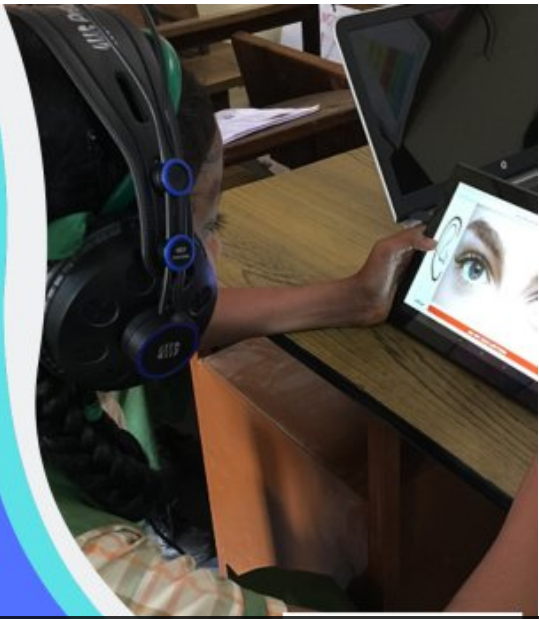



Health-Tech Startups Focus On Riveting Children's Health Screening Programs Through Digital Platforms

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HEALTH-TECH STARTUPS FOCUS ON RIVETING CHILDREN'S HEALTH SCREENING PROGRAMS THROUGH DIGITAL PLATFORMS

by Anusha Ashwin
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*school health programs out of gear. Lockdowns over the last 2 years have affected most school-based health programs. The silver lining here is that there were health-tech companies who had already forayed into the space of providing digitally-enabled care programs/platforms to school children. These platforms were scaled up gradually to take the screening camps completely online. This post discusses the effectiveness of school health programs and how health-tech companies like **Trawello Healthcare** are doing their part to ensure children's health is prioritized.*

By Anusha Ashwin

“Catch Them Young” they say to toe children in line to hone their inherent skills and exceptional abilities at a very young age. While this phrase denotes to building a child's interests, I would like to put it in context to catching health issues in children at a very young age, as the health of growing children is a reflection of a country's future.

Jarma Wellness, a preventive & predictive pediatric health-tech company, in one of its survey findings reported that a substantial percentage of Indian children in the age group 2 to 17 years suffer health abnormalities in the area of BMI (obesity/underweight),

vision (myopia/hyperopia), dental health (decay/cavities), followed by ENT, hygiene related issues, and behavioral issues.

The Jarma Wellness report, released in April 2019, is based on findings made from the School Health Screening Program conducted on 1,76,240 children ranging from 2 to 17 years of age. The report found that among the screened, 30.4% students had abnormal BMI; 19.1% fell in the overweight and obese category; 25.5% children had abnormal vision, potentially 1 in every 2 children may have needed glasses; and 50.3% students were found to have dental issues, 26.8% had cavities.

I find this report quite alarming! As children with preset health issues are going to grow up unhealthy and live through an unhealthy life, which has a very direct, significant and detrimental impact on our country's prosperity wellness and economic growth.

India, today, has the reputation of being the youth capital of the world. Well, India's reputation doesn't stop there. The country is also known to be the diabetes capital of the world and as well as it tops the high NCDs prevalence charts.

Burdened already by various life-threatening diseases in adults, can India handle children too to being affected with so many harmful health conditions? Would it not add to the challenges on a

country's efforts to meet the Sustainable Development Goals 2030, in which uniform access to good health and education are projected as the fundamental goals to be met.

The World Health Organization (WHO) mandates all developing countries to provide good education and good health to school children. While good education and good health go hand-in-hand, the two prerequisites are interdependent. Therefore, investing in the health and wellbeing of children is a critical priority in any nation-building efforts.

It is important to educate the children early in life, about their health and the right behaviors, so that they lead a healthy life and realize their full potential. Such educated, healthy and productive adults, will form the base of resilient, prosperous, and sustainable communities.

Successful school programs

The world, over the last two decades, has modernized and evolved considerably to bring about vast changes in the lifestyle of communities. Fast food, digital device penetration among children, and addiction to substance abuse have all made children highly susceptible to life style-based diseases and other health conditions

that affect their day-to-day living. Children are vulnerable to a wide spectrum of communicable and chronic disease conditions including nutritional deficiencies, substance abuse, mental health concerns, violence, injury and reproductive and sexual health problems. A number of these issues can be prevented through informed health choices. A focused and comprehensive intervention that targets risk factors and social determinants of health conditions can empower children and even adolescents to adopt healthy behaviors that play an important role in reducing the burden of these diseases.

One of the key strategies to reach children and adolescents is through schools as schools serve as an ideal platform to impart education on health issues, instituting in them healthy behaviors, forge linkages with services and reach parents and community through the students. Evidence shows that school health program offers high-cost benefit ratio and schools can be used to efficiently implement health activities.

The Department of School Education, Ministry of Human Resource Development and Ministry of Health and Family Welfare under a joint initiative to improve the health of school children under *Ayushman Bharat* have launched several programs at the school level for early detection and intervention of common diseases.

In 2013, Government of India launched the *Rashtriya Bal Swasthya Karyakram* (RBSK) under the National Health Mission for early detection and timely management of illnesses among children (0-18 years) by periodic screening through the platform of Schools and Anganwadi centers. The government also launched a comprehensive program called, 'Rashtriya Kishor Swasthya Karyakram' (RKSK) in 2014 to respond to the health and

development requirements of adolescents in a holistic manner. Furthermore, the School Health Program has been incorporated as a part of the Health and Wellness component of the Ayushman Bharat Program of the Government of India to strengthen the preventive and promotive aspects through health promotion activities. These activities aim at health promotion, disease prevention, and improved access to health services in an integrated, systemic manner at the school level.

Rashtriya Bal Swasthya Karyakram (RBSK) is an important initiative aimed at early identification and early intervention for children from birth to 18 years to cover 4 'D's viz. Defects at birth, Deficiencies, Diseases, Development delays including disability.

India, through the many aforementioned programs, has been very successful in taking appropriate health interventions to school children. One such program is the launch of **National Deworming Day** initiative by the Ministry of Health and Family Welfare, Government of India. Considered as one of the largest school-based deworming programs globally that reach out to a wide population of children during a short period, this program aims to make every child in the country worm free. Regular deworming has shown to reduce absenteeism in schools; improve health, nutritional, and learning outcomes for children; and increase the

likelihood of higher-wage jobs later in life.

WHO had indicated that India has the highest burden of soil-transmitted helminths (STH) in the world, with 220 million children aged 1-14 years estimated to be at risk of worm infestations. With the objective to reduce those numbers and deworm all preschool and school-age children between the ages of 1-19 years through the platform of schools and Anganwadi Centers, in recent years, India scaled up the national deworming program, through which almost 250 million children are dewormed twice a year in February and August. Until the Coronavirus-induced pandemic hit the world, this cost-effective program successfully reached millions of children and adolescents with deworming benefits through a safe medicine Albendazole.

It is clear that mass health programs launched at school level have successful outcomes. Understanding the potential of such programs among school children, several health-tech companies in India have developed digital technologies to ease the operational and executional aspects of healthcare delivery.

But, the onset of the pandemic has completely thrown these systems out of gear. Lockdowns over the last 2 years have affected most school-based health programs. The silver lining here is that

there were health-tech companies who had already forayed into the space of providing digitally-enabled care programs/platforms to school children. The pandemic just gave an opportunity to scale those platforms into a completely off-site model by engaging the schools, students, and the parents through digital modes of primary healthcare screening.

When health-tech firms take the reins to promote healthcare in school children

From the start of the pandemic, we have seen that startups that cater to providing healthcare services have done remarkably well in reintroducing patient services through online platforms and have attempted to deliver as much as they can to normalize physician-patient relationships over those platforms.

Startups that had previously established platforms specific to healthcare services targeting school children did not fall behind too. This post has one such startup operating in the space of digital healthcare services for children through partnerships with academic institutions.

In discussion with **Shrinath Honnavalli, Chief Executive Officer, Trawello Healthcare**, HCIT EXPERTs understands how important it is to have combined digital and physical mass screening programs

for school children of this new age and how the digital methods have provided an opportunity to ensure care is delivered even during the pandemic times.

Few excerpts:

HCIT Expert: Let's begin with knowing about you and about Trawello's HealthyKid. What inspired you to launch the company with health services that cater to children?

Shrinath Honnavalli: Sure, it has been a dream career for me, from my education at NIT Trichy followed by Masters at Texas A&M University. The journey of working at Cisco and HPE at the cutting-edge technology and product innovation was quite fulfilling. However, I felt that the impact I am creating is not very visible or immediate like what is seen in the healthcare industry.

I was inspired by the stories of my dad, who as a physician, single-handedly touched thousands of lives in his career spanning more than 5 decades. Increasing prevalence of obesity, anxiety, depression and gaming addiction in kids got me thinking. As a firm believer of preventive wellness, I thought that I must do something in this area. To realize my dream, I reached out to my network and was fortunate to find like-minded people to join this mammoth

effort. We felt that we can use technology in healthcare and make an impact in kids' life. Thus, began our Trawello Healthykid program.

HCIT Expert: What is your opinion about Indian children's health in general? What conditions are they predisposed to and how do those conditions go undetected or rather get overlooked?

Shrinath Honnavalli: We are sitting on a silent volcano of public health crisis. The statistics are mind boggling and worrisome. Kids are the future of our nation and worst is yet to come. India has the second highest number of obese children in the world. More than 10% of Indian kids have undetected refractive errors. Around 10% of Indian kids have mild hearing loss. One in four Indian children in 13-15 age group suffer from depression and 39% of Indian adolescents are addicted to smartphones.

Issues like ADHD, amblyopia, hearing loss can go undetected for several years. Many of the problems have a better prognosis if detected early or within 8 years of age. Most of the problems go undetected due to lack of awareness among parents and teachers. Indians in general avoid wellness checkups and it is almost nonexistent in kids. We have come across kids with severe hearing loss, very high refractive error and sadly neither the kids nor the

parents were aware of the same.

HCIT Expert: Why is it important to screen children in schools at a very young age? What advantage does this model have in the long run of a student's life and also how does it benefit the parents?

Shrinath Honnavalli: We all want our kids to be healthy, strong and successful in their student life. Current levels of pollution, addiction to gaming, unhealthy lifestyle, sleep habits all contribute to various problems in kids. Lack of awareness among parents, not knowing where to start from and whom to approach for help have often led to scenarios where a stomach ache is attended as emergency but other underlying conditions can go unnoticed for years. It is also possible that certain symptoms are ignored or kids are unable to explain certain conditions that they are facing.

World over, it has been recognized that a health checkup in a school is very effective in catching these conditions well in time so that they can be arrested at that stage and possibly reversed or corrected.

Thus, screening in schools can bring to fore both physical and mental wellness issues and if intervened can make the lives of the children far better. In fact, the Government of India mandates a health screening in every school. However, the implementation is

far less than desired. Right from my school days, a health checkup is a quick height/weight measurement and a minimal paper-based health record.

What we have conceived is a holistic model of health screening of kids at school premises with a regular documentation of the kid's health in a personal health record. Our HealthyKID program covers a head-to-toe screening by a physician along with the services of

dentist, psychologist and other paramedical staff. More than 60 parameters of health are measured and recorded digitally and made available for the parents to view through our App. The focus is on vitals, vision, ENT, learning agility, sports fitness etc.

This digital health record with longitudinal data allows physicians to detect anomalies such as sudden weight loss/weight gain which can be related to physiological/psychological issues. It serves as a one-click location to track all the records of immunization, growth markers, medications and details of any medical interventions.

To address the issue of awareness, we conduct workshops for the parents, kids and teachers to improve hygiene. We work closely with the school management to ensure there is a regular engagement with all stakeholders. Our interactions with the parents have given us immense satisfaction of the impact we are creating. We firmly believe that better health results in better educational outcomes too.

To summarize, all of us as stakeholders, have to take responsibility to make sure that younger generation in India are well nourished, physically fit and stress free. This alone can guarantee a healthy society and prosperous nation.

HCIT Expert: The pandemic has forced physical schools to shut, so how does HealthyKid offers its services? How has that model been successful and has the purpose been accomplished?

Shrinath Honnavalli: Our model depends on physical screening of kids at the school premises. However, we have used the pandemic opportunity to engage with the kids and parents by offering teleconsultation, health awareness through blogs and videos. We also recognize the boredom of kids and hence have been trying to bring out the creative side of the kids through national level art competitions. We have plans to engage with the parents directly through our custom apps.

We also launched HealthyCampus solution during the pandemic where we help schools plan their ‘back-to-school activities’. It includes trainings for the staff and health coordinators to keep the campus hygienic, inspections by epidemiologist, guidance on tools/techniques for making the school safe, etc. We have partnered with Apollo Medskills and many other organizations for this exercise.

HCIT Expert: Does the company deploy Artificial Intelligence in its software system? If yes, then what is it trained to do?

Shrinath Honnavalli: Of course, the role of AI is very promising in healthcare domain. We are using AI/ML in various aspects of our service delivery. Some of our patented apps use Machine learning to accurately predict certain health conditions. We also use AI in identity management and in our automation of health screening to improve the accuracy of our processes. Our biggest AI use case is for customized health notifications to parents.

HCIT Expert: Can predictive analysis in student's health work? If

so, what outcomes can predictive analysis bring forth?

Shrinath Honnavalli: Predictive analytics is the real impact that we hope to bring to the kids and parents. With a typical kid studying in a school for 12+ years, we are able to correlate the data over a period of time and run the predictive analytics engine to anticipate health problems. Early detection and prevention are definitely better than cure.

Covid pandemic has brought the focus on health awareness, importance of hygiene, immunity and preventive wellness. Our current healthcare system is catering to sick-care and it needs to change. With 70% of healthcare costs being out of pocket, right interventions at appropriate time can make a huge impact to all. As we build data models, we hope to partner with research institutes, medical colleges, NGOs and government to consume the data and act on the trends.

HCIT Expert: Access to healthcare, especially for school-going children, especially over internet-based platforms, is possible only in urban India. What about taking healthcare to rural Indian schools? Have you explored the possibility of taking such healthcare services to remote parts of India?

Shrinath Honnavalli: We are clearly aware of the need of screening in rural children. Wide adoption of broadband across the country and the National Digital Health blueprint will be a catalyst for platforms like us to serve the rural areas. In fact, we started our journey with rural telemedicine (pre-covid). We are looking forward for expanding our services to rural market and plan to use CSR funding for the same.

HCIT Expert: What are the challenges in catering healthcare at a school level? How did you or how are you tackling those challenges?

Shrinath Honnavalli: There are several challenges in working in the area of school health. The biggest challenge being that kids are scared of a health checkup due to fear of an injection. Second one is to be able to engage the kids (as small as 3 years) and uncover health issues.

Our tech background and desire for innovation made us resolve that all our screening would be completely non-invasive. We collaborate with various MedTech companies and use their non-invasive devices and software tools to screen. We also engage with research institutes to work on newer non-invasive devices which we are in the process of patenting.

Second challenge was solved by engaging the kids in a few gamified apps which not only measure things for us but also make the screening fun for the kids. This helps us in automation, data integrity as well as serves as a differentiator for us.

Third challenge is to convince the parents about the identified problems. Many of them are in denial or take it lightly. Some parents they think it will get cured with time as the child will grow while others are worried about the costs. This requires counselling and guidance to help them understand the problems and the solutions.

HCIT Expert: What are the future plans for HealthyKid? Can you share the future roadmap in terms of service expansion, areas of service delivery, collaborations, and partnerships?

Shrinath Honnavalli: We have a huge roadmap ahead of us. We are aggressively working towards establishing our presence Pan-India and also looking at expansion in the Middle East and Nigeria. We are working with our experts to add more parameters that can be screened along with adding services such as health awareness workshops, tele counseling, and school hygiene certifications. We are also working with various research institutions to develop newer technologies for non-invasive screening as well as

products/services for colleges and other educational institutions.

Anusha Ashwin

When I started out as a trainee copy editor at a publishing house, least did I expect myself to be traveling along with the digital evolution of content. Ever since the digital model became a medium of providing content, my career kick-started.

I consider my career to take a solid shape during the current phase, as I set shot to work in times of the digital era. Today, I am able to resonate with the demands of writing content tailored to meet the requirements of the new age consumer that is driven by SEO and SEM.

While with CyberMedia, I have handled content at premier magazines like BioSpectrum and Voice&Data – India's foremost business magazines in the biotech & telecom verticals that have

been instrumental in bridging the gaps in India's life sciences and ICT domains respectively.

The blessing here is that, through the writings, I am on a constant self-discovery mode. I have found a passion, which is writing in focus on digital healthcare, communication-based tech startups, and health-tech entrepreneurs. Somewhere down me, there is this strong educational foundation in Microbiology and Biotechnology that had to play a part!

As India becomes more Atmanirbhar, I am destined to stay focussed on aligning my content contribution passion with Digital India plans, where I interact with numerous startup entrepreneurs and other organizations that are going to be part of the ambitious Make in India and Make for India programs.

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