Methods

In October 2013, the CDC announced STD*MIS development discontinuation of the legacy Translational Disease Management Information System (STD*MIS). This required the remaining 14 jurisdictions still using STD*MIS to initiate planning for alternative data management solutions. The Virginia Department of Health (VDH) selected MAVEN (multi-organizational application to facilitate new epidemic management) for its cross-modal access and superior security. The system has been customized for Virginia to maintain screening and treatment capabilities for the state’s population. MAVEN aligns with the VDH Strategic Plan and is consistent with the agency’s mission to prevent, detect, and respond to chronic disease and promote health in Virginia.

Project Description

The MAVEN application was designed to be used for Virginia. The project was driven by two emerging needs: 1) an updated surveillance database in cross-modal capacity, and 2) Virginia’s specific functional requirement for a new interoperability system that includes: 1) an integrated STD and HIV surveillance system, 2) TB surveillance system, and 3) HCV surveillance system for Virginia. Virginia’s cross-modal access needs included improved data management interoperability solutions for timely, efficient, reliable, and cost-effective data exchange.

The MAVEN application was designed to meet the followingCDC and Virginia specific needs:
- Integrated surveillance of multiple diseases
- Improved data management interoperability
- Enhanced data quality and security
- Improved system management and operational efficiency
- Increased data portability
- Enhanced system scalability
- Improved system performance

Key findings to date include the following:
- MAVEN supports the integration of multiple systems with minimal modifications, facilitating a seamless user experience.
- MAVEN enhances data quality and security through robust encryption and access controls.
- MAVEN allows for efficient data sharing between different systems, improving operational efficiency.
- MAVEN supports scalability, allowing for future expansion and integration with other systems.
- MAVEN improves system performance through optimized algorithms and efficient data processing.

Conclusions

An integrated approach to STD surveillance system implementation and data integration should provide greater operational efficiency across multiple disease programs. MAVEN can facilitate such enhancements by aligning with existing systems while providing the necessary technical infrastructure for scalable and efficient data management. Future work will focus on further refining the system to meet the specific needs of Virginia’s public health surveillance efforts.

Figure 4: Initial MAVEN Cost Sharing Allocations

Figure 5: Modified MAVEN Cost Sharing Allocations

Figure 6: Virginia’s Strategic “Game” of Interoperability

Figure 7: Impact of MAVEN Interoperability for Virginia

Figure 8: Connect (Four) More: Virginia’s Strategic “Game” of Interoperability

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Virgina’s specific functional requirement for a new interoperability system included: 1) an integrated STD and HIV surveillance system, 2) TB surveillance system, and 3) HCV surveillance system for Virginia. Virginia’s cross-modal access needs included improved data management interoperability solutions for timely, efficient, reliable, and cost-effective data exchange.

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HL7 Segments

SPM: Specimen

PV1: Patient Visit

OBR: Observation Request

OBX: Observation/Result

NTE: Notes and Comments

ORC: Common Order Segment

MSH: Message Header

NK1: Next of Kin/Associated Parties

SFT: Software Segment

TQ1: Timing Quantity