



AllianceChicago Leverages Virence Health's EMR Solution to Identify Children with the Propensity for Hypertension

Challenge

The diagnosis of childhood hypertension is difficult due to complex blood pressure interpretation standards in children. Tools to facilitate timely prevention, diagnosis, and management of hypertension are urgently needed.

Solution

AllianceChicago customized Virence Health's EMR to integrate a pediatric blood pressure clinical decision support tool into the workflow that has eliminated time-consuming processes for interpreting blood pressure in kids.

Results

In one year, the clinical decision support tool was used in 57,987 patient encounters in the AllianceChicago network. Nearly 1,400 children at a health center in the network have been diagnosed with elevated blood pressure.



AllianceChicago is a Health Center Controlled Network with the mission of improving personal, community, and public health through innovative collaboration. The organization offers services to about 50 non-profit organizations who share a mission to serve the underserved. Early in their history, the founding partners of AllianceChicago elected a strategic focus on cutting-edge electronic health records implementation and in 2006 began using Virence Health's EMR to further this goal.

AllianceChicago has had great success using Virence Health's EMR to help drive improvements in populations facing chronic conditions. This case study reviews improvements made in identifying pediatric patients who may be at risk for cardiovascular diseases.

Child blood pressure interpretation is complex yet crucial

Nivedita Mohanty, MD and Chief Research Officer and Director of Evidence-Based Practice for AllianceChicago, explained the need to detect high blood pressure in kids. "Hypertension in childhood is associated with risk factors for adult cardiovascular disease and is increasing in prevalence," she said. According to Mohanty, evidence-based guidelines are available, but the diagnosis is often missed due to the complexity of blood pressure interpretation in children. She emphasized that tools to facilitate timely prevention, diagnosis, and management of hypertension that can be easily integrated in workflows are urgently needed.

Virence Health's EMR helps reveal kids at risk

Historically, providers had to navigate to references outside of the EMR to interpret pediatric blood pressure. This is where Virence Health's EMR comes in. AllianceChicago customized the solution to interpret blood pressures with algorithms factoring patient age and sex alongside body measurement. Guidance for diagnosis and management of blood pressure was then seamlessly integrated into clinical workflows. Mohanty explained that by harnessing the expertise of clinicians, informatics specialists, and researchers, a clinical decision support (CDS) tool responsive to provider needs and preferences was systematically developed and implemented in the EMR.

The need for this measure was quickly validated. In 2016, across 15 health centers with large pediatric populations, the Pediatric Blood Pressure CDS tool was used in 57,987 patient encounters. In part because of the assistance that this tool provides, more children in the network have been identified as having high blood pressure.

In August 2017, the guidelines for managing pediatric blood pressure changed significantly. Only five months after the guidelines were released, AllianceChicago adapted the CDS tool to reflect modifications so providers had the up-to-date evidence to guide pediatric blood pressure management.

Mohanty's team and their research collaborators are currently investigating how the CDS tool is impacting providers and their management of pediatric blood pressure.

Customizability can help enhance care quality

Identifying patients at risk for potential health problems and intervening before chronic conditions manifest can improve clinical outcomes. With a customizable technology such as Virence Health's EMR, it's also an initiative that can be easy to implement, as measures to identify chronic conditions can seamlessly be integrated into clinical workflows.

A Pediatric Blood Pressure Clinical Decision Support tool was developed and implemented in Virence Health's EMR.



In 2016, there were **57,987 instances** in which the tool was used to streamline the process of interpreting pediatric blood pressure. **1,400 children** at one health center had abnormal blood pressure.



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