ASSESSING CAPACITY OF THE AGENCY ON STATISTICS OF TAJIKISTAN TO CONDUCT 2020 PHC

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OBJECTIVE OF THE ASSESSMENT

The objective of the assessment are three folds:

- to define internal/existed capacities that can be replicate for PHC;
- to define the areas of further support/assistance;
- to develop an action plan in this stage.

AN APPROACH

The U.S. Census Bureau's Tool for Assessing Statistical Capacity (TASC) are employed with the aim to provide a quantitative measure of the capacity of Agency on Statistics under the President (AS) of the Republic of Tajikistan to conduct 2020 PHC.

Each of the operational modules is divided into four subsections, except Institutional Capacity and Administrative Records modules:

- Human and physical capital;
- Methodological soundness and international standards;
- Quality assurance;
- Written procedures and documentation.

AN APPROACH

The Institutional Capacity module asks questions concerning:

- Legal Environment;
- Data confidentiality & Protection;
- Organizational Structure;
- Human and Physical Capital;
- Stakeholders Coordination.

AN APPROACH

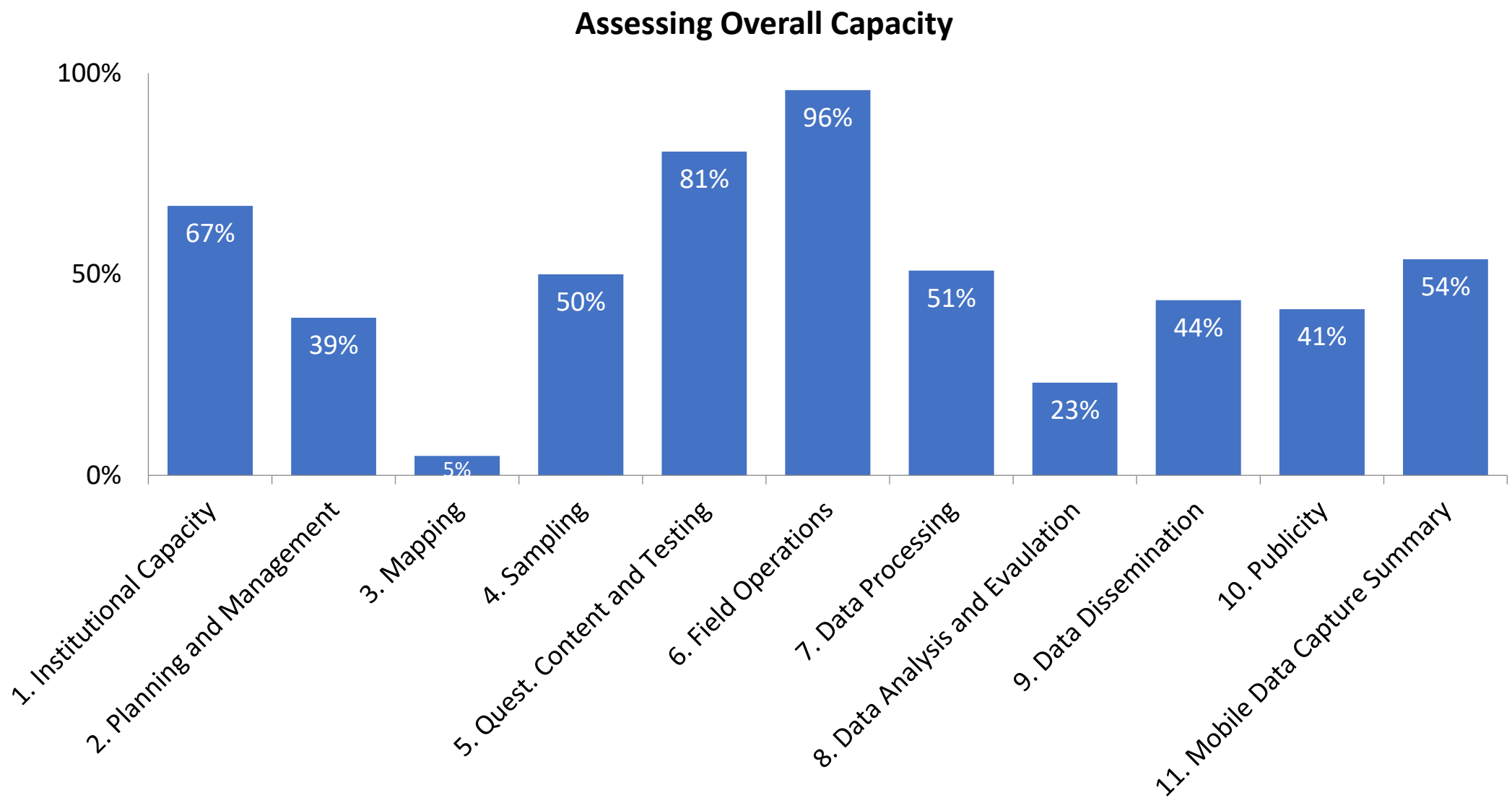
The Administrative Records module asks questions concerning:

- The legal basis for the use of administrative records;
- The skills of staff to link records;
- The harmonization of concepts and definitions between the various registers;
- Availability and use of metadata in linkages.

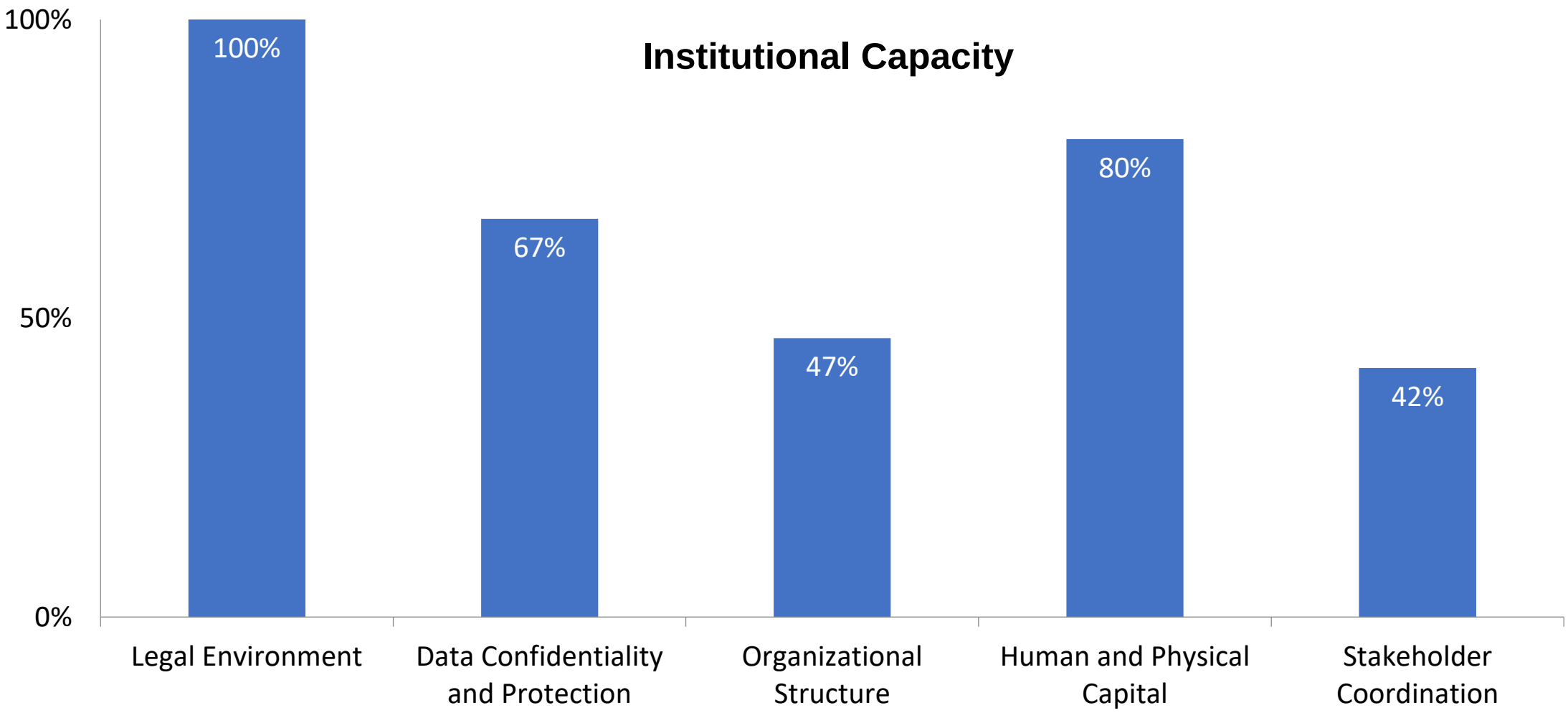
OUTLINE

1. Overall Capacity
2. Institutional Capacity
3. Planning and Managing
4. Mapping
5. Sampling
6. Questionnaire Content and Testing
7. Field Operations
8. Data Processing
9. Data Analysis and Evaluation
10. Data Dissemination
11. Publicity
12. Mobile Data Capture
13. Administrative Records

1. Overall Capacity of the AS on 2020 PHC

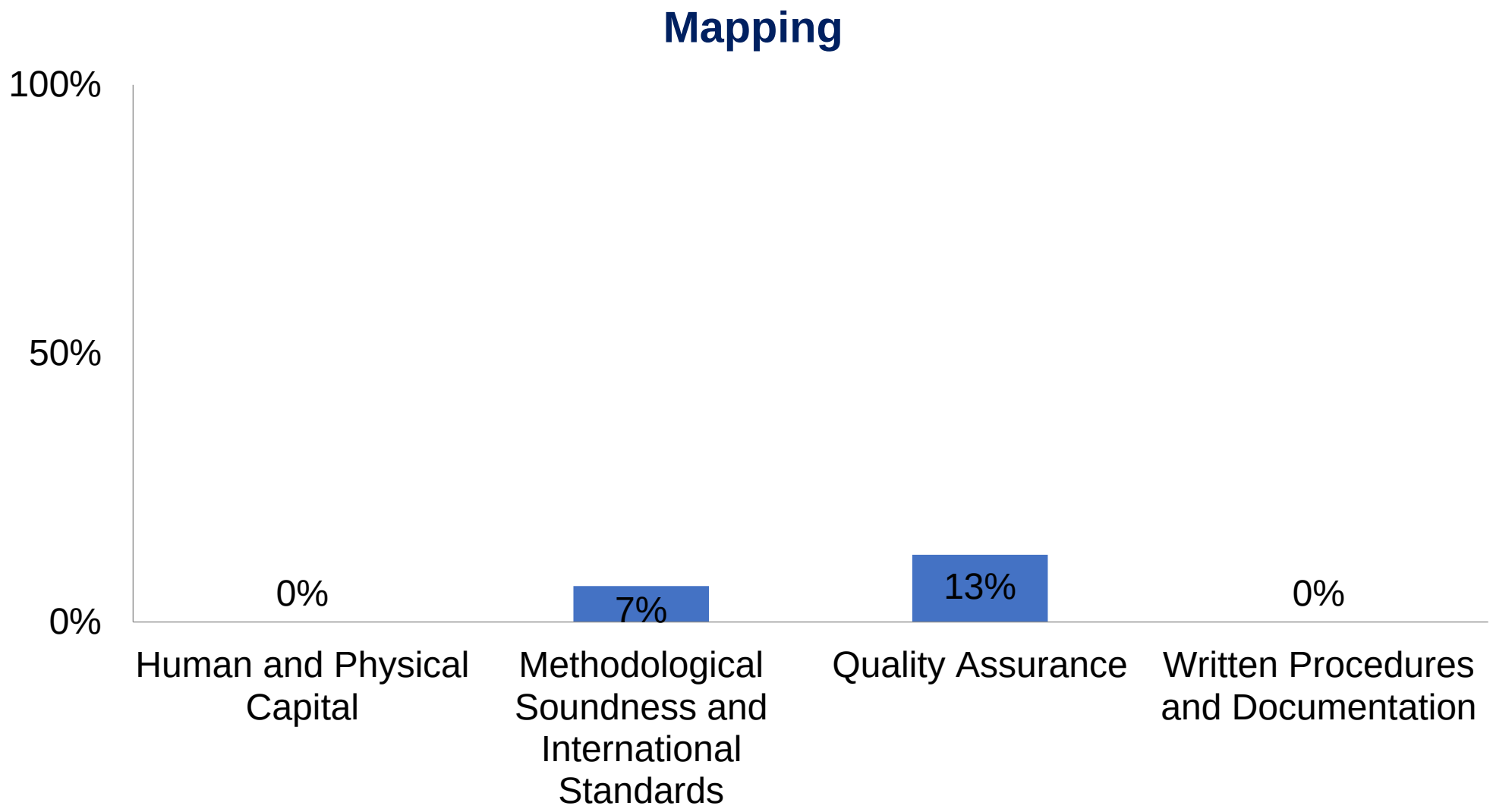


2. Institutional Capacity



3. Planning and Managing

4. Mapping


Mapping
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Human and Physical Capital
Methodological Soundness and International Standards
Quality Assurance
Written Procedures and Documentation

Mapping

To strengthen the capacity on using map for PHC the following steps need to be taken:

The AS should works with Land Committee, Geodesy and Cadastre and any other national mapping agencies to obtain spatial data (such as topography, roads, legal boundaries) to avoid duplication of effort.

AS should established mapping unit within Census Department and organized a training or hire the experienced staff in uses of Geographic Information Systems (GIS), including:

- collection, preparation, use, and publication of maps and management of geospatial data for census/survey purposes;
- creating thematic maps to highlight a specific topic;
- implementation and basic technology requirements;
- database development and management;
- freely data dissemination through AS website (e.g., shapefiles, geodatabases, KML) all geospatial datasets of administrative/statistical geography;
- produce maps using GIS software for enumeration;

Mapping

- thorough review of map dissemination products before they are publicly released (data accuracy, correct positioning, clarity of map elements, etc.);
- GPS-verified national datasets uses for census/survey operations (e.g., road network, housing location points, or landmarks);
- digitization and integration of digitized data from different sources;
- updates spatial data to reflect changes in administrative boundaries and re-delineate statistical areas;
- developing enumeration area maps to facilitate enumerator orientation meaning that they are legible, scaled appropriately, have clear and unambiguous boundaries, and are designed so that an enumerator can canvass the entire area in the time allotted;
- if available, use of satellite or aerial imagery to verify physical features (housing units, roads, rivers) and boundaries;
- verify pertinent spatial data (e.g., boundaries, housing units, structures) in the field prior to enumeration; (xiv) instruction of enumerators to note errors, inconsistencies, or updates in their EAs and the update the spatial database after verification;
- prepare formal training materials for field staff detailing how to read maps, how to use maps during enumeration, and how to correct map errors;
- produce or manage the delivery of reference and thematic maps via the AS website using multiple formats, including interactive web maps and static map products.

Mapping

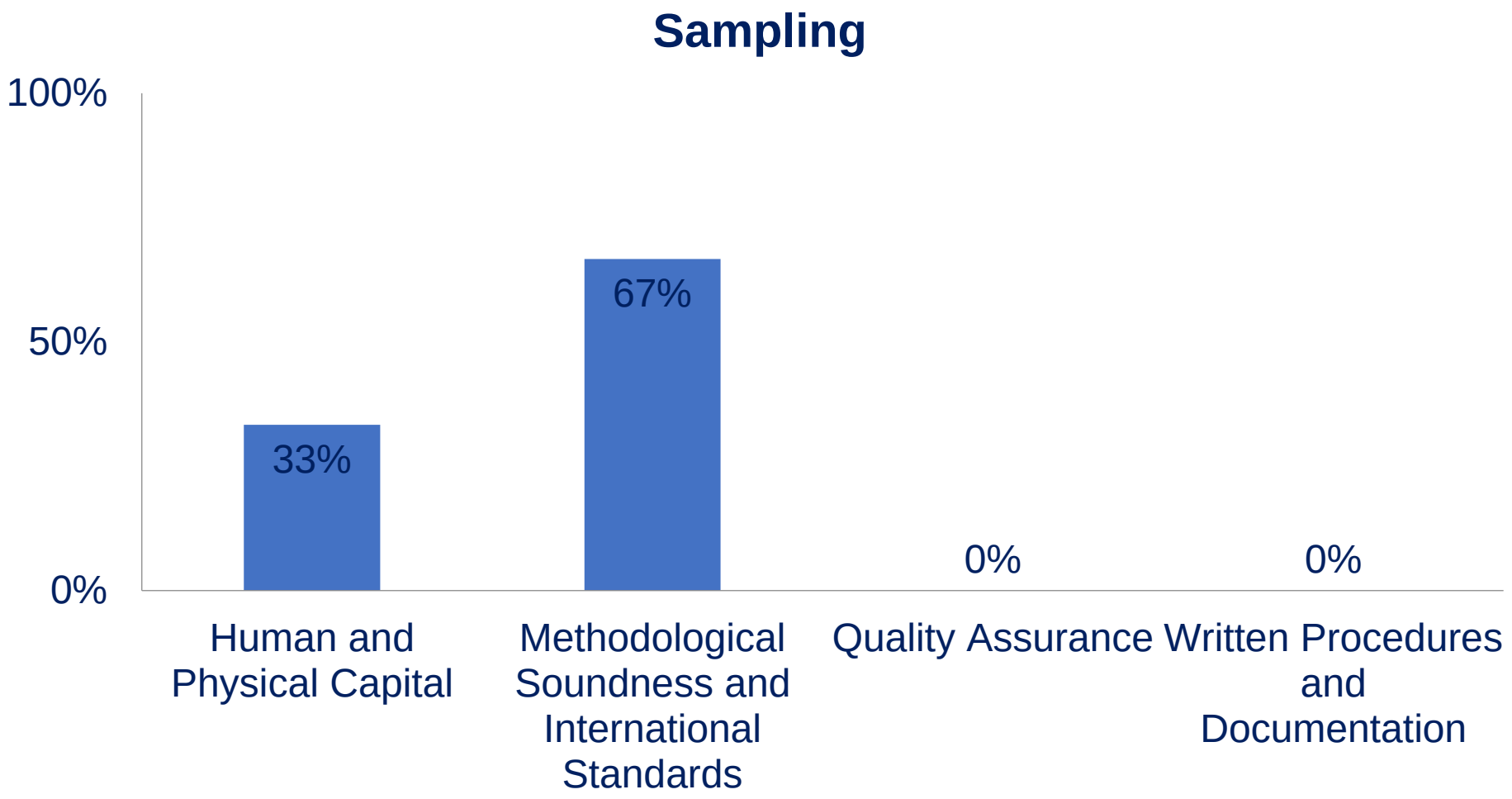
Mapping unit has a formal plan inventories should kept of geospatial products, including:

- GIS databases;
- Datasets;
- map products an covering the entire census/survey mapping process, including review of existing maps and data;
- interaction with other government mapping offices;
- digitizing;
- fieldwork;
- map correction and revision;
- map production.

Mapping staff should have hardware (e.g., computers, plotters, or servers) and software that are up to date, sufficient to complete required tasks, and adequately supported by SCS IT staff;

GIS data sets and databases should documented with standardized metadata that includes data sources, authors, production methods, and dates of production.

5. Sampling


Sampling
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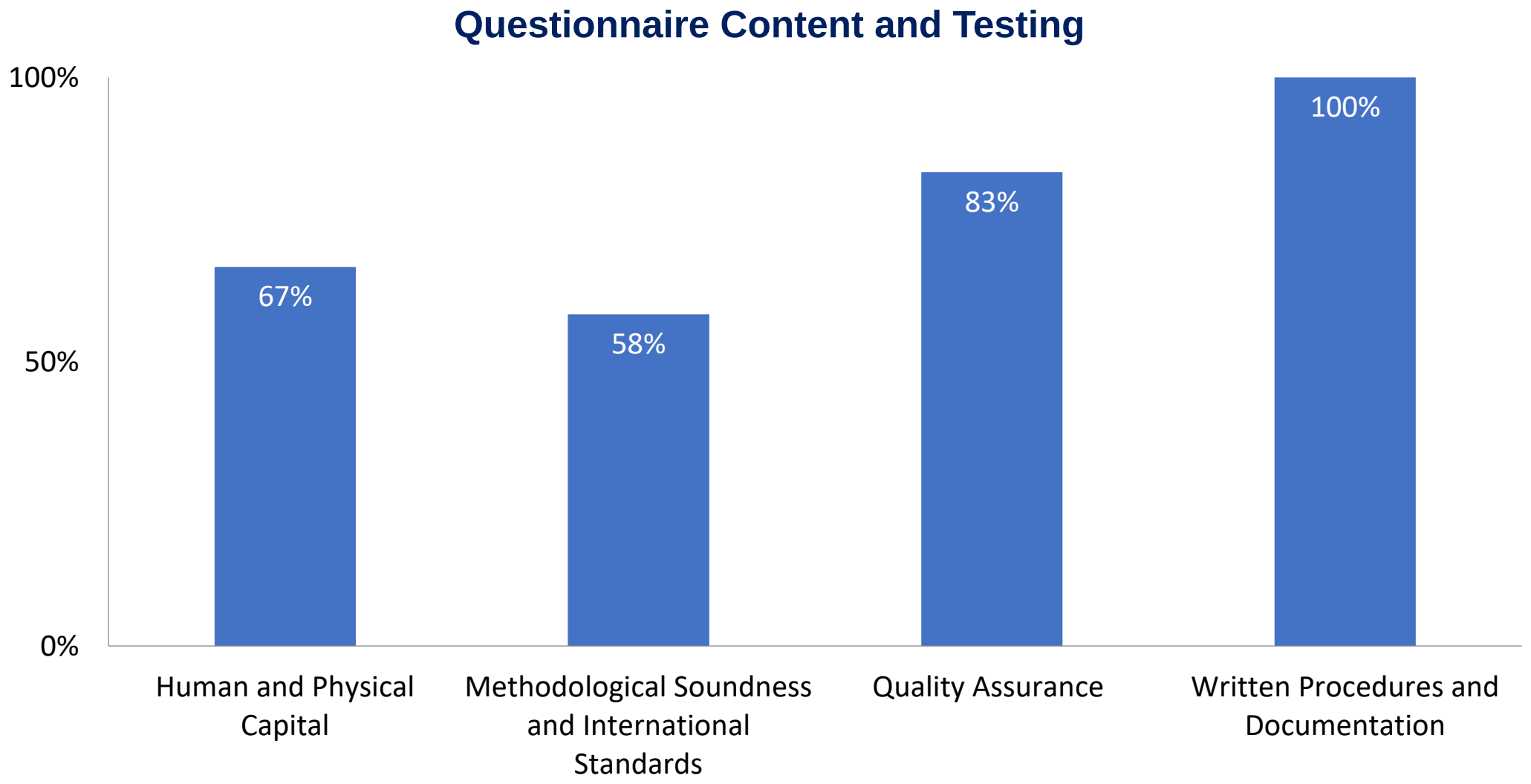
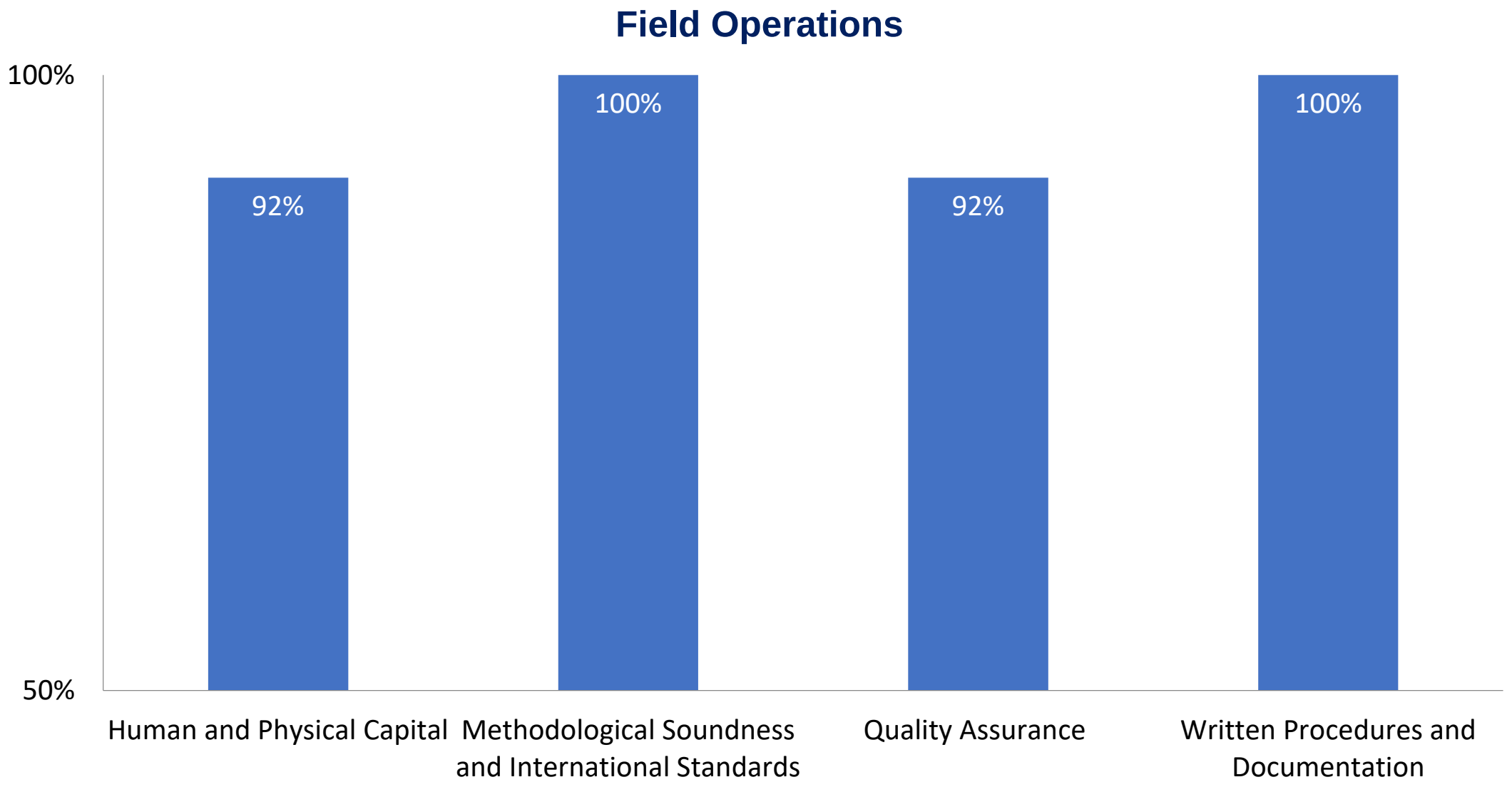
Human and Physical Capital
Methodological Soundness and International Standards
Quality Assurance
Written Procedures and Documentation

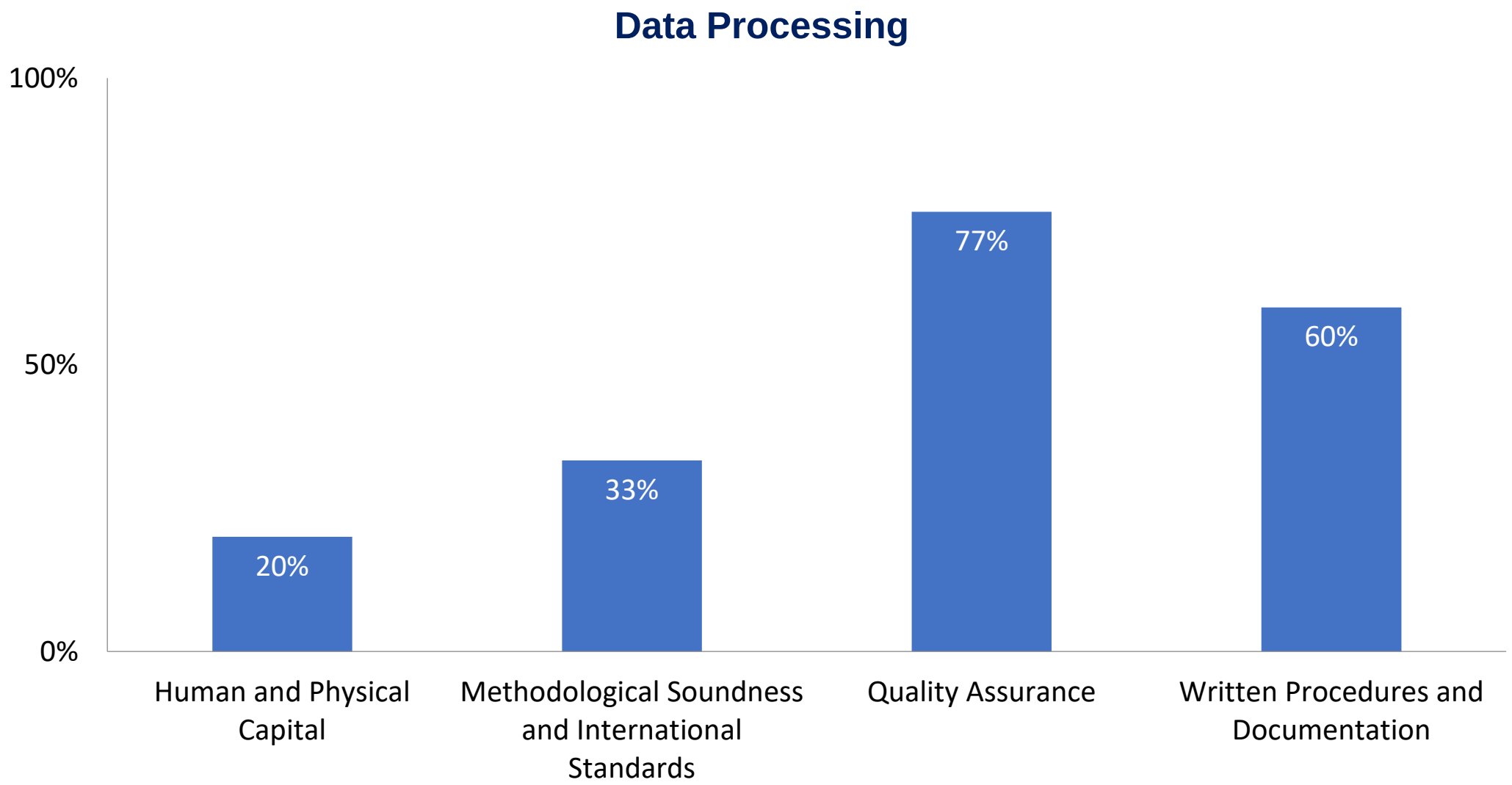
6. Questionnaire Content and Testing



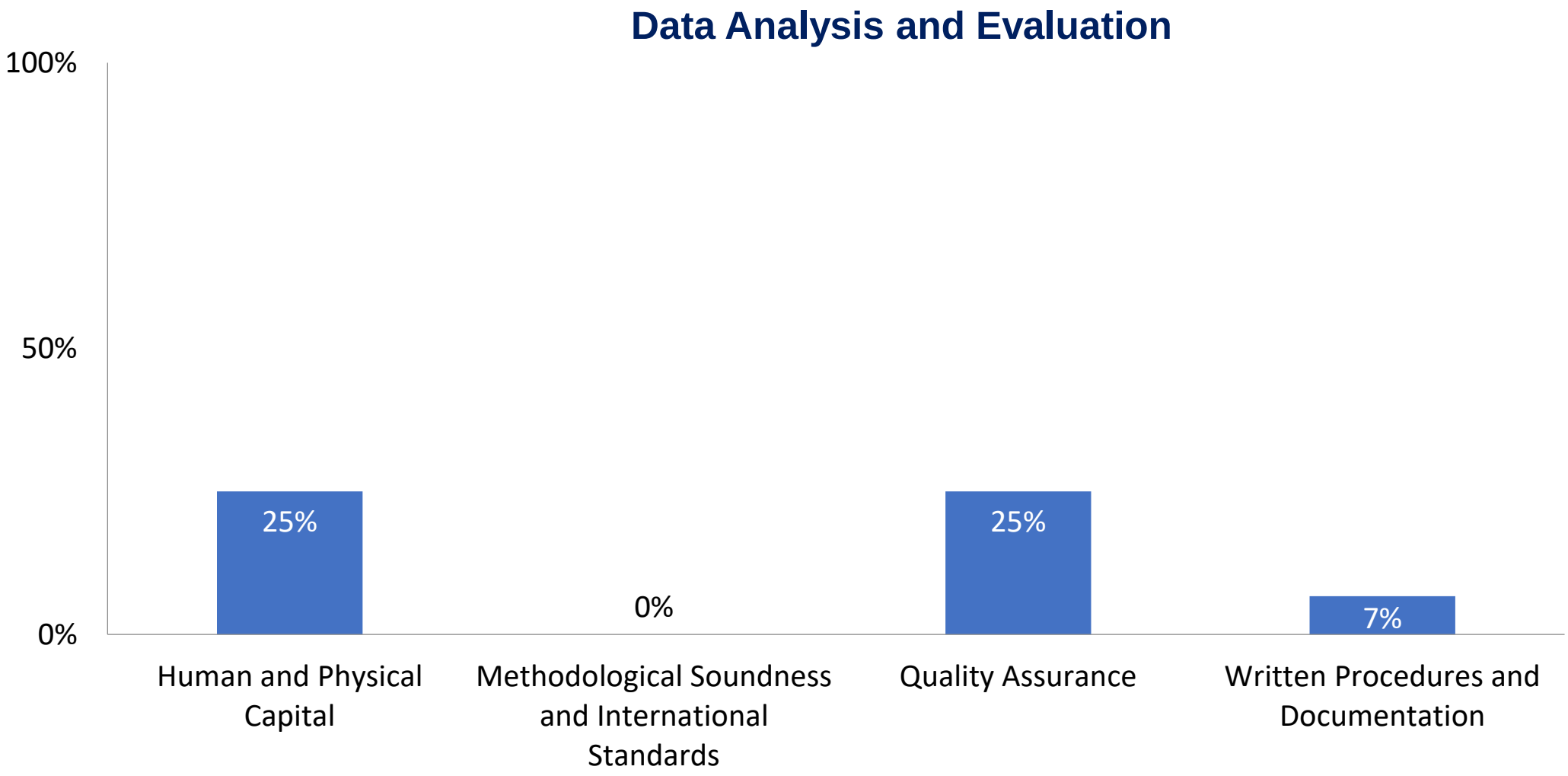
7. Field Operations



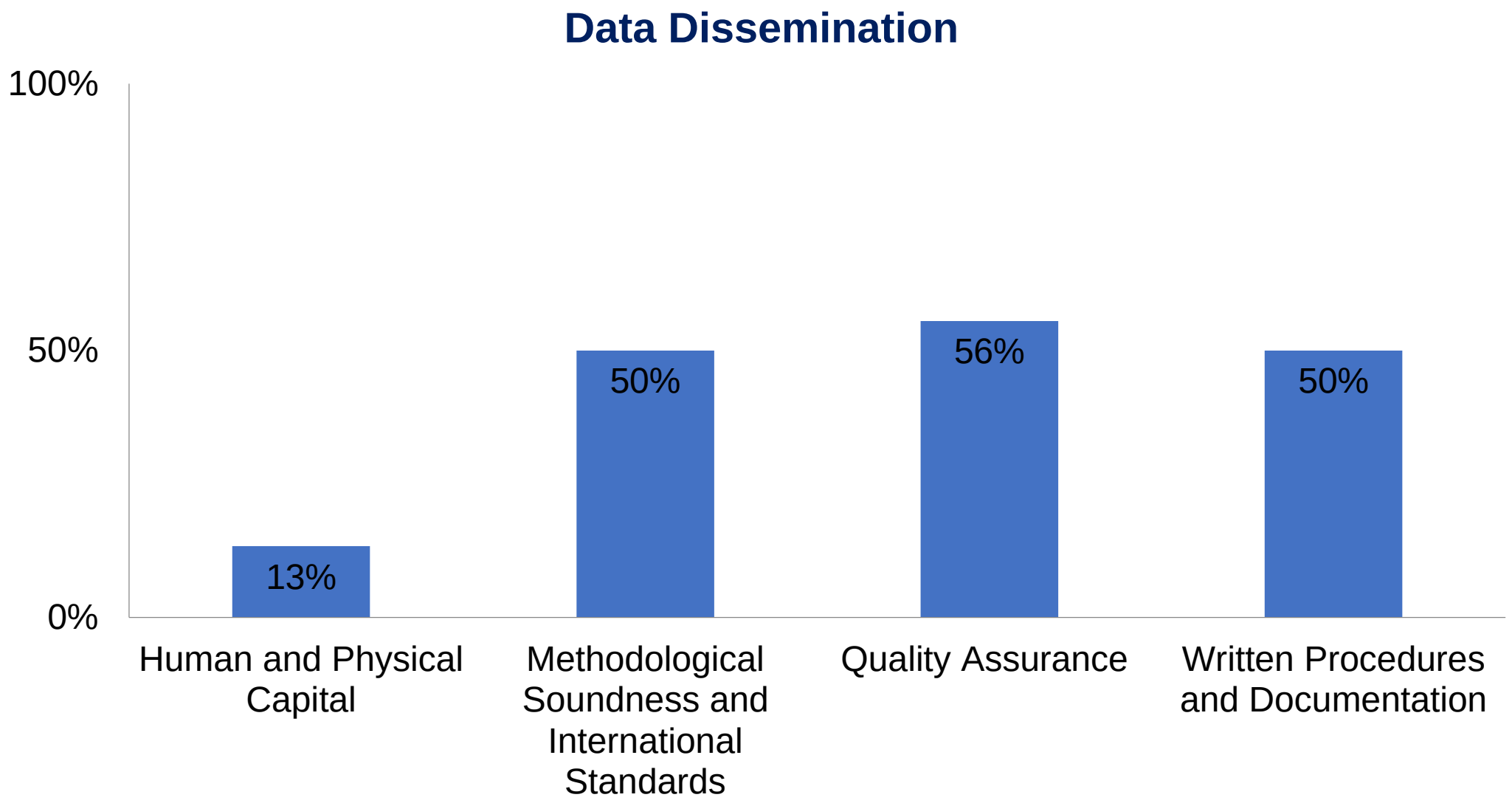
8. Data Processing



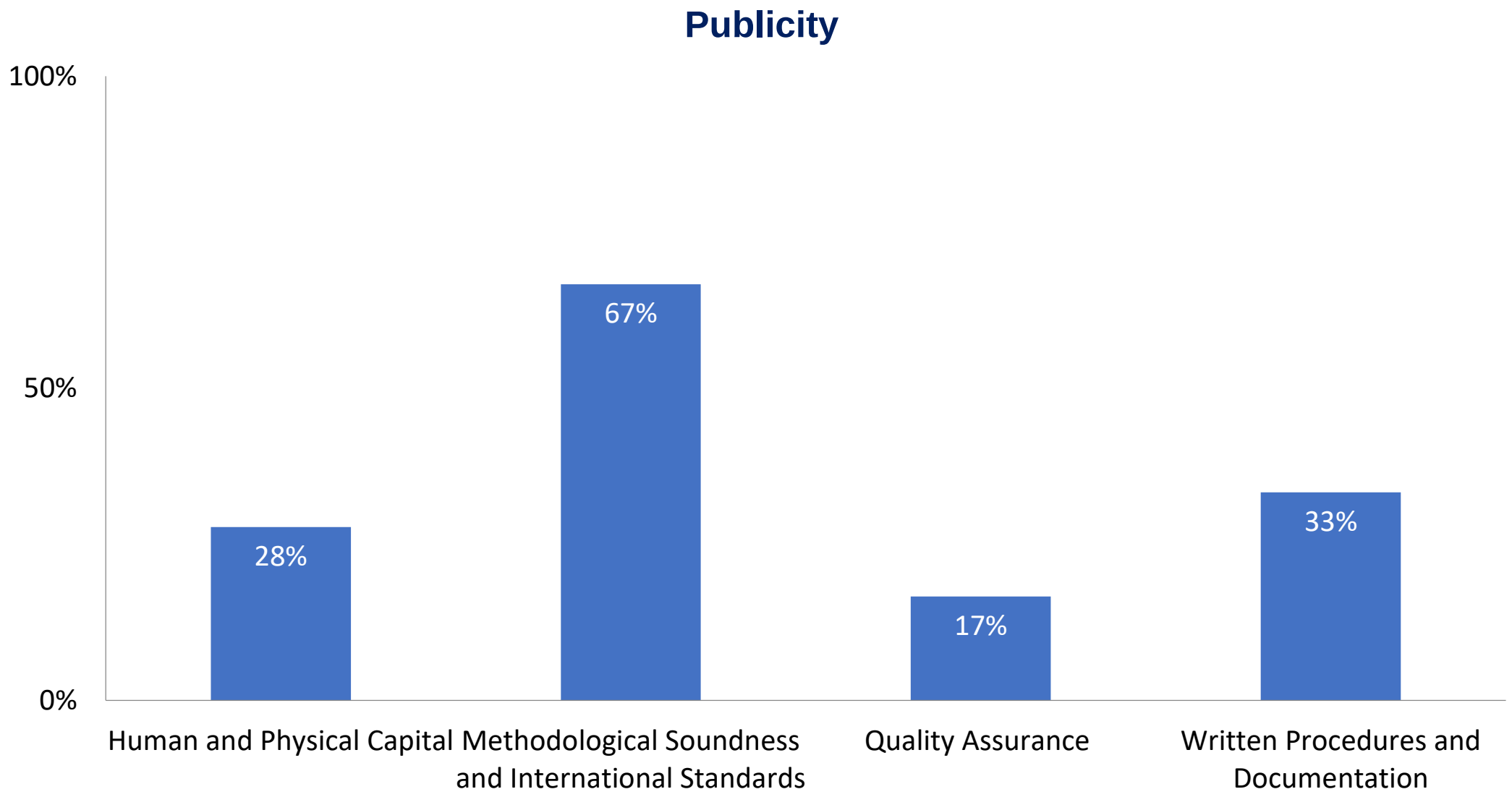
9. Data Analysis & Evaluation



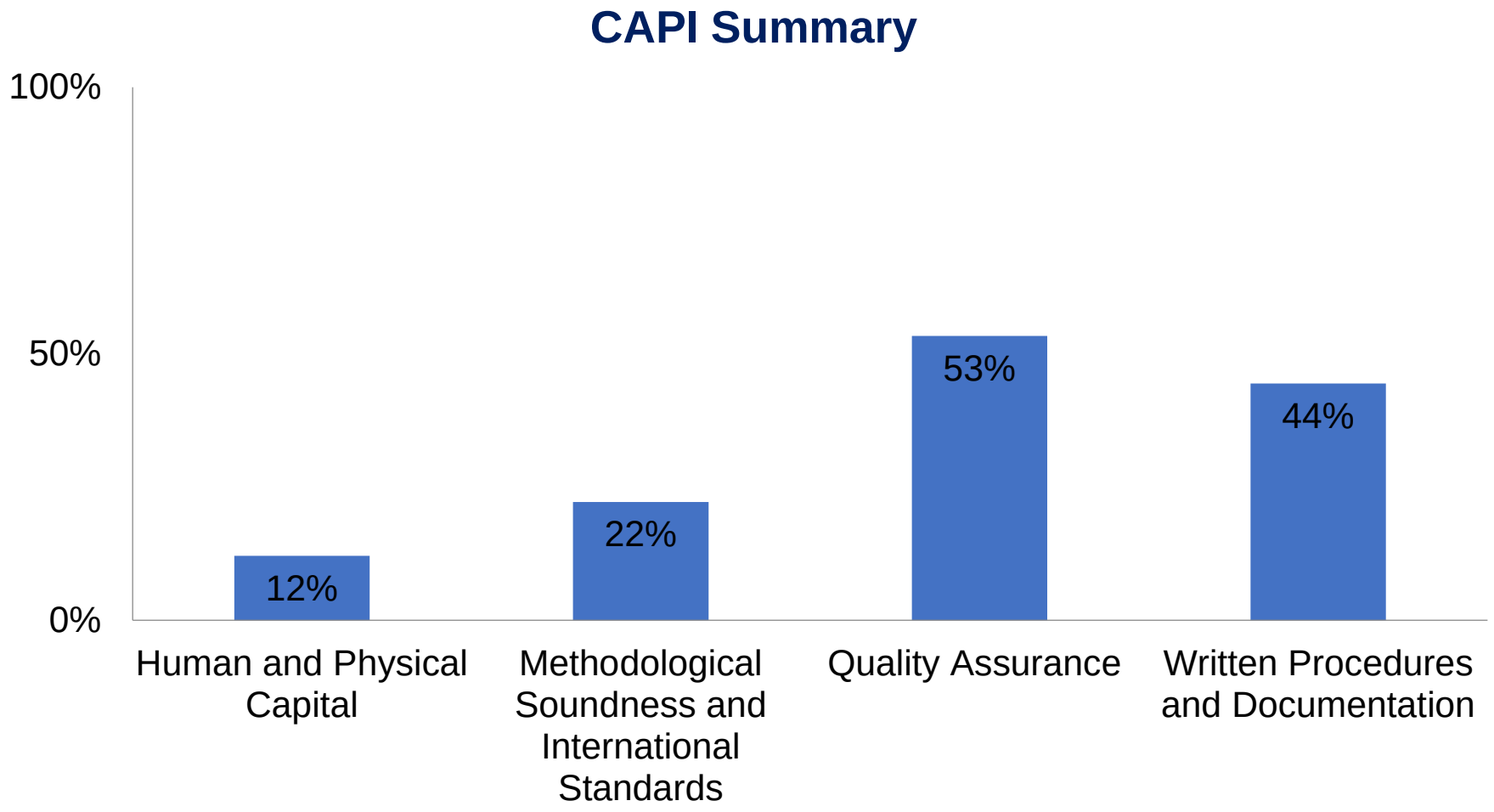
10. Data Dissemination



11. Publicity



12. Mobile Data Capture



Mobile Data Capture

The capacity of the SCS to employ mobile data capture is weak

- For PHC should procedures in place for what to do, when questionnaires and/or mobile devices are lost or stolen. Backup questionnaires and/or mobile devices should available throughout the country to avoid delays;
- a multi-disciplinary working group should establish that includes experts in design, field operations, and programming and analysis that make joint decisions;
- a multi-disciplinary working group should evaluate the advantages and disadvantages of using mobile data capture;
- a multi-disciplinary working group should evaluate the infrastructure and resource requirements of such a system and the readiness of the SCS to deliver such a system given constraints (time, budget, scope);
- SCS can program devices with access to imagery and vector map data;
- edits can be made to census geography in the field and stored in the same format as the centralized data;

Mobile Data Capture

- the enumeration universe should be populate programmatically based on the centralized data captured during the housing unit listing operation and quality assurance is an integrated part of the listing software control system;
- the SCS should have the resources to design and deploy a digital data storage and transmission system that protects data security to best practice standards;
- SCS centrally stores and integrates the captured spatial data with subsequent census or survey operations for address/housing unit listing;
- a digital system should create by the SCS that links the enumerator to the device and to the enumeration area. The system allows for reassignment;
- testing should be done to simulate data transmission and load-testing (simulating the amount of data that could be downloaded to a server at one time).
- A system should be in place that monitors data capture rates, evaluating performance against benchmarks and directing corrective action if benchmarks are not met;

Mobile Data Capture

A system for verifying data capture activity should be in place and the process should be responsive to feedback based on verification:

- KEYING: keying operator progress is monitored for accuracy;
- SCANNING: OMR and OCR accuracy are sampled, supplemental keying by operators verified for accuracy;
- MOBILE DATA CAPTURE: operational control system includes simultaneous data verification

SCS permanent staff should has following expertise for all steps of the data capture system:

- KEYING: 1) create a data entry program, 2) program skip patterns and range and consistency checks;
- SCANNING: 1) design a form that meets the specifications of the scanning system; 2) set and monitor quality assurance standards for printing; 3) create a program that can capture the data from the form;
- MOBILE DATA CAPTURE: 1) create a program that enables field data capture 2) create a program that manages assignments and data transfer, 3) incorporate maps.

Mobile Data Capture

Questionnaires should designed and tested in accordance with the data capture system chosen:

- KEYING: 1) designed for keyer speed and accuracy, 2) minimized page flipping;
- SCANNING: 1) tested for handwriting clarity and darkness, 2) accuracy is checked for character recognition, 3) formatted for accurate scanning;
- MOBILE DATA CAPTURE: 1) taken advantage of easier inclusion of skip patterns or filter questions, 2) conducted content usability testing, 3) conducted device usability testing

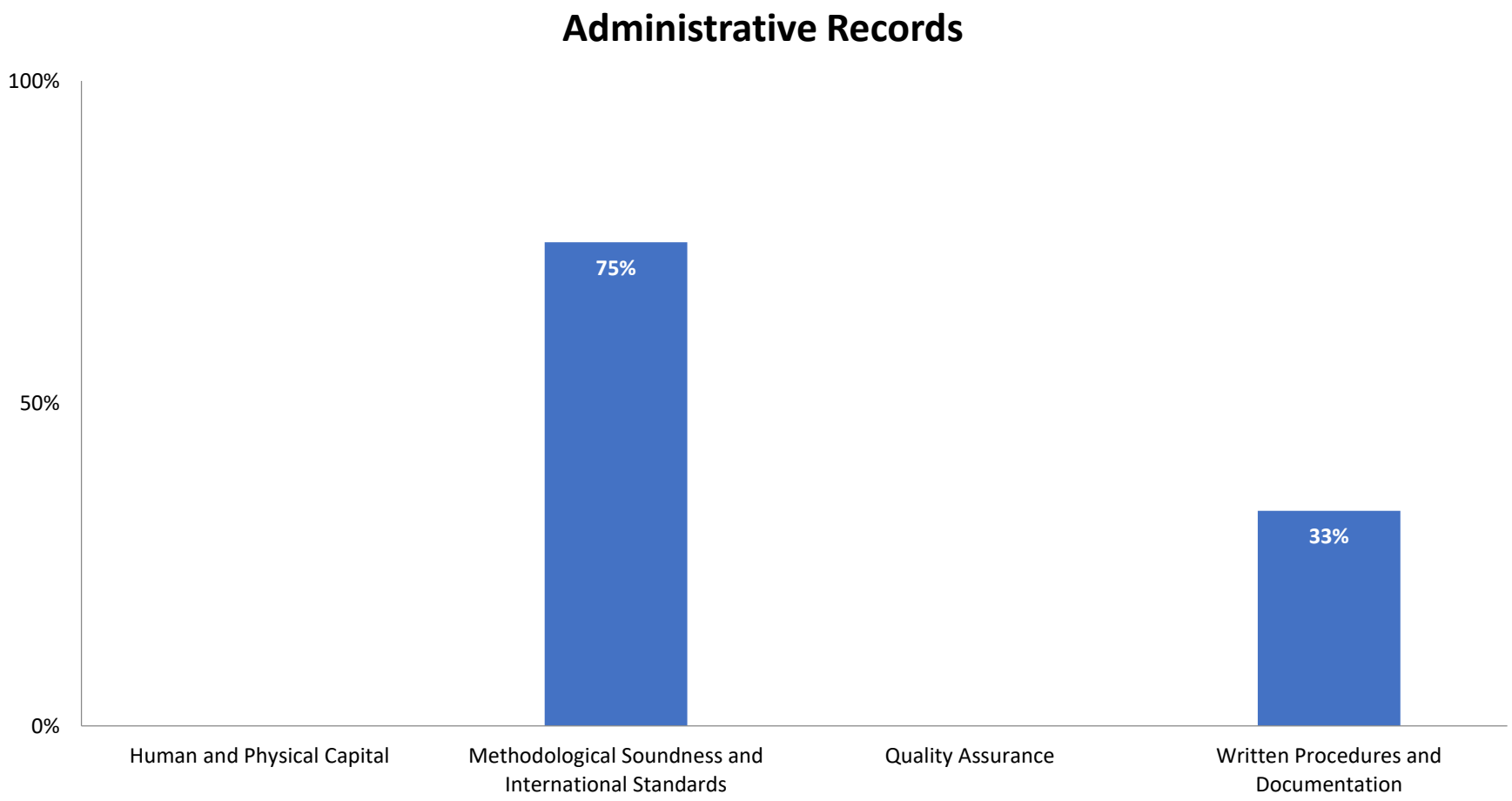
Enumerator training should include aspects specific to the data processing system used:

- KEYING: 1) handwriting practice;
- SCANNING: 1) handwriting practice, 2) using appropriate writing instrument, 3) handling of questionnaires;
- MOBILE DATA CAPTURE: 1) how and how often to charge the device; 2) how to fill out the questionnaire and use the map; 3) how and how often to transmit data, and; 4) troubleshooting.

Most advanced data archival and data processing software and hardware need to be used for PHC;

Change control and version management procedures should be used when developing requirement and specifications for hardware and software and it should be systematic.

13. Administrative Records



THANK YOU!