

INTERVIEW

'Analytics help hospitals to continuously improve post discharge care'

Chary Mudumby, CTO – HTC Global Services explains the benefits of utilising mobility solutions in optimising post discharge care by hospitals and how technology can be leveraged to attain business growth, in an interaction with **Raelene Kambli**

What functions need to be performed as part of the post discharge care?

Hospitals are complex environments performing many connected and synchronised activities as well as event-based activities in providing patient care. There are a slew of activities that need to be performed to allow for safe discharge of the patient. Proper planning for post discharge care is very important. This includes the medications, exercises, relaxation techniques including meditation, diet, lab tests, administration of simple procedures using home equipment such as nebulisers, follow-up visit schedule and any literature that might help patients in understanding the dos and don'ts. Hospitals should also plan on proper monitoring of the medical condition of the patients depending on the disease. At the minimum, hospitals need to make follow-up phone calls inquiring the general well-being, monitor parameters that are pertinent to the condition of the patient such as sugar levels, blood pressure and more importantly alert them on the tests they need to go through.

What are the challenges faced by hospitals in maintaining and providing good quality post discharge care?

The first challenge is in providing all the relevant information to patients or their caregivers, before the discharge. Patients usually are

home-sick and will be in a hurry to get back. A proper documentation of everything that a patient needs to follow at home in-order to recuperate, regain and maintain health must be given in a referenceable and easily understandable format with no ambiguity. Hospitals need to maintain adequate staff for the post discharge follow-up. Most hospitals are generally short staffed even to handle the patient care while patients are still in the hospital. Another challenge is that many hospitals do not have an integrated electronic health or medical records systems.

What are the prerequisites for building improved patient monitoring systems in order to provide post discharge care?

A good planning, availability of well documented general information for various common diseases and conditions which can be modified to suit a particular patient's need, an adequately staffed post discharge care unit for necessary follow-ups and recording of the information from the follow-up are necessary to implement a good post discharge care. Such a care surely reduces the recurrence of the disease or manages it within limits.

How can mobility solutions help in overcoming these challenges?

All the instructions to the patients or the care-givers can



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be delivered in a very friendly format on the smart phones and tabs. User experience can be enhanced using augmented reality. For example, patients using their mobile camera can scan the medicine or the icons that are provided to them representing diet, lab tests etc., in order to view relevant specific information customised to the patient.

With the connected medical devices that use IoT, patients will be able to make the information on the vitals etc, directly available in real-time to the health providers. In addition, disease specific monitoring apps can be provided by the hospitals to the patients. Patients will in turn be able to use these apps which will automatically provide the information to the hospitals for monitoring and preventing the reoccurrence of conditions through proactive measures as well as early intervention where necessary. For example, we developed a mobile app for a hospital to monitor the health condition of infants with congenital cardiac conditions. This is a simple to use in-home monitoring app to be used by the parents or other care givers of the infants. This provides information to the medical staff to help them detect worsening health conditions with signs of poor systemic oxygenation, acute dehydration and respiratory distress.

Explain the role of healthcare analytics in post discharge care?

Analytics help hospitals to continuously improve post discharge care. All the information that is monitored and collected through post discharge care programmes can be analysed to identify common causes, conditions under which the symptoms or conditions re-occur, and the population dynamics and demographics that causes the occurrence of conditions. This helps in devising better home care programmes post discharge.

Can post discharge services backed by healthcare analytics reduce readmission rates within hospitals?

A well planned and designed post discharge care programme will proactively identify the health conditions of the patients before they worsen and require admission for the in-patient care in the hospital's intensive care units or others. For example,

a long-term diabetic patient with a history of kidney issues needs to be monitored carefully at home, maintaining the sugar levels through insulin or other medication while looking for the parameters to alert on Kidney and heart conditions such as increased creatinine levels, oxygenation etc. Early identification of these symptoms allow for the relief from the condition or symptoms with intervention that can be performed at home or through simple out-patient visits and procedures, thus reducing the occurrence of a serious condition requiring admission into the hospital.

What impact it can have on the hospital's balance sheet?

Hospitals need not look at reduction in readmissions as reduction in revenues. In most places in the world, there is a shortage of hospitals, equipment, beds and medical staff including nurses. As a result, a number of people are always in

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queue, waiting for appointments and vacancy in the hospitals for admissions.

Will it help to reduce the operating cost of the hospitals or will these services add to the cost?

A good monitoring programme will cost money, but this is a good investment. Use of technology especially mobility and IoT will come in handy to bring down the costs of post discharge care. These costs can be passed on to the patients as part of the hospital charges for their visits or as a separate charge for specialised post discharge care in cases where it is necessary. This can be an incremental cost to the patients but the patient's overall healthcare costs will be down as he/she has fewer hospital admissions.

How can hospitals use these technologies to improve business success?

Mobility and IoT backed by analytics and machine learning will definitely provide better care to the patients in increasing the health of the patient as well as aggregate health of population. While

hospitals should still be concerned with disease management, the focus needs to shift to wellness management. Any population has people with illness, and healthy individuals or supposedly healthy individuals whose health conditions have not been discovered yet. People with illness have varying degrees of sickness – occasional sickness to chronic to very sick to terminally sick. Hospitals have been generally engaged in dealing with sick patients leaving out the healthy people or people on the boarder of sickness. A hospital or health system backed by technology with proactive outlook, focusing on the wellness will serve a higher population compared to those that are involved in just disease management. Those institutions will contribute to the overall health of the population progressively reducing the sickness. Those institutions will be successful businesses serving satisfied patrons not patients.

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