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Redefining Public Health: Tech for Strengthening Health Infrastructure

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Technologies plays an integral, increasing, and evolving role in supporting public health responses. In any field, investigation and efficient decisions are required to be made early and strategically through effective methods, trusted data sources, systems, and technologies. Medical technology is a broad field where innovation plays a crucial role in sustaining health. From “small” innovations like adhesive bandages and ankle braces, to larger, more complex technologies like MRI machines, artificial organs, and robotic prosthetic limbs, technology has undoubtedly made an incredible impact on medicine. With the increased use of electronic medical records (EMR), telehealth services, and mobile technologies like tablets and smart phones, physicians and patients are both seeing the benefits that these new healthcare technologies are bringing.



The Global Pandemic with high transmissibility and no effective vaccine or therapy has threatened the human race like never before. During this time when social distancing is the new normal, technology has a significant role to play. It can help prevent the spread, educate, warn, and empower those on the ground to be aware of the situation, and noticeably lessen the impact. Today, with converging technologies it has become possible to test several innovative approaches to pandemic response. Government-coordinated efforts across the State and Nation have focused on containment and mitigation, through ICT intervention for pandemic planning, surveillance, testing, contact tracing, quarantine, and health care.

A single unified portal was created to support various government interventions for CoVID19. The unified portal forms the backbone of operations & information flow about suspect & confirmed COVID carriers. On 2nd April 2020, India launched Aarogya Setu mobile App for helping augment the efforts of limiting the spread of COVID19, with an objective of enabling Bluetooth based contact tracing, mapping of likely hotspots and dissemination of relevant information about COVID19.

Similarly, **CSM Technologies** conceptualized and implemented COVID Protect, an end to end ICT solution stack comprising unified portal, mobile application (Cope Odisha) & advanced analytics to combat CoVID in Odisha and Bihar.

The following are the ways how it is helping to fight the battle against the deadly virus:

- Disseminating information related to COVID for Citizens and Other Stake Holders
- Gathering information about infrastructure (quarantine & isolation facilities, testing centers, hospitals) at the grass roots level
- Registering COVID suspect carriers, monitoring their health & compliance with quarantine norms and escalating red-alert cases to concerned officials
- Citizens/ Migrants intend to go out from the concern state can apply an ePASS issued by the State Govt. for availing travel.
- Contact Tracing COVID patients & testing at risk population
- Providing insights on identified hotspots & the spread of the infection for effective planning & resource allocation
- The app has a very informative dashboard that provides an insight of the current covid-19 situation in the state. It also acts as an advisory tool that prompts necessary advices to the citizen of Odisha on the dos and don'ts during this pandemic situation.

COVID-19 pandemic is challenging the government every hour with its increasing cases and governments are being forced to make harrowing decisions every day. This has made them to work in WAR ROOM structure. Government will take away few things from this:

- **Big Data Analysis:** In this situation Govt came to know how to use data to track infected patients and prevent contagion and various data modeling structure helped them to make predictive analysis for prompt decision making. Data analytics provides faster & better decision reducing the risk & cost for the government.
- **Virtual Meeting Technology:** Telemedicine has become a necessity almost overnight to meet the need of the hour. The virtual meeting technology made possible through different online platforms like, whatsapp, zoom, video conferencing etc. serve as the mediums for telehealth.
- **AI and ML:** The Artificial Intelligence and Machine Learning based health assessment tool enables individuals to take up health surveys basing on which the digital interface app would guide whether to go for quarantine/isolation, testing, or contacting health centers.
- **Digital Media:** By harnessing data and technology, digital media enables governments to reach the right audiences, at the right time, with the right messages.



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