EHS and Oracle Cerner supporting children with autism

Dr. Aisha Mohammed Suhail Al Seraidi,
Director of Primary Health Care, Clinical Services Sector, Emirates Health Services

Dr. Yasir Khan,
Lead Physician Executive, Oracle Cerner

AUTISM SPECTRUM DISORDER (ASD) IS A COMPLEX, LIFELONG DEVELOPMENTAL CONDITION THAT TYPICALLY APPEARS DURING EARLY CHILDHOOD AND IMPACTS SOCIAL, COMMUNICATION, AND SELF-REGULATION SKILLS. IT CAN AFFECT THE SOCIAL FUNCTIONING OF THE INDIVIDUAL TO VARYING EXTENTS. WITH EARLY DETECTION, PATIENTS CAN BE SUPPORTED THROUGH STRUCTURED INTERVENTIONS. IT IS SEEN THAT EARLY DETECTION AND MANAGEMENT MAY HAVE A LONG-LASTING IMPACT ON A CHILD'S OVERALL WELLBEING.

Early childhood diseases can be very frightening for parents and caregivers. Many of these conditions stay with the child indefinitely, if not permanently. The child and the family can face challenges in dealing with the situation and navigating the course of therapy. When detected early, the management plan can be initiated earlier, improving the disease outcome substantially in many cases. The picture is more complex when the disorder has behavioural health origins – detecting the disease can be challenging, and the families might underestimate the need for assessment. In many cases, these disorders might not be evident on the surface, and only careful assessments might expose any abnormality.

Autism spectrum disorder (ASD) is a complex, lifelong developmental condition that typically appears during early childhood and impacts social, communication, and self-regulation skills. It can affect the social functioning of the individual to varying extents. With early detection, patients can be supported through structured interventions. It is seen that early detection and management may have a long-lasting impact on a child's overall wellbeing.

According to research, one in every 146 children has ASD in the UAE.[1] This could be the tip of the iceberg though, as many children might be left undiagnosed due to the complex dynamics of family realisation and seeking appropriate assessments, especially with low parental awareness.

The past decades have seen a drastic spike in the use of technology across all leading sectors, including healthcare. The electronic health record (EHR) has evolved to be a pivotal platform that integrates all entities engaged in providing healthcare. When designed innovatively, it can facilitate care providers in achieving their organization's goals efficiently. Emirates Health Services (EHS) is at the forefront of delivering patient-centric, high-quality care to its population using its digital platforms innovatively and cohesively.

Wareed, their Oracle Cerner EHR, is the central platform for implementing integrated clinical programs to meet their vision of providing world-class care. It is a digital platform supporting all healthcare provision at EHS, capturing all relevant data that can then be conveniently extracted. EHS leaders and decision-makers use this data to inform policies and future courses of action.

EHS has a specialized well-child program that is designed to meet the needs of children under six who are seeking care. This program, which is focused on promoting the wellbeing of young children, is a digital care pathway that is integrated into Wareed.

It provides tools and resources to help clinicians screen children visiting well-child clinics at primary healthcare centres at appropriate age intervals, and to identify and manage various childhood conditions. The goal of this program is to ensure that children receive the care and support they need to stay healthy, and as a result, many childhood conditions can be detected and effectively managed through this service

Gauging the situation and following best practice guidelines, EHS has included autism screening tools in Wareed as one of the mandatory screening assessments for their pediatric population.

This age-specific screening must be offered to all children visiting EHS facilities at their 18- and 24-month well-child visits. Clinicians should use these tools based on the child's eligibility as outlined by EHS policy criteria. The insights derived from the well-child program led to realization that there is an opportunity to improve autism screening practices across multiple care venues.

EHS also implemented a smart digital care model as part of their Wareed platform. This model utilizes a 'detect and suggest' methodology to identify children who have missed important screenings and provide

recommendations for appropriate actions and interventions to address any care gaps. The eligibility of patients is determined using a sophisticated algorithm and this information is provided to caregivers at the point of care. The workflow for completing the screening process has been specifically designed to make it easier to use internationally accredited tools such as M-CHAT, and includes smart rules to ensure that recommended steps are not skipped. In order to facilitate effective change management, unobtrusive reminders have been incorporated into each step of the process.

This information is translated into a score by the system and stratified into a risk level for autism. Physicians have an assessment tool for further assessing children at medium risk (M-CHAT-R).

On opening the record of a child's who has a medium risk of autism, the system nudges physicians to conduct further screening. According to EHS guidelines, all children at a high risk of autism must be referred to the behavioural health facility for diagnosis and management. When a high-risk child visits the physician, they receive an alert for referring this patient to specialised care.

Implementing these rules through the EHR has shown promising results in improving the autism screening practice at EHS's primary healthcare centers. The screening practice has reached almost 100% compliance in just two months, a marked improvement from the baseline.

EHS implemented this project as an innovative initiative that would contribute towards the wellbeing of UAE's pediatric population. It is an excellent example of informatics-driven performance improvement and is highly encouraging to use a similar approach in all applicable scenarios.

Reference:
1-Virolainen, S., Hussien, W., & Dalibalta, S. (2020). Autism spectrum disorder in the United Arab Emirates: potential environmental links. Reviews on environmental health, 35(4), 359–369. https://doi.org/10.1515/reveh-2020-0025

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