

## Abstract

To address the challenges associated with accountability in for and non profit organizations, a sequential explanatory mixed method design was employed, along with action research. The purpose of this study is to derive the components needed to track and monitor blood disorders like Sickle Cell Anemia (SCA) in Africa and globally. The framework is the component required to organize and maintain the data for SCA improvement effort.

## Introduction

The existing research produced a model where organizational accountability and rules formation were highly correlated to information access (those who have access to information). As collaboration efforts increase through information sharing, so will the influence of group innovators to impact decision making [6]. Management Information Systems (MIS) provide the health care industry with a method to adequately address the morbidity and mortality rate of sickle cell anemia. Evidence-base research allows health care practitioners to make decisions on the best methodology to treat patients. [10] However, in the case of situational ethics, the accountability of the actor/practitioner may come into question where there's a lack of collaboration and clear communication that reflects the organizational accountability and observed ethical behavior. The objective of this study is to evaluate global health demographic surveillance systems that can be used to track and monitor sickle cell disease (SCD). It's best for stakeholders to decide on the framework and measures of systems that measure accountability.

## Methods and Materials

Through meta-analysis, three qualitative areas of accountability were derived; (1) personal accountability, (2) Organizational Accountability and (3) financial accountability [5]. The definitions for information access, information capture, information sharing and decision making were initially derived by Majchrzak [6]. The reliability and validity tests performed on these quantitative measures [8] were the precursor to their utility in this study. Additionally, our research investigated the utility of several DSS models, SCA diagnoses, and health surveillance systems.

**Table 1.** Hemoglobin Variants/ Diagnoses Terms

Type	Name	Description
Normal	HbA	Exist after birth
	HbA2	Found after birth
	HbF	During fetal development, but decrease after birth
Abnormal	HbS variant	Sickle hemoglobin (common in people with SCD-Sickle cell trait) Africa
	HbD variant	Uncommon in the US. When isolated it has no clinical or hematological consequences.
		Doubly heterozygous HbD/HbS, the HbD is able to enhance the sickling. Europe/India
	HbE	Benign, mild hemolytic anemia and splenomegaly (common in SE Asia)
	HbH	Tetramer composed of 4 beta globin chains
	HbO Arab variant	Uncommon in the US. Rare among the Arab population. No clinical or hematological consequences.
		Associated with a mild to moderate anemia. Doubly heterozygous HbSO is associated with a sickling anemia similar in severity to sickle cell disease
	HbSS variant	Sickle cell anemia
	HbC variant	Benign, mild hemolytic anemia and splenomegaly (Africa)
	Hemoglobin Constant Spring	The globin chain is long. Chinese background
Hemoglobin Bart's	Develops in fetuses with 4 gene deletion alpha thalassemia. Most die in utero (hydrops fetalis)	

## Results

With a significance level of .000, the test showed that there was a statistically significant relationship between the IV construct - Organizational Accountability, and DV - Observed Ethical Behavior. The Classification Results correctly classified the responses of 72.7% of respondents, who Sometimes observed the ethical decision making of Top Management; and 86.7% of respondents who Rarely observed ethical decision-making of Top management.

## Discussion

For the best communication and decision making, we recommend:

- Stronger collaborations: urban planners, health policy-makers, public health practitioners and community members
- Model of planning known as "collaborative health planning"
- Grounded in both 'communicative planning theory' and 'population health theory'
- Combine information, knowledge and skills from multiple stakeholders and generate agreement over solution

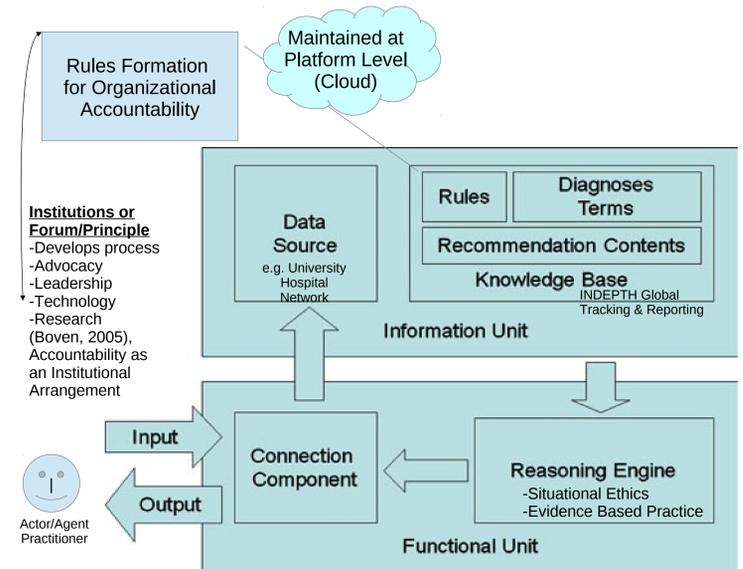


Fig. 2 Proposed architecture for the Sickle Cell Anemia Surveillance Tracking system

## Conclusions

The proposed architecture may enable communities to conduct various queries (ex. new services and infrastructure), identify under served areas, evaluate quality and accessibility of health services, and locate health care facilities and assets, conduct reliable health surveillance.

Advancements in information transparency as a communication process toward collaboration yield relationships in personal, financial and organizational accountability [3]. With the advent of human-agents, expert systems become a real possibility, prompting humans about the feasibility of choice before making it. Even after a selection/choice is made, it is also clear that information transparency will ensure the quality of the decisions being made in the near future.

Through cloud technology, information transparency will also provide global tracking of decisions were necessary. Deaths in Africa are not only due to unemployment or health care but is astonishingly due to the lack of information and knowledge surrounding Sickle Cell Anemia (SCA). Thus, the prescribed framework is recommended to improve the monitoring of the disease toward the overall health of citizens [10].

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