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OVERVIEW

INTRODUCTION: The African Population Cohort Consortium (APCC) leads multidisciplinary research to enhance community health across Africa by utilizing its diverse population cohorts. [1] [2] [3]

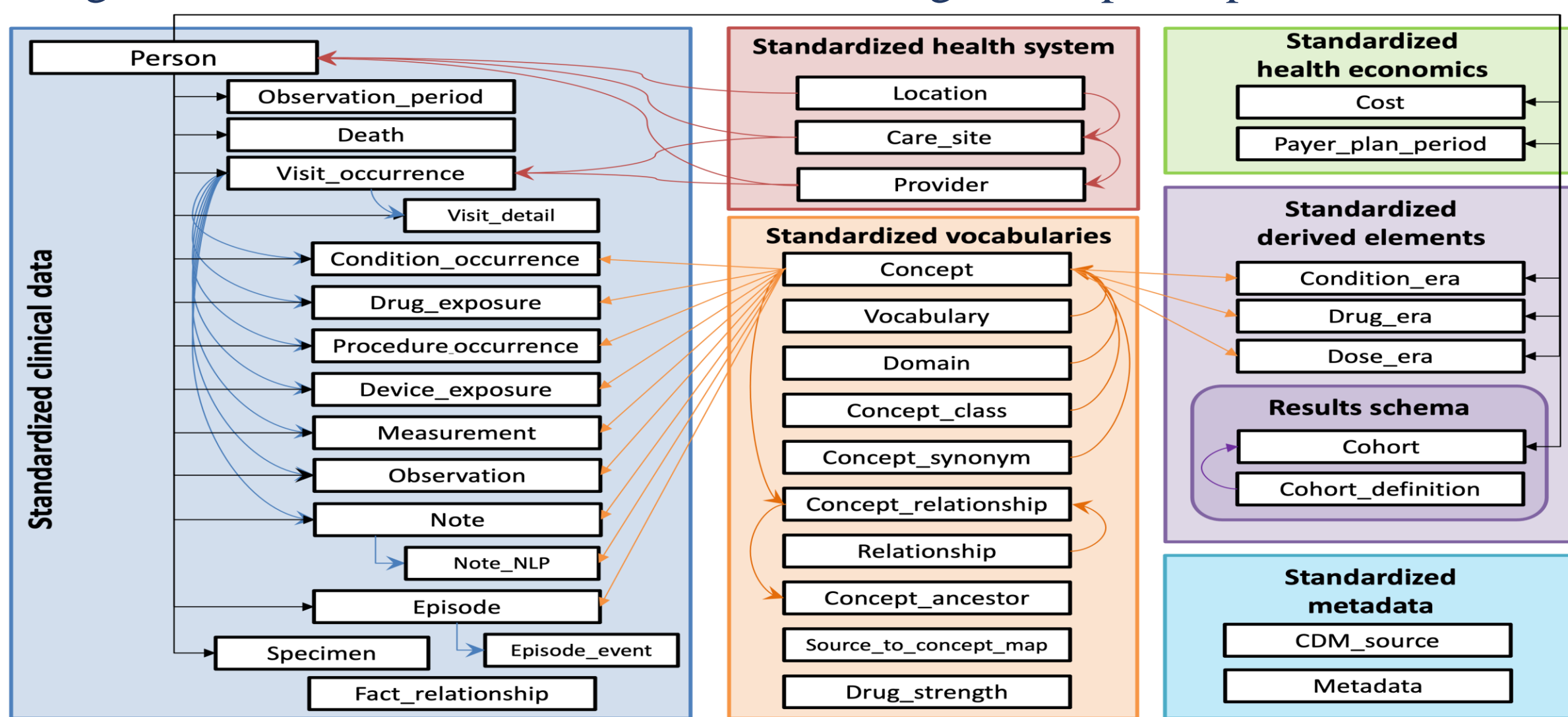
- A network of longitudinal population studies.
- Track health trajectories over time through existing infrastructure.
- Aims to address resource gaps.
- Aims to overcome the limitations of incomplete data representation.
- Aims to address the pressing health challenges in sub-Saharan Africa, including non-communicable and infectious diseases, as well as malnutrition.

CHALLENGE: Harmonizing data from diverse cohorts into a universally accepted standardized format for meaningful analysis. [4]

- Technical intricacies - requiring compatibility across datasets, and preserving data integrity and granularity.
- Attention to detail - robust data management, and an understanding of each dataset's unique characteristics.
- Achieving global acceptance - adherence to established standards and protocols to facilitate interoperability and enable effective comparative analyses and insights generation

SOLUTION: The Observational Medical Outcomes Partnership (OMOP) Common Data Model (CDM) [5] standardizes healthcare data from various sources for research.

- Structures data into a consistent format, promoting interoperability and enabling comparative effectiveness in research.
- Leverages standard terminologies and vocabularies [6], such as SNOMED CT, RxNorm, and LOINC, to ensure consistent and accurate data representation.
- Enhances data quality and facilitates meaningful analysis, ultimately generating insights that inform healthcare decision-making and improve patient outcomes.



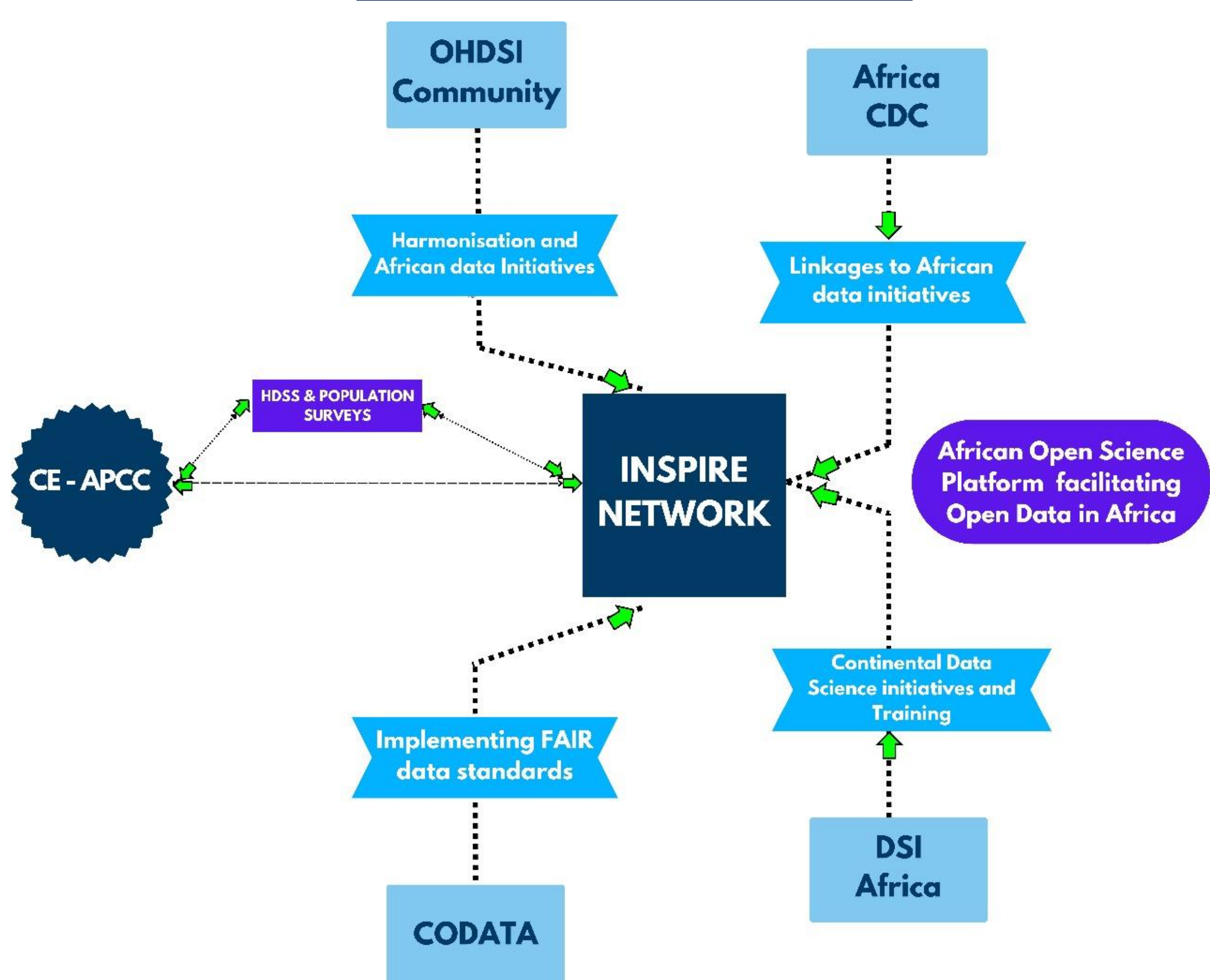
OMOP Common Data Model [5]

SUPPORT: The INSPIRE Network offers a solution to this challenge by providing technical support to standardize APCC cohort data into the OMOP CDM.

- Onboarding the environmental and social determinants of physical and mental health based on the location history of each person in the OMOP CDM alongside non-communicable, infectious diseases, and malnutrition.
- Ensure sustainability and maximize APCC's research potential.

INSPIRE's expertise in mapping longitudinal studies into OMOP's clinical framework has gained recognition in Observational Health Data Science and Informatics (OHDSI) [7] forums. OHDSI is a global initiative that applies data science to health data for reliable healthcare decision-making. INSPIRE effectively aligns diverse datasets with OMOP [8][9] which streamlines research efforts, fosters collaboration, and advances global population health research.

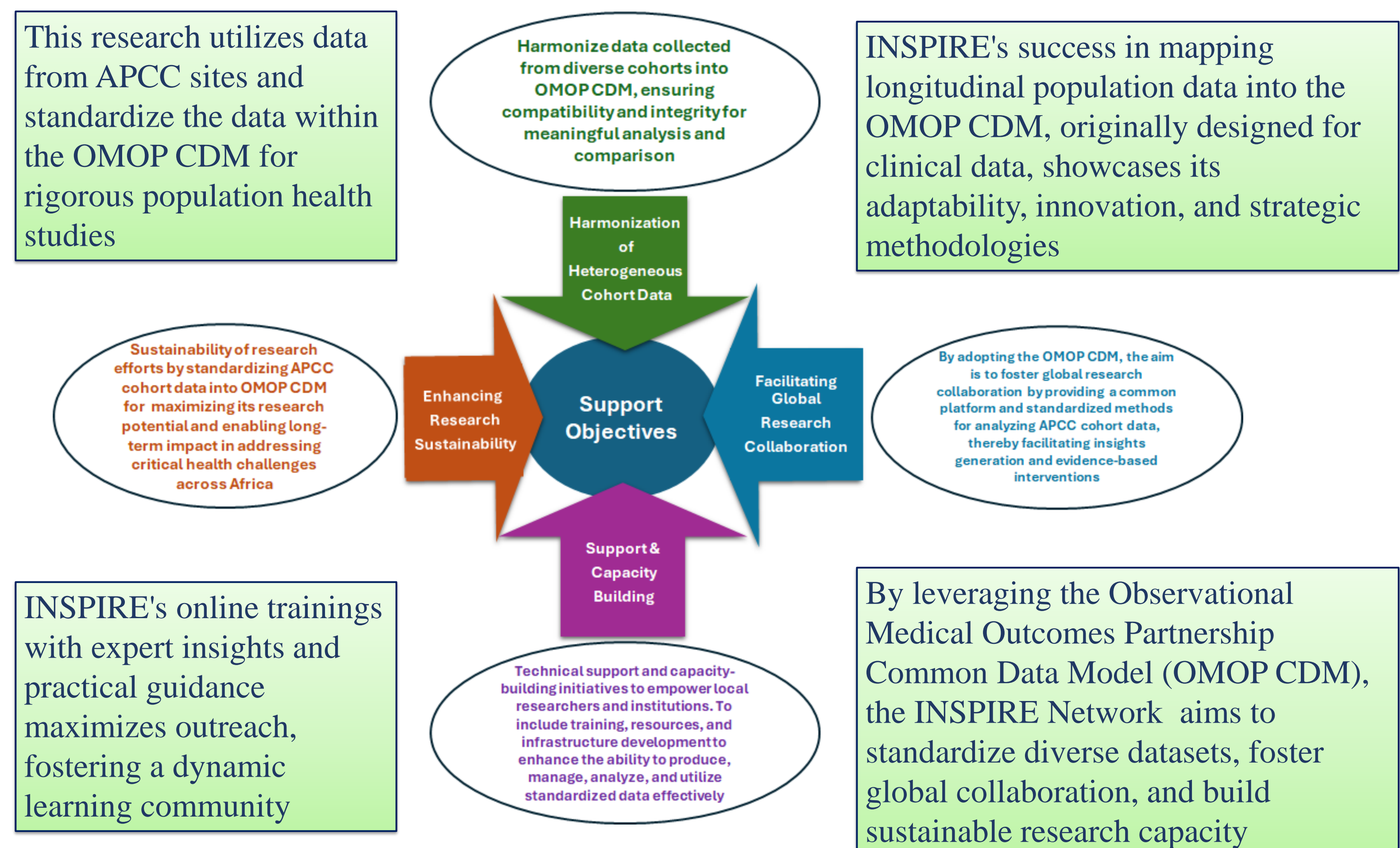
THE SUPPORT ECO-SYSTEM



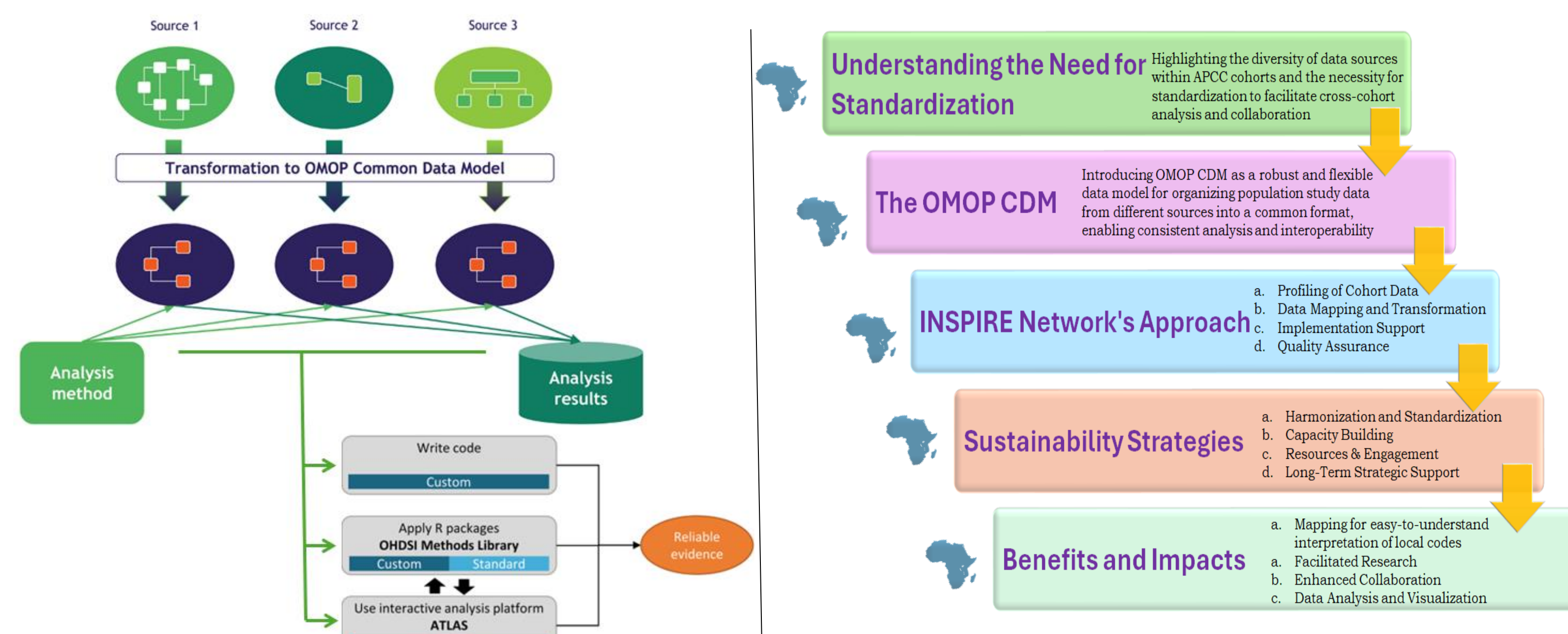
INSPIRE CO-APPLICANTS & PARTNERS



DATA HARMONIZATION OBJECTIVES



DATA HARMONIZATION METHODS



CONCLUSION

The collaboration between the INSPIRE Network and the APCC in standardizing data into the OMOP CDM will be a significant leap forward in the realm of population health research within Africa. This partnership embodies a shared commitment to enhancing the accessibility and utility of health data, thereby facilitating more robust and comprehensive analyses that can drive meaningful insights and inform evidence-based interventions. By providing technical support services to the cohorts, INSPIRE Network empowers APCC cohorts to navigate the complexities of data standardization, ensuring that diverse datasets are harmonized into a universally accepted format conducive to rigorous analysis and comparison.

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<https://aphrc.org/inspire/>