

Digital Health

The Way Forward to Chronic Disease Management at Home: Virtual Home Care

Suhail Chughtai

*Consultant Orthopaedic Surgeon (Locum) & Medico-Legal Examiner-UK
Microsoft Certified Specialist & Telehealth Strategist.*

Abstract

The author shares his conceptual understanding of Virtual Home Care in this article, which is an emerging trend in health care, providing cost-effective alternatives to conventional medical treatments. By enabling individuals with chronic conditions to manage their health and well-being from the comfort of their homes, Virtual Home Care solutions offer a convenient and efficient way forward to maintain healthier lives.

The author also elaborates on the increased access to healthcare for those unable to receive it in person due to geographical distance or other circumstances.

Virtual Home Care provides patients with much-needed support during recovery, allowing them to connect with experienced physicians and providers from their homes. The author believes that by leveraging technology to improve chronic disease management, Virtual Home Care offers a viable solution for patients and providers.

How to cite this:

Chughtai S. The Way Forward to Chronic Disease Management at Home: Virtual Home Care. J Pak Soc Intern Med. 2023;4(1): 72-76

Corresponding Author: Dr. Suhail Chughtai

Email: Suhail@THBGlobal.com

Virtual Home Care - Introduction

A Virtual Home Care System is transforming the health-care industry, providing individuals needing medical attention with a safe, cost-effective alternative to hospitalization.

Leveraging innovative telehealth technology, patients



can be monitored remotely by providers worldwide via video-conferencing or remote monitoring devices that provide personalized care plans tailored to each patient's needs.

With this system in place, nurses can have virtual check-

ups and monitor medical parameters from any dashboard - revolutionizing how we deliver healthcare today!

Virtual Home Care - Definition

Virtual Home Care is a Connected Healthcare System for Remote Management of Chronic Diseases for Patients to get their Vital Signs and Relevant Observations monitored around the clock by a Central Healthcare Team over a Real Time Dashboard, in line with a Personalized Care Plan.

Virtual Home Care system incorporates scheduled observations and action plans as guided by the Personalized Care Plan, designed by the relevant Online Special-



list. A Nurse assists in taking vital observations on Ground or with the help of smart medical devices.

The Call to Action by the Online Nurse is based on the readings of vital signs displayed on the Central Dashboard. The On-call Virtual GP is involved as the need arises, who, if necessary, can arrange an Online Consultation with the relevant specialist via the inbuilt Clinical Telemedicine Software, or an in-person visit can be arranged.

Virtual Home Care - SCOPE

With the rising prevalence of chronic diseases such as cardiovascular disease, chronic respiratory disease, and diabetes, virtual home care has become a positive solution for managing chronic diseases at home.

This type of care allows patients to access a wide range of healthcare resources in the comfort and convenience of their environment while providing real-time monitoring. Through patient engagement tools like telehealth, remote continuous vital sign monitoring, medication adherence technologies and mobile health solutions, virtual home care eliminates unnecessary clinical visits and reduces hospital re-admissions.

Virtual Home Care also simplifies communication between patients and caregivers so that chronic disease management can be carried out more effectively. The scope of Virtual Home Care is only expected to expand in the coming years as it provides an effective yet convenient way for chronic disease management at home.

Virtual Chronic Disease Management

- Chronic Cardiac Disease
- Unstable Hypertension
- Unstable Diabetes
- Chronic Renal Failure
- Chronic Airways Diseases
- Spinal and Limb Fractures
- Chronic Wounds
- Stroke and Paralysis
- Cancer Patients

Recovering from a Surgical Operation at home

- Post-operative recovery to minimize hospitalization.

Mother and Child Care Following Birth

- Maternal & Infant Wellness Care Plan

Support Therapy as part of Connected Virtual Care

Along with care for Chronic Diseases through virtual hospitalization at home, the services comes coupled with support elements which are available in a hospitalized patient environment such as listed below:

- Physiotherapy
- Acupuncture

- Breathing Exercises
- Mental Health Support
- Pressure Sore Care
- Anti-thrombosis Care
- Fluid Balance Charting
- Urinary Catheter Care
- Stoma Bag Care
- Naso-gastric Tube Care
- Phlebotomy Service
- Feeding Assistance
- General Nursing Care

Virtual Home Care - ADVANTAGES



Virtual home care is a technology-driven form of healthcare which offers great advantages to patients with chronic or long-term conditions.

One of the major advantages of virtual home care is hospitalization at home through virtual monitoring of vital signs. This allows patients to remain at home without sacrificing timely and accurate diagnosis and treatment options.

It also reduces hospital overcrowding and wait times, as nurses and doctors can more quickly access and track patients' vital signs remotely. As a result, healthcare providers are able to provide better, quicker, personalized care for their patients from the comfort of their own homes.

This type of hospitalization also lowers overall costs since hospital stays are reduced or eliminated. Since hospital stays are no longer necessary for many medical conditions, it eliminates the risks associated with hospital-acquired infections, improving patient outcomes in many cases. Virtual home care also increases hospital efficiency by reducing hospital stays costs while maintaining patient care continuity when intermittent hospital visits are necessary.

In addition, remote patient monitoring enables physicians to access real-time data on vital signs and other health-related metrics to ensure that their care plan is optimized for each individual's needs.

Virtual Home Care - IMPACT



Virtual Home Care (VHC) is reshaping the modern healthcare landscape by enabling providers to care for their patients holistically, efficiently, and cost-effectively.

One of its most significant impacts can be seen in the quality of care available to individuals at home. Utilizing VHC capabilities such as video conferencing, remote monitoring, and telehealth can deliver a variety of benefits, including streamlined access to specialized physicians and caregivers at home, higher medication adherence rates, proactive health management and better coordination among various team members involved in the patient's care. As a result, continuously leveraging the powerful tools offered by VHC technologies can positively influence outcomes for patients and providers.

While there are still many questions to answer regarding the effective use of this technology, there is evidence

that virtual home care can improve both patient outcomes and the quality of healthcare delivery - particularly with respect to chronic illnesses. Practices such as providing video-conferencing for consultation, remote diagnostics, and remote prescribing have all been shown to improve overall medical efficiency, reduce costs, and encourage better patient compliance.

In addition, virtual home care frees up resources from primary healthcare institutions so they can dedicate more resources towards complex cases and emergency needs. Ultimately, the future success of virtual home care will be determined by its ability to provide accurate diagnosis and effective treatment while still allowing primary healthcare providers enough control over their patient data.



Virtual Home Care - RATIONALE

Virtual Home Care's emergence provides an innovative, viable solution to an ever-increasing concern. Virtual Home Care strives to provide elderly and disabled individuals with the necessary support and resources to stay in their homes while receiving quality care.

It has become an increasingly common solution as it helps reduce the physical and emotional burdens on patients and family members, allows for increased access to resources amid time constraints, and produces improved clinical outcomes due to lower healthcare costs.

Virtual Home Care also facilitates additional learning opportunities through real-time data exchange and education of patient self-management, ultimately leading to improved quality of life for those utilizing the service. The medical literature supports various aspects of Virtual Home Care's implementation into the Healthcare delivery system.

Several studies have demonstrated that Virtual Visits by a skilled home healthcare nurse backed up by vital signs monitoring system for a home-hospitalized chronically ill patient can improve the healthcare outcome at a lower cost than traditional skilled face-to-face home healthcare visits. One large study demonstrates 19% lower mortality and 25% lower re-admission.

The cost of Virtual Home Care can be significantly lower than traditional home care.



Virtual Home Care - TECHNOLOGY

Virtual care solutions offer convenient, affordable access to healthcare services anytime and anywhere, enabling individuals and families to access quality care without having to leave the comfort of their own homes.

Virtual Home Care provides an alternative to traditional healthcare models by leveraging a range of telehealth technologies, including video conferencing, voice calls, and mobile apps. Virtual visits allow providers to assess patients' conditions more efficiently while providing comprehensive care plans that meet individual needs.

Virtual Home Care also offers unique opportunities for coordination between caregivers, clinicians from multiple specialities, and other entities involved in the patient's treatment plan. In this way, Virtual Home Care can lead to a better quality of life and improved patient outcomes by providing timely, meaningful insights for health decisions.

Virtual home care bridges the gap between physical visits from care providers and digital forms of communication, allowing patients to receive prompt, personalized care from the convenience of their homes. Virtual home care can help increase access to healthcare for those living in rural areas or unable to make frequent visits due to limited mobility or resources.

Virtual Home Care – Technology

- Personalized Care Plan**
Start by developing a unique Personalized Care Plan with a focus on patient self-management.
- Critical Parameters Remotely Monitored 24/7**
Monitor to Automate (providing vital signs with monitoring range of Vital Medical Devices for Wireless).
- Central Dashboard with Critical Alarms**
Manage Critical Alerts Independently (allows triggered to difficult cases to get the Care Plan QP or Specialist's view).

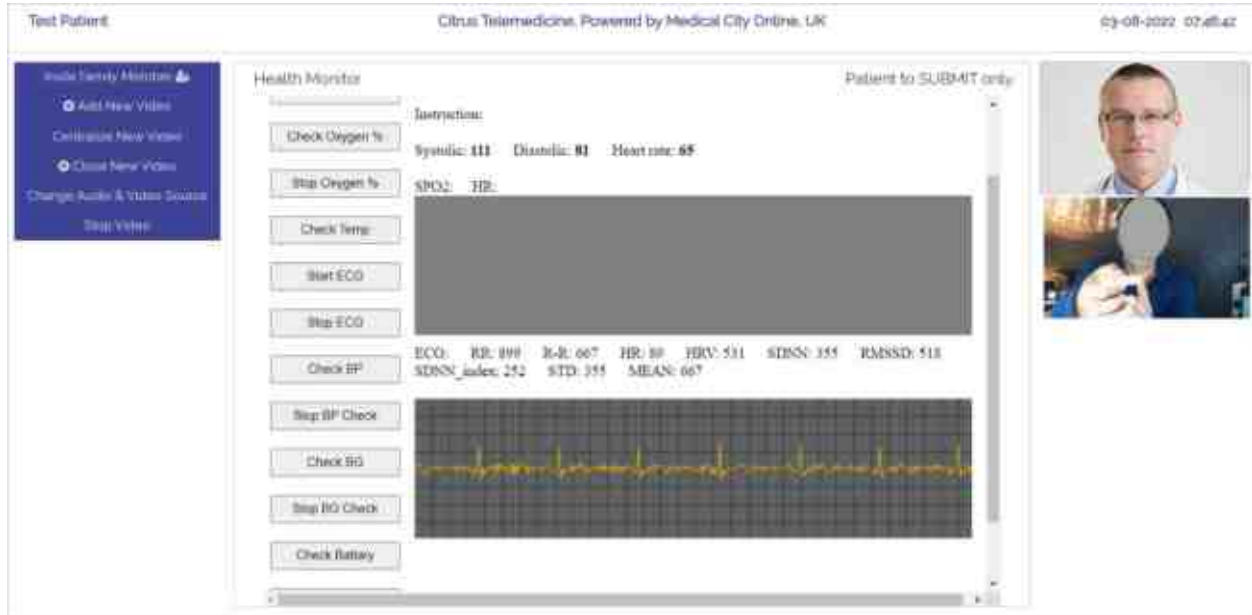
Virtual Home Care – Technology

- Clinical Decision Support System seamlessly embedded**
Clinical Decision Management facilitated by embedded Clinical Decision Support System (seamlessly embedded to keep consistent with Virtual Home Care's workflow).
- Timely Medical Intervention**
Clinical Telemedicine Portal to get an Online QP or Specialist connected to the patient to deal with Critical Alerts (linked by the Nurse, Telehealth support team) (Physio, Wound Care, Mental Health Support).
- Electronic Medical Records – Data/Images/Videos**
Detailed Medical Data Automated Entry into the System to facilitate a comprehensive set of all operations, (includes Care (Approved and into the embedded Decision Medical Record) (seamlessly to get).

Virtual Home Care – Technology

- Central Dashboard Access**
Real-time View of the Vital signs monitoring for individualized family members possible.
- Connected Care Coordination**
Assigned Nurse, QP, Specialist & Patient's connections via a secure and Safe Portal for all Health care.
- Support Services in Care-gates**
Pharmacist, Mental Care, Respiratory, Mental Health Support etc. available within Care plan.
- Embedded Medical Devices**
Smart Medical devices embedded to automate Vital signs/telemetry for Remote and Unified Management.

Remote Vital Signs Monitoring via VIRTUAL HOME CARE SOFTWARE



Virtual Diet and Nutrition Management via VIRTUAL HOME CARE SOFTWARE

