

DIGITAL ENHANCEMENT OF DOCTOR-PATIENT INTERACTIONS



Communication between doctors and patients has largely remained the same since the time of Hippocrates up until recent years. Relatively recent advances in digital media capabilities have expanded the outreach of isolated businesses, with e-commerce being a classic example. This trend has triggered a paradigm shift in the way individuals and businesses interact, shaking up some age-old industries. Businesses that incorporate digital services into their existing capabilities reap huge rewards as a result of greater manpower productivity, improved customer engagement and diversification of revenue streams. Furthermore, customers welcome the increase in convenience and variety of choice. Only now has this movement finally found itself at the doorstep of healthcare.

The benefits of teleconsultation

The practice of medicine is beginning to benefit from these trends through greater adoption of telemedicine. Current evidence suggests that teleconsultation, for example, will likely translate to improved patient compliance and better chronic disease control, although randomised controlled trials are lacking.¹ There

are also many intangible benefits of teleconsultation, such as reduced patient anxiety and increased patient empowerment over their own chronic disease management.² These benefits would certainly be magnified in patients with barriers to healthcare access, such as those with mobility impairments or poor social support who might have difficulty attending regular in-person appointments.

About DoctorBell

Our team of alumni from the National University of Singapore (NUS) aims to actualise these benefits through DoctorBell — a customisable telehealth platform. We are a software provider that works with doctors and medical groups to expand their practices into the digital domain. Apart from the analogy of “ringing” a doctor, the name DoctorBell takes inspiration from Alexander Graham Bell, the man credited with patenting the first working model of the modern telephone. Just like how Graham Bell actualised the popular concept of telecommunication by developing the telephone, DoctorBell aims to achieve the same for teleconsultation through a practical software that integrates seamlessly with any

healthcare service. The DoctorBell team is now housed in The Hangar by NUS Enterprise, and aims to improve the accessibility and quality of healthcare through telehealth software in a sustainable manner.

DoctorBell achieves these goals by providing patient management software and catering to different practice settings to facilitate teleconsultations with ease. In addition, the team champions multiple charitable initiatives that promote chronic disease management for the less fortunate Singaporeans as well. This includes partnering with community-based organisations that provide medical services to the underprivileged and free health screenings for the less fortunate. The DoctorBell platform enables such groups to engage their patients continually and improve the long-term impact of their interventions. The team also hopes to achieve the same for medical mission trips in the future.

“The excellent quality of healthcare available today does not always translate to that actually received by patients. DoctorBell has created software solutions to fill gaps in the health system that tremendously improve the latter. Even more

encouraging is their willingness to get involved on the ground with public and private organisations for the benefit of patients regardless of their capacity to pay.” – Jin Kiat, Executive Director, O’Joy Care Services.

Our team is now growing a pool of volunteer doctors as partners to enable remote-care provision for underprivileged patients who encounter barriers to accessing healthcare. This will enable earlier and more frequent review of these patients’ responsiveness to therapy to optimise disease control. Better control of chronic disease has many well-documented downstream benefits in itself, including a reduction in the risk of end organ diseases, such as diabetic peripheral vasculopathy, that could lead to costly and disabling amputations.²

Due to these benefits, teleconsultation will likely serve a growing role within the healthcare industry in the years to come. It provides an added tool that doctors can use to augment appropriate follow-up processes for patients. Although it cannot replace in-person consultations due to the lack of physical examinations, it allows doctors to review their patients remotely for closer follow-up of unstable patients or reiteration of instructions such as inhaler technique. This will improve right-siting of patients before complications develop, via an earlier inlet for interventions or referrals. Furthermore, patients can clarify uncertainties with doctors instead of turning to unreliable sources online. Teleconsultations can be scheduled at a mutually convenient time for doctors and patients, while doctors are also compensated for their time. These are all important considerations as doctors expand their practices online to improve the quality of healthcare they provide and forge closer relationships with their patients.

Research and implementation

International groups have already been trying to provide teleconsultation services in the last

few years. However, they have yet to achieve widespread adoption due to the form and delivery of their services, as well as limited value added to existing communication modalities such as Skype. DoctorBell addresses these issues by drawing on the expertise of practising physicians and the experience of patients through pilot trials during focus group discussions. Through this process, the team has rigorously developed targeted software solutions that specifically address the various needs of doctors and patients on the ground. Taking guidance from the latest 2016 Singapore Medical Council Ethical Code and Ethical Guidelines, DoctorBell has created software systems that prompt safe and appropriate use of teleconsultations to protect our users.

As society advances, it is important not to forget those who might get left behind. This is pertinent where teleconsultation is concerned, as these patients could potentially benefit the most from this technology as a solution to their barriers to accessing healthcare. Through our charitable initiatives, we hope to extend these capabilities to underprivileged patients – both local and international. We welcome prospective partners and volunteer doctors to join this movement. Please contact us at admin@doctorbell.co for more information. ♦

Legend

1. The DoctorBell core team, based in The Hangar at NUS Enterprise. L to R: Patrick Poh, Dr Dinesh Visva Gunasekeran, Paul Poh, Nicholas Chew and Ming Xiang Tham



References

1. Weinstein RS, Lopez AM, Joseph BA, et al. Telemedicine, telehealth, and mobile health applications that work: opportunities and barriers. *Am J Med* 2014; 127(3):183-7.
2. Sood A, Granick MS, Trial C, et al. The Role of Telemedicine in Wound Care: A Review and Analysis of a Database of 5,795 Patients from a Mobile Wound-Healing Center in Languedoc-Roussillon, France. *Plast Reconstr Surg* 2016; 138(3 Suppl):248S-56S.

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Dr Dinesh is passionate about ophthalmology and the improvement of health systems. Since his undergraduate days, he has published scientific papers and worked with colleagues from National University of Singapore (NUS) healthcare faculties to organise free annual health screenings for underprivileged Singaporeans. This event continues to be organised yearly by subsequent batches of NUS undergraduates.

