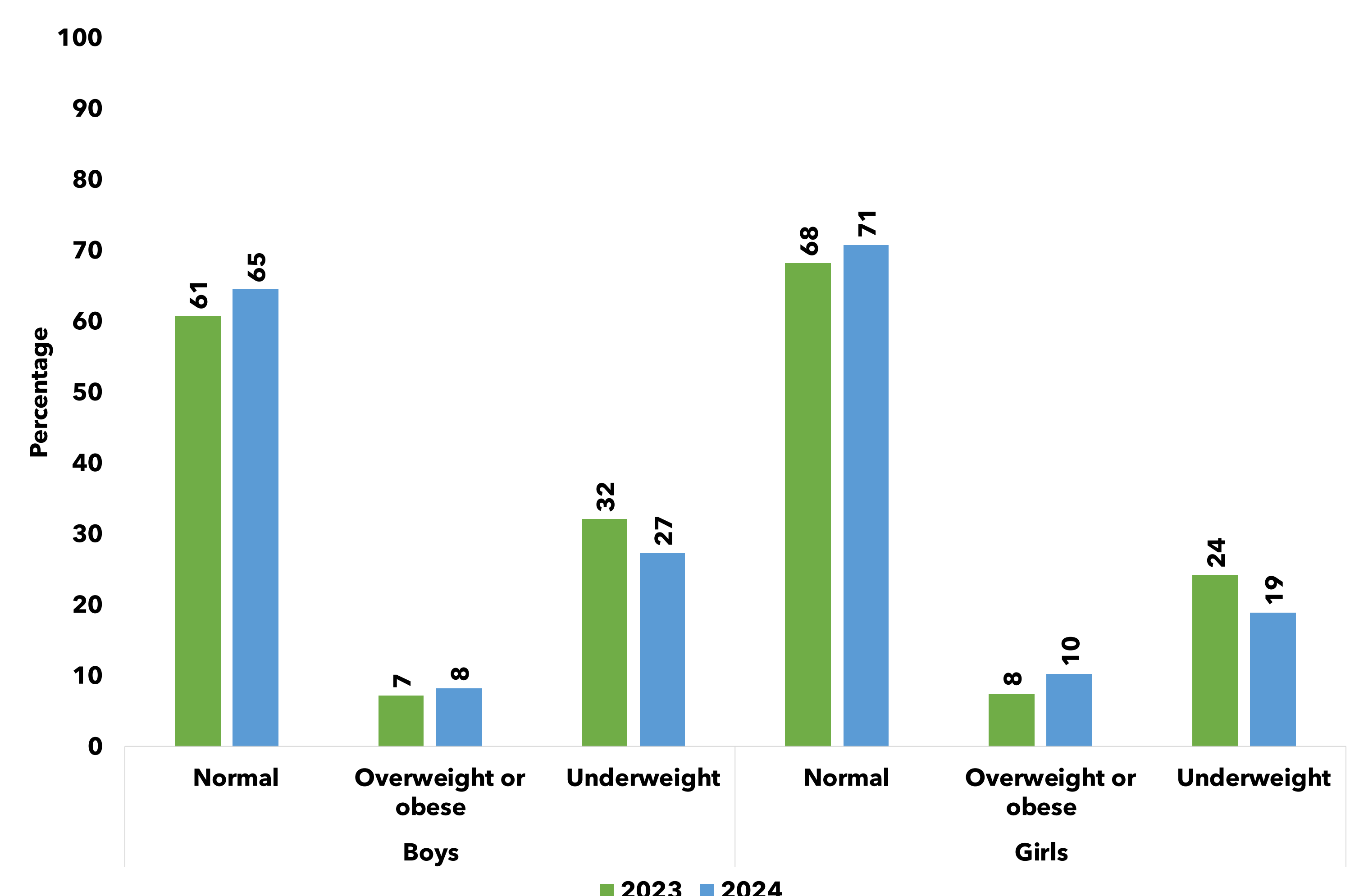


Figure 4: BMI status of adolescent boys and girls (baseline vs endline)

RESULTS

- The intervention led to a statistically significant reduction in underweight prevalence for both genders.
- The prevalence of underweight among boys decreased from **32.1%** in 2023 to **27.1%** in 2024, while among girls it declined from **24.2%** to **18.9%**.
- McNemar's test confirmed a statistically significant decrease in underweight prevalence for girls ($p < 0.001$) and boys ($p = 0.001$).
- Moreover, a significant increase in overweight and obesity was observed among girls whereas the changes in overweight and obesity were non-significant for boys.

CONCLUSION

- Adopting "whole-of-government" and "whole-of-society" approach can be effective in reducing adolescent undernutrition, but the concurrent rise in overweight/obesity signals dual burden of malnutrition. Interventions must balance efforts to sustain undernutrition reduction while preventing unhealthy weight gain.

