U-WIN to Win at Immunisation

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A B S T R A C T

India launched the Co-WIN app in 2021 which gained great success in vaccinating the huge population against COVID-19. Motivated by its success, the Government of India has launched the U-WIN app to reach its goals in the immunisation of the country in regards to the UIP (Universal Immunisation Programme). This article will mainly be shedding light on the rationale behind its development, the functionality of the app, training appropriate personnel for its usage, integration with other health platforms, challenges faced previously by the Co-WIN app which could also be faced by the U-WIN app and finally the way forwards regarding the digitalisation of health care in India.

Key words: U-WIN, Immunisation, Universal Immunisation Programme (UIP), Mission Indradhanush, Digital India

INTRODUCTION

Vaccination is a proven and one of the most cost-effective child survival interventions.[1] Immunisation has a very long history which dates back to China during the prevalence of the smallpox epidemic where inoculation was practised using smallpox scabs.[2] As a far safer alternative, Edward Jenner introduced the process of cowpox vaccination that eventually replaced smallpox inoculation.[3] Later, Louis Pasteur developed immunisation methods for some diseases.[4] Since then, there have been various vaccines which were developed for a number of diseases. The introduction of recombinant DNA and whole-genome sequencing techniques were major milestones in vaccine development.[5] Now, when we look at the present day, we all are familiar with vaccinations that are given routinely to newborns to prevent life threatening diseases. All countries in the world have an immunisation programme to deliver selected vaccines to the targeted beneficiaries, specially focusing on pregnant women, infants and children, who are at a high risk of diseases preventable by vaccines.[6]

As soon as India was declared smallpox free in 1977, the country decided to launch National Immunization programme called Expanded Programme of Immunization (EPI) in 1978.[7] The EPI was rechristened with some major change in focus by the launch of Universal Immunization Programme (UIP) in 1985.[8]

As newer technology originated, the attempt at digitalisation of health care was witnessed globally.[9] Although, India has not yet been able to digitise the entire health care system especially given the massive population of the country, it surely has a number of notable digital platforms and online applications which have proven to be very useful and efficacious like Nikshay-to identify, track and treat TB cases; RCH-for Reproductive and child health; IDSP-for Integrated Disease Surveillance Programme; UMANG-provides a single platform for all Indian Citizens to access pan India e-Gov services ranging from Central to Local Government bodies; Co-WIN during the pandemic for vaccinations against covid 19 virus.[10]

This article gives an overview of the new mammoth project called 'U-WIN' that the Government of India has undertaken to achieve immunisation to all and also digitalise the entire nation's immunisation history.

RATIONALE FOR DEVELOPING U-WIN

U-WIN is essentially a replica of the Co-WIN app which has served as the "digital backbone" for India's COVID-19 vaccination programme.[11] The main objective of the app is to identify and target children who do not receive even one vaccination shot (referred to as missed children or zero dose children).[12] Since the implementation of Mission Indradhanush, India has set a goal of 3 lakh missed children as its main objective for increasing vaccination coverage. The U-WIN could be the answer to India's problem of keeping track of the next vaccination dose of 2.6 crore newborns, 2.9 crore pregnant women every year and that it could be an excellent way of leveraging technology to track missed children.[13]

The same software that helped Co-WIN become the massive success it is today is being used in the U-WIN app, used to register and vaccinate every pregnant woman, record her delivery outcome, register every newborn delivery, administer birth doses and all vaccination events thereafter.[14] U-WIN, the programme to digitise India's Universal Immunisation Programme (UIP) has been launched in a pilot mode in two districts of each state and Union Territory.[15]

U-WIN APP FUNCTIONALITY

The U-WIN app mainly has five functioning modules namely: registration and scheduling module (for beneficiaries); the administrator module and session planning (for program managers); the vaccinator module (for vaccinators); the delivery point module (for healthcare workers at delivery point); the mobiliser module (for frontline workers like ASHAs, ANMs etc).[16] Records are currently stored in Reproductive and Child Health registers, and monthly aggregated reports are provided using software from the Health Management Information System.[17] The "Auxiliary Nurse Midwife On-Line" (ANMOL) app and Mother and Child Protection Cards, copies of which are held by parents and counterfoils preserved by the health system, record vaccination information for both enrolled children and pregnant women.[18] Mobile phone users may sign up for U-WIN online, which enables them to reserve a specific vaccination time at a certain centre.[19] Additionally, much like with COVID-19 vaccination, medical professionals will be able to instantly update patients' immunisation statuses on the app. [20] Village health nurses would handle the application at the field level, while staff nurses would handle it at the institution level.[18]

In regards to the training required for the personnel, the Directorate of Public Health and Preventive Medicine has taken measures, starting with an orientation programme for State officials and a two-day hands-on training for district officials.[21] UIP has also collaborated with GAVI (Global Alliance for Vaccines and Immunisation) the vaccine alliance and partners to augment skills of health workers and front-line program managers via initiatives like Routine Immunisation Skills Enhancement.[22]

INTEGRATION OF U-WIN WITH OTHER APPLICATIONS

U-WIN is currently a multilingual, open-source application environment that enables recipients to schedule vaccination appointments while administrators

can maintain and update vaccine status and inventory databases. The platform is interoperable and modular. [22] Integration with other portals ensures interoperability and a unified database. Some of the portals it is going to be integrated with are – eVIN, ABDM (Ayushman Bharat Digital Mission), NiN (National Identification Number), RCH 2.0 (Reproductive and Child Health).[23]

To expedite the development of this platform, several existing and proven digital assets were leveraged, such as Electronic Vaccine Intelligence Network (eVIN), which has served as a robust supply chain solution in India since 2015; Digital Infrastructure for Vaccination Open Credentialing (DIVOC), to support digitally verifiable certificates; DigiLocker, a cloud-based platform for storing, sharing, and verifying documents and certificates; Surveillance and Action for Events Following Vaccination (SAFE-VAC), to effectively track adverse events following immunisation.[24]

CHALLENGES FOR U-WIN

We can learn a lot from the challenges previously faced by Co-WIN as the functionality of both U-WIN and Co-WIN is quite similar and it would be a lot easier to identify and anticipate the challenges and prevent such challenges or promptly find solutions for new problems that may arise. Some of the challenges that were faced by Co-WIN during its setup and usage were: population diversity; planning and governance; supply chain and logistics; demand generation and community engagement; programme implementation; socio cultural barriers.[25]

To tackle the problem of population diversity, states are partnering with community-based organisations and civil societies to tailor services that will enable better access to populations with specific and special needs. Examples of such initiatives are the iHEAR project of Sangath that generated evidence around challenges faced by the disabled and transgender communities during COVID-19 vaccination and the Vaccine on Wheels project of Jivika that provided doctor-supervised mobile medical units for immunization.[26]

WAY FORWARD FOR U-WIN

India has already successfully implemented vaccination against COVID in the face of adverse conditions for her population and the Co-WIN app stands testimony to the digital capabilities of India. The successful implementation of the U- WIN app for tracking and ensuring universal immunisation to the beneficiaries will certainly be a boost towards the efforts to decrease deaths and disability caused by vaccine-preventable diseases among children under five years of age.

On a similar note, it is safe to say that India's path towards digitalizing health care universally will be more obvious and reachable following the successful completion of this enormous project.

CONCLUSION

In this article, focus has been placed on the U-WIN app and its working process, the aims and goals of setting up such an app and the future prospects of digitalisation in the health care sector of the country. Immunisation can save numerous lives and can also improve the quality of life of many by preventing vaccine preventable diseases among the population. It is for this main reason that it is essential to construct a more unified and digitised method of tracking the vaccinations of pregnant mothers, newborns and adolescents all over the country. U-WIN has just been launched and still has a long way to go but it definitely has the capacity to win at immunisation.

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