

# Importance and Benefits of Remote Patient Monitoring for Diabetes Practices

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## Abstract

Telemedicine is the new normal, considering the era of mutant pandemics, and the parallelly evolving technology.

Faced by health care restrictions obligated by the Covid-19 pandemic, patients-especially diabetes<sup>1</sup>-, and stakeholders are wondering about the importance and benefits of remote monitoring; in which the gap of the answer, shall be filled by the doctors.

## Background

Diabetes mellitus is a disease of abnormal metabolism of carbohydrate, characterized by hyperglycemia. It is featured with a varying degree of insulin secretion impairment, along with a wide range of peripheral resistance to the insulin [UptoDate].

Failure to treat either 1st or 2nd type of DM properly will end up in a life-long complication, and acute life-threatening consequences of diabetes that lead to death [Medscape]. However, based on this fact, close monitoring represents the cornerstone in the treatment of this group of patients, especially the age extremities-children, and seniors.

On a brief glance of history's most deadly pandemics, from the Antonine Plague to the current COVID-19 event; the inevitability of pandemics recurrence would be attributed to the expansion of human society, the soaring contact with different populations, animals, and ecosystems [1].

**Key words:** clinical chemistry; computational biology; critical care

## Introduction

The high possibility to have another strike of pandemic in the near future, along with all its consequent losses, put a heavy cost on the healthcare system. Unfortunately, the traditional on-site healthcare services have proven ineffectiveness, and the world has witnessed how the health system in some of first world countries, was not coping during the last pandemic.

## Discussion

On a published study in the Indian Journal of Endocrinology and Metabolism, around 200 diabetic patients, who had the history of loss of follow-up and subsequently uncontrolled blood glucose level; the following reasons were behind missing the follow up appointments in the endocrinology clinic: (a) patients think that the blood glucose is already in control (from the data in previous laboratory report) (110 cases, 55%), (b) loss of appointment card (40 cases, 20%), (c) busy on the appointment date (20 cases, 10%), (d) the appointment date is the holiday vacation period (10 cases, 5%), (e) they try to have other alternative treatment(s) (10 cases, 5%),

and (f) fear of side effects of prolonged usage of antidiabetic drugs (10 cases, 5%) [2].

This study for example, shows clearly that remote patient monitoring for diabetes practices, would not only play a major role in infection control during pandemics, and ease financial burden to the patients, but also become a key factor in patient education, and raising awareness, considering the availability of access to the treating physician.

Moreover, on a study in the UK of a meta-analysis randomized controlled trials of telehealth interventions on glycemic control in adults with type 2 diabetes; found that current evidence suggests that telehealth is effective in controlling HbA1c levels in people living with type 2 diabetes [3].

On an American review article, written by the medical director of the wound care center at university hospital; found that researchers have recorded between 3 to 10 fold decreases in foot re-ulceration, when patients used remote patient monitoring devices for temperature measuring. It shows that

temperature monitoring is a simple mechanism by which to detect early signs of tissue abnormality in order to avoid Diabetic Foot Ulcer (DFU) formation [4].

Another study about "Cost effectiveness of telemedicine for the delivery of outpatient pulmonary care to a rural population", linked that cost effectiveness of telemedicine to three fundamental factors: cost sharing, i.e., fulfilling patient volume and sharing of the infrastructure of telemedicine among users; the telemedicine effectiveness in terms of patient utility and excellent clinical consultations; and indirect cost savings due by decreasing cost of patients' lost productivity. However, the study concluded that telemedicine is more cost effective (\$335 per patient/year) in comparison with routine care (\$585 per patient/year), as well as in on-site care (\$1166 per patient/year) [5].

## Conclusion

The rewarding and benefits of remote patient monitoring for diabetes practices, on the long term, are outweighing the establishing cost; as it would prevent tremendous loss in both economic and health aspects, precisely during pandemics.

## Disclosure

**Conflicts of interest:** in compliance with the ICMJE uniform disclosure form, all author declare the following: **Payment/services info:** All

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