HP Telestroke Mobile App
A Boon For Stroke Patients

The HP Telestroke, Android based Mobile App, developed for the citizens, 108 Ambulance personnel and Doctors is proving a boon to the Stroke patients in the State saving lives and educating the masses about the action to be taken in case of such a stroke. The Mobile App has been developed by the National Informatics Centre, Himachal Pradesh on the initiative of Sh. Vineet Chawdhry, Additional Chief Secretary (Health), in collaboration with Dr. Sudhir Sharma, HoD, Neurology, IGMC, Shimla. The App helps in internal communications and record keeping, besides creating awareness among the citizens.

WHAT IS STROKE?

Stroke has emerged as a second biggest killer of mankind world over and even in India more people die of stroke than infectious diseases like tuberculosis. Age adjusted stroke prevalence in India ranges from 84 to 424 per 100,000 according to various studies and annual incidence ranges from 105-262/1,00,000.

There is no data available from Himachal Pradesh but it is estimated from national statistics that HP should have 15,000 to 20,000 patients of stroke and every year 5000-10,000 new patients suffer stroke. This number is bound to increase with increased life expectancy and aging of population. After a stroke, about 50% patients do not survive beyond 6 months and 25% become dependent for life. So not only mortality but morbidity due to stroke is also overwhelming.

TYPES OF STROKES

Hemorrhagic stroke- one caused by rupture of brain blood vessels

By
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Ischemic stroke- caused by blockage in brain vessels

A CT-scan of head can reliably differentiate between the two. Ischemic stroke is much more common and amounts to up to 80% of all strokes.

SYMPTOMS

The common symptoms of stroke are sudden appearance of deviation of face, weakness or numbness of limbs, difficulty in speaking, unsteadiness, giddiness and headache. The simplest way to treat ischemic stroke would be to remove the blockage in brain vessels and now the drugs are available which can dissolve the clot blocking blood vessels. However, this drug which is an injection called recombinant tissue plasminogen activator (tPA) can be given within 4.5 hours of onset of stroke symptoms. Therefore it is most important that people recognize stroke symptoms at the earliest and rush to hospital with CT-Scan facility and availability of this drug.

THE INNOVATION & CAPACITY BUILDING

Himachal Pradesh Telestroke innovation lies in the intelligent convergence of Internet and mobile telephony for a swift medical response at the nearest health facility within the 4.5-hour window after stroke happens. Since its inception in March 2014 HP Telestroke has saved more than 100 stroke patients up to January 2016 through 17 health centres in Himachal Pradesh. These health centres have fundamental equipment like a CT scan, ECG and blood sugar testing.
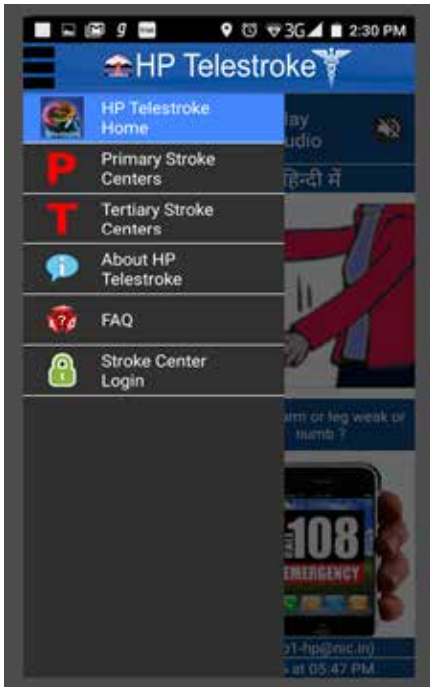
Himachal Pradesh is a hilly State in

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the Northern part of India. Covering an area of 55,673 KMs (34,594 miles), it is a mountainous state with a population of 69 Lakhs, majority of who live in villages. The State has two tertiary care hospitals with four Neurologists, two in each hospital. So given the difficult terrain and just four Neurologists, delivering stroke treatment seemed like a distant dream.

Under the guidance of Stroke Specialist, Prof. M.V. Padma, All India Institute of Medical Sciences, New Delhi and on the initiative of Additional Chief Secretary (Health) to Government of HP, Sh. Vineet Chaudhary, a Telestroke Project was envisaged. All the government hospitals with CT-Scan facility were roped in. Out of 17 such hospitals, eight and nine centers respectively were attached to each of the two tertiary care centers. Workshops were conducted at various district hospitals. Medical officers in these hospitals (M.B.B.S. graduates and in-

User Interface screen of HP Telestroke Mobile App

Review demonstration of the HP Telestroke Mobile App

ternal Medicine postgraduates) were trained in recognizing stroke through these workshops. They were taught reading plain CT-scan head to rule out hemorrhage even without the help of radiologist and written protocols for thrombolysis in ischemic stroke with explicit inclusion and exclusion criteria were provided. Blood sugar and ECG were only other investigations to be done apart from CT- head before thrombolysis. Tissue plasminogen activator was made available at all these centres and provided free of cost through hospital pharmacies. All the four neurologists were made available

on phone 24x7. These hospitals were then designated as primary stroke centres. Without any extra infrastructure requirement or any new manpower the project was finally launched in May-June 2014 amid much skepticism about its success.

Till now, more than 140 patients had received thrombolysis under Telestroke project out of which 60 patients were treated at primary stroke centres. During the same period in Indira Gandhi Medical College, Shimla, which is the biggest tertiary care centre of H.P., 45 patients received thrombolysis. This showed that the primary stroke centres provided treatment to more stroke patients and the difference is bound to widen even more in the future.

MOBILE APP FEATURES
The HP Telestroke, the Android based mobile app, is one more effort in making early stroke treatment available to patients in time and can be downloaded from http://himachal.nic.in under the link "Mobile Apps" or from Google Play Store.

For Doctors:
o Advance alert of patient being

brought into the Stroke Centre
o Brief information of the patient/ symptoms
o Feature to add additional patient information after treatment for follow up purpose/ data collection
o Ready availability of information about facilities available in other Centres, in case of referrals

For 108 Ambulance Services:
o On receiving a Stroke victim call, nearest equipped stroke treatment centre for the patient is identified through the App and the doctors are alerted
o GPS based navigation to the ambulance driver/ citizens
o Feature to add basic patient data for the doctor

For Citizens:
o Complete information about stroke, available in offline mode Audio, Video, Graphics based messages
o Information about availability of doctor, medicine, CT Scan facilities
o How to avoid strokes and what do in case of a Stroke

Shri Vineet Chawdhry, Addl. Chief Secretary, Health, Govt. of HP, Dr. Purnima Chauhan, Secretary, Administrative Reforms, Govt. of HP and Dr. Sudhir Sharma, HoD, Neurology (IGMC, Shimla) with the eHealth initiative Award & Citation declared at eLETS PUNJAB SUMMIT 2016, Chandigarh

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