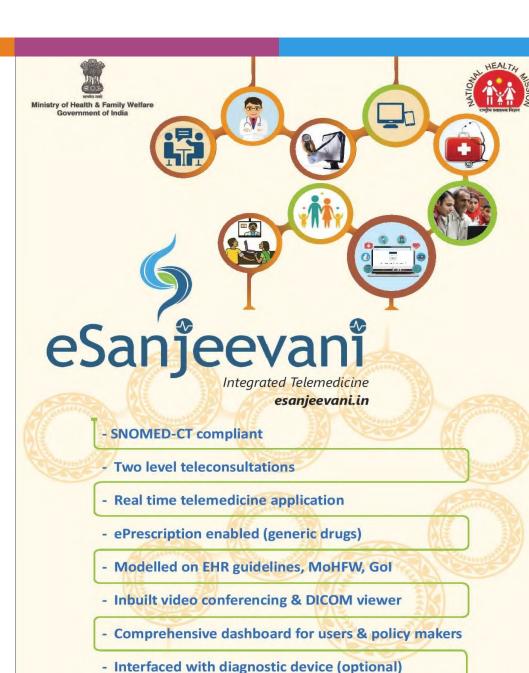# e-Sanjeevani

e-Sanjeevani is an innovative, indigenous and inclusive initiative of Centre for Development of Advanced Computing (C-DAC) to empower the patients in rural India through Telemedicine. It is a real time, cost-effective and integrated tele-consultation (telemedicine) system in accordance with the guidelines for Telemedicine Services in Ayushman Bharat – Health & Wellness Centres, issued by the Union Ministry of Health & Family Welfare (2019).

In tune with the goals of 'Ayushman Bharat', it would pave way to a rich digital health ecosystem in the country. e-Sanjeevani has been designed keeping in view the exclusive nature and needs of India where majority of population lives in rural areas, and is poised to reach those living in isolated and interior communities. It promises to be the world's largest doctor-to-doctor telemedicine system, facilitating equitable delivery of healthcare services across the country.

e-Sanjeevani has been developed for the nationwide rollout at 1,55,000 Health and Wellness Centres (HWCs) to facilitate Ayushman Bharat Scheme, which has HWCs as its core. It is designed to bridge the gap in India's healthcare needs and available healthcare facilities. It aims to address the following challenges in healthcare services:

i)   Non-availability of qualified and efficient doctors / specialists in rural areas;

ii) High burden on district hospital and tertiary care facilities due to non-availability of services at primary level; and

iii) Lack of health record creation at primary and secondary level and lack of interoperability of records.

Ayushman Bharat Scheme is world's largest health insurance scheme. It was launched to transform 1.55 lakhs Sub Centres and the Primary Health Centres into Ayushman Bharat-Health & Wellness Centres (AB-HWCs) to deliver comprehensive primary health care. e-Sanjeevani was conceptualised so that the telemedicine technology could be leveraged to enable access of general physicians and medical specialists for

Ministry of Health & Family Welfare
Government of India

NATIONAL HEALTH MISSION

eSanjeevani
Integrated Telemedicine
esanjeevani.in

- SNOMED-CT compliant

- Two level teleconsultations

- Real time telemedicine application

- ePrescription enabled (generic drugs)

- Modelled on EHR guidelines, MoHFW, GoI

- Inbuilt video conferencing & DICOM viewer

- Comprehensive dashboard for users & policy makers

- Interfaced with diagnostic device (optional)

the beneficiaries in the rural areas and smaller towns. It is now facilitating access to comprehensive healthcare services at beneficiary's doorstep across the country.

e-Sanjeevani architecture supports a double-deck **'Hub and Spoke Model'** with HWCs set up at State Level as Spokes aligned to the Hub of Doctors (comprising of MBBS/ Speciality/ Super-Speciality doctors) at Zonal level. It is designed to provide first level of tele-consultation and subsequent e-Prescription to Mid-Level Health Providers (MLHPs)/ Community Health Officers (CHOs)/ Multi-Purpose Health Workers (MPWs) at Health Sub Centre (HSC)-HWCs, and specialist services to the Medical Officers at Primary Health Centres (PHCs).

The workflow is innovatively designed at three levels as:

Level I : Hubs are created at State Medical College or at tertiary level hospitals for providing Specialist/ Super-specialist Consultation to Doctors/ Medical Officers at PHC and Doctor Consultation to (MLHPs)/ CHOs at HSCs. Each of the Hubs has relevant specialists based on the needs at the corresponding Spokes.

Level II : PHCs are being upgraded by enabling Telemedicine facilities for providing Tele-Medicine services to HSCs and for seeking Specialist/Super Specialist Consultation from Hub. PHCs have dual role in this network, acting as a Hub for Spokes at Sub-Centre, meanwhile, acting as the Spoke for the Hub (with specialists).

Level III : Health Sub Centres with Telemedicine Infrastructure can connect to Medical Officer at PHC or directly seek Tele-Medicine services from Specialists/ Doctors stationed at Hub. The specialists available at District Hospitals can also be utilized through tele-consultation facility.

Sanjeevni Architecture

e-Sanjeevani is modelled on Electronic Health Record (EHR) guidelines of the Union Ministry of Health & Family Welfare. It is Systematised Nomenclature of Medicine and Clinical Terms compliant. Video-conferencing & DICOM (Digital Imaging and Communications in Medicine) viewer is inbuilt. It is integrated with diagnostic device - for wireless import of results PoCTs (Point of Care Testing) & RDTs (Rapid Diagnostic Test). There is provision for SMS notifications. The centralized application, "eSanjeevani" is being implemented in the HWCs, and for continuous monitoring of the project, a Dashboard has been developed for various levels (District/State/Centre) and integrated with HWCs Dashboard.

eSanjeevani is an effective solution for India's unique health care challenges. It ensures that beneficiaries in rural areas need not go to hospitals in the cities, and the Hub & Spoke model telemedicine network ensures equitable delivery of healthcare services across the country's primary healthcare. Each Hub can cater to the needs of up to 100 Spokes. The e-Prescriptions generated by e-Sanjeevani are free from medical errors, thereby improving quality of care. Around 4,000 HWCs are telemedicine-enabled and operationalised. Over 1,04,000 Indians have already utilised eSanjeevani service.

Such a user-friendly, individual -specific and nationwide service would contribute to India's stride towards national and global targets in health indices such as improved life

expectancy, reduced maternal & child mortality, and reduced morbidity & mortality due to communicable diseases. It is expected to enhance efficiency in providing primary, preventive and curative health care by bringing the various health care providers of country's three-tier healthcare delivery system on a single platform. It will enable the beneficiaries to utilise their entitlements under Ayushman Bharat scheme and improve the quality, speed and continuity of care.

eSanjeevani is on its way to transform 1.55 lakh Health & Wellness Centres across the country. It has been deployed in 13 states, with many more states in various stages of roll-out. It is shaping into world's largest doctor-to- doctor telemedicine network with the highest number of users and beneficiaries in its scope. This innovation is working towards transforming India into the land of telemedicine by December, 2022.