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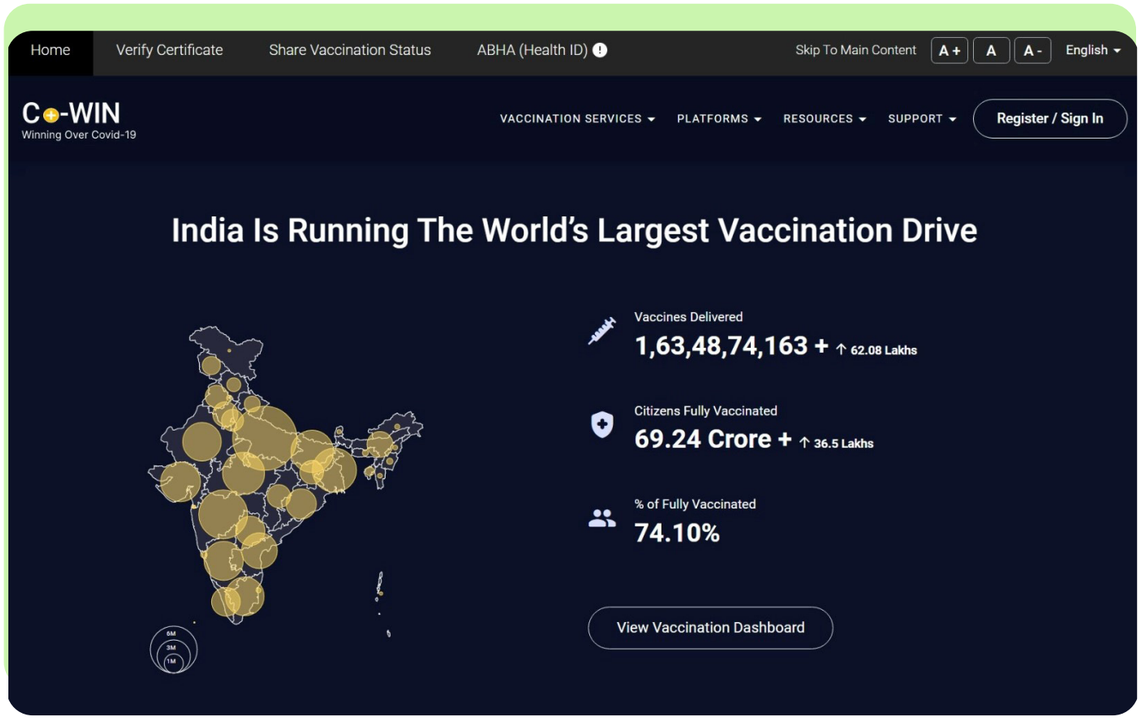
CEO, National Health Authority

# In Conversation With Dr. R. S. Sharma

## Inclusive Design in the development of Co-WIN

On 16th January 2021, just as the country was preparing itself to unlock after the first wave of COVID-19, the government of India initiated the largest vaccination anywhere on the planet. A staggering 128 crore doses have been administered since, at the time of publication. The backbone of this vaccination drive is of course, the Co-WIN platform. An extension of eVIN (electronic vaccination intelligence network), the Co-Win app is the most significant implementation of technology in public health in the history of India. Moreover, it had to be developed at an unprecedented speed and at a massive scale. There was no room for error. And the person our Prime Minister turned to for this daunting undertaking was Dr. R.S. Sharma.

A retired bureaucrat, Dr. Sharma has been at the helm of several government organizations including Telecom Regulatory Authority of India (TRAI), and as the founding Director General and Mission Director of UIDAI (Unique Identification Authority of India), formulated and launched Aadhaar, the world's largest biometric identity system. Dr. Sharma has been involved in several other initiatives and has had a key role in shaping India's Information and Communication Technology (ICT) policies. In the following, thoroughly insightful interview Dr. Sharma describes the methodology behind various design decisions which led to the success of the platform. We are extremely grateful that he shared his experience and insights with us.




"One can always ponder over better UI/UX designs. However, in terms of architecture and design, the platform has been executed to perfection."

***1. How did you make sure that inclusivity was something that was prioritized from the outset while developing the app? (creating a culture of inclusivity in the development team)***

Response: As Co-WIN was intended to facilitate COVID-19 vaccination across 36 states and UTs for 130+ crore individuals, achieving inclusivity in the platform was a prerequisite from the outset of development. With a constantly evolving policy landscape due to the nature of the pandemic, we had foreseen the need to build a highly dynamic and adaptable system that could scale when needed. Keeping our ears on the ground, the team was aligned with making changes to the system to make it accessible and user-friendly for both the vaccinators and the public.

To provide inclusivity, we provided multiple modes of registration – offline walk-ins, online portal, and assisted registrations through Community Service Centres (CSCs) in rural areas and call centres. Launched in English, in due time 11 other languages were added to the Co-WIN platform to prevent any language barriers. We built a minimalistic system that ensured an easy registration with mobile number and OTP, allowing four registrations per mobile number. We kept the data inputs to a bare minimum, with just name, age, and gender.

***2. What is your experience of inclusivity as a design consideration over the past few decades in India?***

Response: The digital journey for India started with Aadhaar and got a major boost with the launch of Digital India. I have had the privilege of being part of many of these initiatives to create digital public goods. As inclusive design is about putting people first, all these digital public goods have ensured an open and interoperable design to create an inclusive ecosystem that facilitates innovation from the private sector. This has been evident from the myriad use cases of Aadhaar that have come up, and the unparalleled success of UPI in the digital payment space.

***3. Since the vaccine was first rolled out for people aged 45 and above and with co-morbidities, was this a factor in how the app was designed?***

Response: The different phases of vaccination roll-out were a result of the vaccine administration policy, and Co-WIN was well equipped to deal with this evolving policy. As mentioned before, with the objective to drive easy adoption and use, Co-WIN had been designed for users of all ages and regions. There is a DIY digital aspect to it for those that are digitally savvy, and an assisted mode through COVID-19 Vaccination Centres (CVCs) for those that prefer an offline method of operation. Additionally, there was also a demand and supply angle to the implementation across various phases, where digital facilitated crowd management at CVCs and prevented transmission of the virus due to over-crowding at CVCs.

***4. How did you evaluate if you were meeting these inclusivity goals?***

Response: A committee was formed before the launch of Co-WIN, called the Empowered Group on Vaccine Administration for the development and administration of Co-WIN. Various department heads and experts were invited to be a part of this committee. Members of the committee and the officials from various Ministries associated have ensured that our ears were always on the ground and that we continued to incorporate the feedback from the public and evolve the system continually. We believe the success of the outreach of the vaccination program is a testament to this.

***5. Did the urgency modify the design and development process of the app in any way?***

Response: A very competent and experienced team has been behind the development of Co-WIN and they have previously had the experience of building other digital public goods for a scale of a billion-plus population. This experience and expertise came in handy as we were always strapped for time. However, the urgency was never a reason that hindered the design or development of the platform in any manner.

***6. Ensuring inclusivity for both, end-users as well as for the administrators (eg hospital staff). What were the considerations you made for people who don't have access to the internet/technology?***

Response: Answered in Question 1 previously for end-users. Additionally, for administrators that don't have internet connectivity, data can be saved locally and uploaded at a later date whenever connectivity is available. This allowed for the vaccination drive to be taken to remote and tribal areas where there may not have been any internet connectivity.

***7. You opened the API for public use, are you aware of any examples where you saw the app was made even more inclusive?***

Response: Co-WIN has been developed as a platform with open APIs. This allows for both public and private players to not only help in improving access to and increasing the coverage of vaccination but also innovate solutions that will help resume socio-economic activities. We have had over 250 entities, both public and private, that have shown intent to integrate using the public and private APIs of Co-WIN, with a number of them having gone live already.
Today, one can also use popular platforms like Whatsapp and Paytm to access various vaccination-related services. We have also gone live with a KYCVS API ('Know Your Customer's / Client's Vaccination Status') that allows an entity to know an individual vaccination status with their due consent.

***8. If you had to design such an app again, is there anything you would do differently from an inclusivity point of view? (Or, most important takeaways with respect to implementing inclusivity)***

Response: The Co-WIN platform has shouldered the responsibility of facilitating one of the largest vaccination campaigns in the world from strength to strength. One can always ponder over better UI/UX designs. However, in terms of architecture and design, the platform has been executed to perfection.

***9. Did you know of any other applications that according to you are good design from an inclusivity point of view?***

Response: As mentioned in Question 2, all public digital goods built under the umbrella of the Digital India initiative have been inclusive by design. Some great examples of the same are Aadhaar (the largest biometric identification system in the world), UPI (which has overtaken credit and debit card transactions combined), DigiLocker, Aarogya Setu, and various other platforms and applications that form what we call the India Stack.

***10. How will this infrastructure/platform be used in the future?***

Response: The Co-WIN platform has been designed in an open and modular form. The parametric build of the individual modules will allow this platform to be used for wider applications across the healthcare domain. Naturally, the first use case is the implementation of other immunization programs throughout the country through Co-WIN. Beyond this, any system that requires discovering and registering a service, recording the administration event, and certifying the event completion will be able to cross-leverage the Co-WIN platform for public welfare and more.


Photos courtesy of CoWIN portal