Health problem addressed

Community healthcare services in rural areas are impeded by the scarcity in transport infrastructures, poor facilities, lack of medical experts, and limited communication means. This state leads to problems such as a high maternal mortality rate. And if there is a disease outbreak, it may not be easy to alleviate the situation.

Product description

The device is a portable telemedicine unit to be used in a mobile telemedicine system in conjunction with a PC server as a base unit. They communicate with each other via multi communication means, via GSM, CDMA, internet, and satellite. The device can be used for many health services, such as recording and reporting, and teleconsultation.

Product functionality

The device is set up with medical instruments, a camera, a notebook, and communication means. It can be placed in an ambulance or in remote community healthcare centres. The system operates in real time or indirect mode. Data transmission is done via a selected communication link which can be adjusted according to the communication facility available on site.

Developer’s claims of product benefits

This device offers a number of advantages, i.e. the device is developed in a modular way, so it increases cost effectiveness since the user may select medical instruments based on her/his requirements. In addition, this portable telemedicine unit is provided with multi application features that can be developed together with the user, so it is more acceptable to the local context. Availability of multiple communication links within the device enables the system to transmit medical data via a variety of communication channels. Hence it alleviates the telecommunication infrastructure barrier that is usually found in rural areas. This will increase better healthcare accessibility for people in rural areas.

Operating steps

Set up the device which is linked to the base unit. The monitor will display the applications menu. Pick recording and reporting menu. Fill in the patient medical record. Measure patient biosignals and save the data. Select a communication link. Recorded data is sent to the base unit. A doctor will evaluate the data and give a response to the patient in the rural area.

Development stage

The system is currently being tested by users. A local hospital in Sukabumi serves as base unit. Community healthcare centres and a moving ambulance are the testing grounds. The test results show that the system is beneficial for supporting local community healthcare services. This year a limited number of devices will be produced by a local manufacturer. Mass production is planned for next year. Regulatory approval application is in preparation.

Future work and challenges

The biggest challenge to commercialize the product is to find a reliable investor who is willing to give financial support for mass production. Moreover, to deploy the product and the technology will require government policy to set up a national telemedicine network which lead to an eHealth application. In order to ensure user and patient safety, there must be a legal framework.

Use and maintenance

User: Nurse, midwife, physician, technician
Training: Required for training are the portable telemedicine unit, a PC and access to internet. Duration of the training is 5 days.
Maintenance: Technician, engineer, manufacturer

Environment of use

Setting: Ambulatory, primary and secondary health care facility in urban and rural settings.
Requirements: Stable power supply, maintenance personnel, specialized operator, access to internet, access to a cell phone network, laptop, hospital information system.

Product specifications

Dimensions (mm): 460 x 323 x 158
Weight (kg): max. 5
Life time: 5-10 years
Retail Price (USD): 5545
List price (USD): 5000
Other features: Portable and reusable. Uses batteries and software.
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