

Printer Friendly VersionWEB LINK - <http://www.expresshealthcare.in/201008/strategy03.shtml>**IT@Healthcare****Information Technology Remedy for Chronic Disease Management****One driving factor in emerging disease management is the increased efficiency which is demonstrated with the integration of medical and communication technologies**

With advances in the medical sciences there has been an improvement in the human life expectancy globally. But the fact is that it has not been uniform across the globe. In developed countries like the US, the life expectancy has increased by 30 years since 1900. For instance, a developing country like India has shown quite good improvement in the life expectancy; it has increased by 32 years since 1900. This improvement is attributed to the great public health achievements like immunisation programmes, maternal and child healthcare, eradication of diseases like small pox and control of communicable disease segment and many more.

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- **Dr Pankaj Raina**
Consultant
VitalHealth Software

With improvement in average life span, we realised the challenge of dealing with chronic diseases was on its way. In present times, chronic diseases are the leading causes of death and disability worldwide and place a significant burden on individuals and their families, communities and the healthcare system. Research shows that in developing countries, 48 per cent of patients over 65 have at least three chronic medical conditions and 21 per cent have five or more conditions. Also chronic disease management roughly takes 3.5 hours of a physician's day, provided all of the physician's patients are stable and in good control.

When recalculated by considering allowing for both controlled and uncontrolled disease, the amount of time the physician needed for chronic disease management is tripled to 10.6 hours per day. An integrated and comprehensive approach is required to effectively address chronic conditions such as diabetes, hypertension, COPD and mental diseases. This approach should include a range of interventions such as appropriate clinical information tools, adoption of clinical practice guidelines and Chronic Disease Management (CDM) information technology tools.

Dealing with Global Endemic

The world is facing a major challenge related to managing a growing chronic disease burden. With a growing number of chronic diseases requiring management, commercial and Government payers are looking for ways to improve the health of their members/beneficiaries, while reducing costs and meeting their operational and accreditation goals.

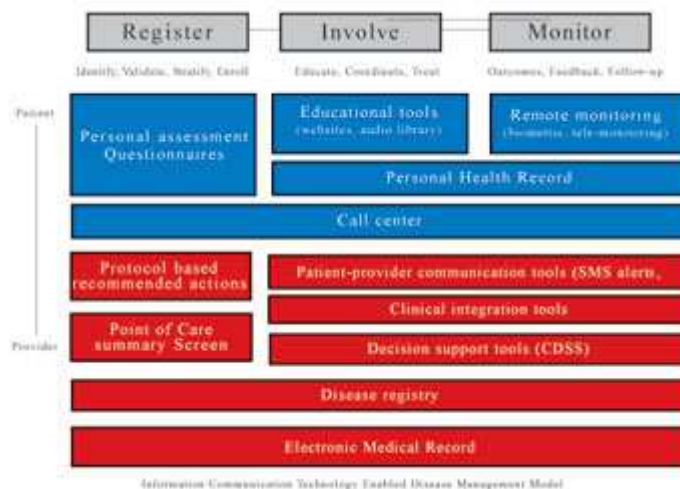
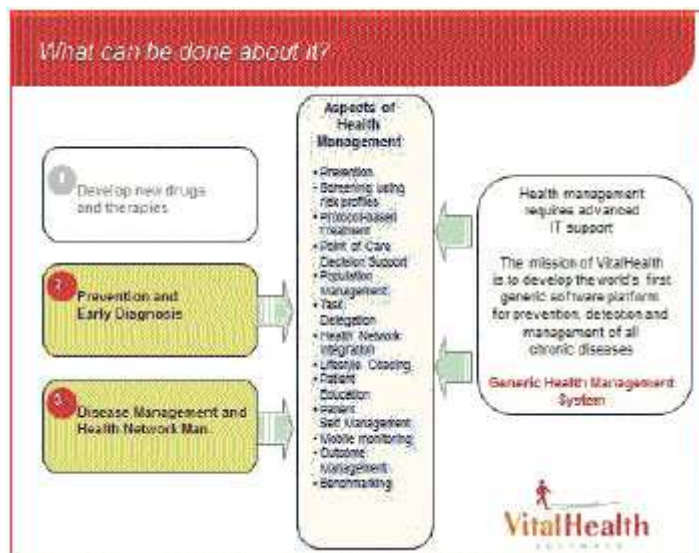
Now when we look at different options to keep this global endemic under control we can think about:

- Developing new drugs and therapies.
- Prevention and early diagnosis.
- Disease management and health network management.

Development of new drugs to cure any of the chronic disease has not yielded good results so far. But we have many drugs which have helped to maintain the desired clinical conditions and improve the quality of life for the patients. However miraculous an outcome

any surgical or other heroic intervention may achieve, doctor and patient alike would surely agree that the better alternative is always prevention. Most viable option is early detection and early response. Early diagnosis and modification of life style at initial stages helps in preventing further complications of chronic disease.

Disease management services incorporate telephonic and community outreach, member/beneficiary marketing fulfillment, remote monitoring, physician communications, data warehousing and exchange to better manage high-cost, high-prevalence diseases. This multi-faceted approach to disease management and integrated care management emphasises working closely with all stakeholders, from members/beneficiaries to physicians, payers to community services providers. Specialists estimate that more than half of all hospital admissions and sick days linked to asthma and about half of the major complications linked to diabetes (such as amputations, blindness, and stroke) could be avoided with better monitoring and care. The different aspects of disease management includes prevention, screening using risk profiles, protocol based treatment, point of care decision support, population management, task delegation, health network integration, lifestyle coaching, patient education, patient self-management, mobile monitoring, outcome management and benchmarking. Health management requires advanced information and technology support for chronic disease. It is impossible to make a disease management programme efficacious without the support of information and technology tools.



Patient and Provider Acceptance

The diffusion of an innovation depends to a great extent on the attitude of the population to

which it is being introduced to. This, of course, applies to web-based disease management applications as well where users (patients, caregivers, family members, providers) have to accept the use of technology and are willing to receive training and integrate the application into the care delivery process.

Technology Enables Disease Management

Disease management concepts are nothing new, though to date most have failed because they were too costly. But emerging technologies that support the patient-management process could change all that. A full programme can help coordinate care, encourage patients to follow their treatment plan and provide warning as soon as problems develop.

The role of technology starts with identifying, validating, stratifying and enrolling a patient. Next, it helps in involving the patient by educating and coordinating the care. The best role is when technology enabled programmes are used to monitor the patient for outcomes and follow up.

For patients, it provides tools for education which inform the patient regarding the disease and their complications. Education is provided by linking to the websites and audio libraries depending on the patient choices.

Patient is allowed to perform self-assessment by answering the time-proven standard questionnaires. The scoring which is generated is based on the response of the patient, which alerts the care manager and the provider in real time. Care manager enters the vital and lab records which is shared with the patient and generates the recommended actions and alerts for the patient. Patient who do not have access to the internet are supported by call center. It provides support from fixing of an appointment to updating the personal health records.

For providers, the software for disease management is capable of generating protocol based recommended actions. As the recommended actions are based on different guidelines which need to be updated frequently, so the solutions which are based on model driven architecture are the most sought after. Providers also have access to point of care summary screens which provide the comprehensive summary of patient medical records. These applications are integrated with other healthcare applications to order and receive the laboratory, radiology, ophthalmology and other results. Providers are supported for referring the patients within the care group with role based portals for other providers. These solutions are enabled with clinical decision support systems to prevent medical errors and standardise the care. The consolidation of the medical records data generates disease registry which is used to follow the demographic and clinical trends for a group of patients diagnosed with a particular chronic disease.

Conclusion

Advances in information technology provide multiple opportunities for the improvement of healthcare delivery in diagnosis, management, and support of chronic disease. Improved automated decision support systems coupled with evidence-based medicine form the basis for important aids that assist the physician in the diagnostic process. In addition, telemedicine provides the ability to monitor and evaluate treatment effectiveness for patients who have difficulty visiting the physician and is particularly useful for healthcare follow up in rural areas. Web-based information sources can benefit all patients and their caregivers. Online support groups as well as web-based sources of support can ease the burden of caregivers. Combinations of technologies that address the delivery of healthcare from diagnosis to management permit the development of patient-specific models that can impact disease management from the patient's perspective.

One driving factor in emerging disease management is the increased efficiency which is demonstrated with the integration of medical and communication technologies. Unlike traditional healthcare services, disease management connects healthcare providers with

patient via phone, internet and mails. Currently nurses in disease management use special applications and technology to organise and manage their work. These applications tracks latest standards of care, in addition nurses may also coordinate claims, pharmacy, labs, home monitoring and individual information to more thoroughly evaluate the patients.

An added benefit to integration of technology in disease management is that it enables remote consultation also known as tele-health medicine. This feature of disease management provides an alternative to visit to a doctor, as for some individuals it may be a quite difficult task. Furthermore, tele-health introduces a new platform for health information consolidation, which can be easily accessed by other healthcare provider. Consequently, with the combination of information communication technology and disease management, it will be expedient in finding new and better ways to monitor, manage and motivate the patients.

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