

ABSTRACT

Background: Two mutually independent institutions from different domains capturing and entering common data elements at elementary level for the same objective thus not only duplicating the data in two separate systems with multiple databases but also reducing full potential of sustainable benefits and comprehensive care for the Sri Lankan community. District Nutrition Monitoring System which is implemented under the Ministry of Health, Sri Lanka and National Nutrition Information System which is under the administrative domain is under the authority of National Nutrition Secretariat of Sri Lanka. Both systems are tracking same individuals with around 50% of duplicate data collection. This has led to a challenge on sharing data related to individual patients across heterogenous public health information systems and prevention of data duplication related to individual patients. Therefore, we explored the possibility of using an integrated solution which can communicate between the two systems to extract and share information.

Method: Following a detailed analysis of challenges of integration and possible approaches of integration of District Nutrition Monitoring System and National Nutrition Information System, it was decided that a central middleware application and a client-side java-based application be installed along-side each of the nutrition information systems. The client-side application has to keep track of sharable data elements to be pushed to central middleware application from the source system and to update the destination system. The middleware application has a configurable component to insert information related to sharable information of the two systems. Child's identification number will transform into a generic number in the middleware application.

Results: Midwives and the non-health sector stakeholders accepted the idea of the integrated solution to eliminate the duplication of data in nutrition status of malnourished individuals. Middleware was tested using purposefully built test cases which resulted in the successful integration of the two systems.

Conclusion: This solution eliminates the need for duplicate data gathering and has improved the data sharing. The custom-made middleware solution is already planned, and has got the potential to be implemented for several other public health information systems with duplicate data collection. It needs to be fine-tuned to adapt to the requirement of central data repository to be implemented at national level.