

Rise of Telehealth in Hematology and Oncology due to COVID-19 Highlights and Bridges Lag of Medical Infrastructure with Modern Day Service Culture

Nausheen Ahmed^{1*} and Nayla Ahmed²

¹Department of Hematology Oncology, University Hospitals Seidman Cancer Center, Euclid Avenue, Cleveland, OH, USA

²Department of Hematology Oncology, Dartmouth Geisel School of Medicine, Lebanon, NH, USA

*Corresponding author: Nausheen Ahmed, Department of Hematology Oncology, University Hospitals Seidman Cancer Center, Euclid Avenue, Cleveland, OH, USA, Tel: 8607066022; Email: naush2022@gmail.com

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Abstract

The explosive growth of telehealth in oncology during the COVID-19 pandemic has been greeted by hematologists and oncologists with mixed emotions. While it allows for effective healthcare delivery while maintaining social distancing, it lacks the “personal touch” in a field where delivering life-altering news is common. We review the evolution of the medical healthcare models, focusing on the impact of telehealth during the COVID-19 crisis and also discuss the long-term role of telemedicine in today’s service culture. We also discuss potential factors influencing the growth of telemedicine, including acceptability and familiarity with telehealth, development of associated infrastructure and business models supporting its growth.

Keywords: Telehealth; Tele-oncology; COVID-19; Healthcare infrastructure

Introduction

Evolution of the healthcare system over the last century is such that back in the 1930s, physician house calls represented 40% of physician-patient encounters [1]. By the late 20th century, this model had shifted largely towards hospital-centered care in part due to volume growth and patient preferences, but also due to financial incentives. However, this caused notable fragmentation in care and increased healthcare costs. Now, over the past decade, there has been a tremendous push to shift care back from hospital-based to ambulatory based care, which is the prevalent system in place currently. This change has been made possible in part by attaching immense financial incentives to meet quality benchmarks, and improve high-value cost-conscious care [2,3]. There are financial models in place, like the Oncology Care Model (OCM) and others, which penalize high rates of emergency room visits, hospitalizations, and readmissions. Ambulatory care visits are considered essential for close follow up of active and chronic medical conditions, allowing for early detection of deterioration and

thereby preventing emergency department visits and hospitalizations.

Technology in Telemedicine

Telemedicine, and in particular telehealth in oncology (also referred to as pandemic tele-oncology), been around for several decades, but only in the last few months has it experienced tremendous growth, largely due to the drastic paradigm changes with Coronavirus Disease-2019 (COVID-19) favoring social distancing. Telehealth allows healthcare teams to virtually enter an “examination room” anywhere in the world, through live, interactive systems [4]. In conjunction with portable home-based technology and phone applications, it can take the role of a complete office visit including a physical exam, except for palpation. Traditionally, there have been many barriers to the growth of telemedicine to its full potential. Some of these include the healthcare team’s lack of familiarity with using this modality for patient care, lending itself to the ease of traditional face-to-face visits. Concerns have also been raised about maintaining patient privacy and data and patient confidentiality. Financial considerations also played a role, as insurance reimbursements have not been not standardized for telemedicine visits. Given these impediments, the growth of telemedicine, while slow and steady over the past decade, has not been anywhere close to established ambulatory visits.

The COVID-19 pandemic has changed almost overnight, and telemedicine for most practices, is the preferred patient-healthcare team interaction modality in most offices, allowing effective social distancing while serving patients. The explosive growth has only been bolstered by insurance companies announcing their support of this as well. Effective March 6th, 2020, Medicare announced that it would cover telemedicine visits at the same rate as in-clinic visits if encounters include audio/video and take place in real-time; other carriers have since followed suit [5]. Having used telemedicine over the past few weeks, with the right possible infrastructures, there is a key role for telemedicine going forward, even after the pandemic is over. It massively increases accessibility to the vulnerable patient populations who need it most, such as patients in remote areas requiring access to tertiary care

specialist consultants, those who are unable to find rides. It is felt that in today's culture where convenience takes precedence, and delivery services are gaining popularity, telehealth visits may be a "convenient" way for patients to access healthcare while not leaving their living room. In the field of hematology-oncology, where there is such high demand and usually a backlog of patients in tertiary care centers, it may have a continued role in evaluation and follow up of stable patients with a variety of benign and routine diagnoses (such as survivorship, surveillance, chemotherapy side effect checks, benign hematology), thereby allowing clinic and infusion visits to be reserved for higher acuity patients.

Despite its growing popularity currently, continued growth of telemedicine after this pandemic, will involve working cohesively on improving certain aspects, namely education regarding technology, improved infrastructure, and developing an effective reimbursement model [6]. Using gadgets and smartphone apps to help with patient information, such as vital signs, is important; even more critical will be strengthening local ancillary services, such as mobile phlebotomy, home delivery of medications by pharmacies, and home health infusions. Standardizing training and education of staff to improve the efficiency of healthcare delivery via telemedicine is important. Developing a reimbursement model for telehealth and a business model to sustain shifting volumes for telehealth and infusion centers will ultimately be critical for its success. For oncology specifically, incorporating tools for virtual visit assessments in clinical trial protocols will allow patients in remote locations to participate in trials. However, a valuable lesson learned from COVID-19 is that this is all possible: healthcare teams, administrators and policymakers can maximize collaboration and innovation to deliver health care to the global community.

Conclusion

The infrastructure of medicine undergoes an overhaul every few decades to keep up with evolving needs of the community. True, it lacks the gratification of face-to-face visits, but it reflects our everyday culture, where, for many, loved ones live across borders and "telecommunication" provides gratification of communication in personal life. With technological advances

over the recent years, telehealth in medicine, and oncology, will likely continue to have a growing role, in synchrony with ambulatory visits, to help improve patients' access. Advancing telehealth will depend on proactively identifying and addressing barriers for patients and healthcare teams. The sooner they are addressed, the better we will be prepared for the healthcare of the future.

Competing Interest

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Author Contributions

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