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VIEWPOINTS

Identifying and managing osteoporosis before and after COVID-19: rise of the remote consultation?

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Abstract

Summary The COVID-19 pandemic is influencing methods of healthcare delivery. In this short review, we discuss the evidence for remote healthcare delivery in the context of osteoporosis.

Introduction The COVID-19 pandemic has undoubtedly had, and will continue to have, a significant impact on the lives of people living with, and at risk of, osteoporosis and those caring for them. With osteoporosis outpatient and Fracture Liaison Services on pause, healthcare organisations have already moved to delivering new and follow-up consultations remotely, where staffing permits, by telephone or video.

Methods In this review, we consider different models of remote care delivery, the evidence for their use, and the possible implications of COVID-19 on osteoporosis services.

Results Telemedicine is a global term used to describe any use of telecommunication systems to deliver healthcare from a distance and encompasses a range of different scenarios from remote clinical data transfer to remote clinician-patient interactions. Across a range of conditions and contexts, there remains unclear evidence on the acceptability of telemedicine and the effect on healthcare costs. Within the context of osteoporosis management, there is some limited evidence to suggest telemedicine approaches are acceptable to patients but unclear evidence on whether telemedicine approaches support informed drug adherence. Gaps in the evidence pertain to the acceptability and benefits of using telemedicine in populations with hearing, cognitive, or visual impairments and in those with limited health literacy.

Conclusion There is an urgent need for further health service evaluation and research to address the impact of remote healthcare delivery during COVID-19 outbreak on patient care, and in the longer term, to identify acceptability and cost- and clinical-effectiveness of remote care delivery on outcomes of relevance to people living with osteoporosis.

Keywords COVID-19 · FLS · Osteoporosis · Telemedicine

The COVID-19 pandemic has undoubtedly had, and will continue to have, a significant impact on the lives of people living with, and at risk of, osteoporosis and the people who care for them. Social distancing and self-isolation are likely to be resulting in changes in activity levels (and consequently may impact rates of falls and fractures), physical and mental health, and health-seeking behaviours. Osteoporosis treatments, such as intravenous bisphosphonates, or subcutaneous denosumab have been delayed or withdrawn as hospitals and healthcare services enact changes to reduce all but essential face-to-face contact, particularly in those deemed most at risk of COVID-19. Bone densitometry is not being performed, many Fracture Liaison Services (FLSs) have ceased activity, and many clinicians previously delivering osteoporosis care will have been redeployed. Guidance is clear that non-urgent services should be delivered remotely where possible, leading to experimentation and, in some instances rapid uptake of hitherto unused remote healthcare delivery technologies [1–3]. In this paper, we consider different models of remote care delivery, the evidence for their use, and the possible implications of COVID-19 on osteoporosis services.

Telemedicine and telehealth are global terms used to describe any use of telecommunication systems to deliver healthcare from a distance [4], and encompasses remote

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monitoring, transfer of clinical data, and methods of remote clinician-patient interaction. Furthermore, healthcare and resources may be transferred by internet, telecommunications (eHealth), or via the use of mobile devices (mHealth) [5]. Telemedicine has been studied in clinical trials in the context of monitoring health conditions (e.g. heart failure, hypertension, and diabetes) [6, 7], provision of treatment or rehabilitation [8], provision of self-management and/or education [9, 10], specialist consultations for treatment or diagnosis [11], screening, or real-time assessment of clinical status [12]. In addition to eliminating the risk of transmitting airborne infection, further proposed benefits of telemedicine approaches are reduced healthcare costs, increased efficiency [13–15], and for patients, increased satisfaction by reduced waiting times, travel, time off work or child-care, and costs [16–18]. However, possible negative outcomes include clinician and/or patient anxieties about insufficient training, medico-legal vulnerability, and the technology itself, including data security [19–22].

So, what of the evidence? A comprehensive Cochrane review on the subject in 2015 of 94 trials, over 20,000 participants, and 500+ pages in length was only able to conclude that telemedicine leads to similar health outcomes as face-to-face delivery of care with unclear effects on costs, and unclear acceptability by patients and healthcare professionals [4]. The sheer volume of studies, and the heterogeneous nature of technologies used provides a challenge for those summarising the evidence, and the resulting uncertainty about cost, acceptability, and safety is likely to have contributed to slow adoption of these technologies pre-COVID-19 [23].

Within the field of osteoporosis, some evidence exists for use of telemedicine approaches from countries with large land masses such as Australia and Canada where geography and distribution of appropriately skilled healthcare workers necessitates a remote approach to healthcare [24]. A recent mixed methods study of a Canadian telemedicine delivered osteoporosis programme identified that patient participants perceived high-quality care and valued the experience and credibility of the treating clinician, but also raised issues about the coordination of their care with investigation results and poor follow-up with allied health professionals such as physiotherapists [16]. In the UK, telephone consultations are promoted in clinical guidelines for follow-up consultations in Fracture Liaison Services to promote adherence to anti-osteoporosis drugs [25], although the evidence supporting the use of telephone interventions to increase adherence to bisphosphonates is mixed. Telephone consultation follow-up conducted as part of a wider intervention based on the osteoporosis coordinator role had a modest effect on self-reported adherence rates in a Canadian trial [26], but two larger American studies involving telephone follow-up by nurses and telephonic delivery of motivational interviewing designed specifically to increase adherence have not influenced either self-reported or filled prescription measures of adherence respectively [27, 28].

With osteoporosis outpatient and FLSs on pause, healthcare organisations have already moved to delivering new and follow-up consultations remotely, where staffing permits, by telephone or video [29]. Remote consultations have been described as particularly appropriate for chronic disease reviews and consultations where physical examination is not required [1], and are therefore highly applicable to osteoporosis services. Although the telephone is pervasive, inexpensive, minimally invasive, and frequently used, there is still relatively little evidence about the cost and clinical effectiveness of consulting in this way [2]. In UK primary care, evidence from a recent non-randomised experimental study suggests that although video and telephone consultations appear to be popular among patients and shorter than face-to-face consultations, they score lower on various quality measures such as seeking the patient's understanding of their health problem [30]. A recent systematic review identified only eight moderate to high-quality studies comparing video and telephone consultations, and identified that video consultations resulted in fewer medication errors, greater diagnostic accuracy, and improved decision-making accuracy when compared with telephone consultations, with no difference in patient reported outcomes [31]. However, there are also practical and logistical issues to consider in choosing the appropriate technology, and given that video consultations may require clinician and patient training, and in-person technical support, the use of video is recommended to supplement, rather than replace, telephone consultations [1].

One of the major limitations of the applicability of the evidence base for telemedicine in the context of osteoporosis relates to the characteristics of the populations studied. Although evidence on the use of telemedicine with patients aged 60 and over show predominantly positive results on patient behaviours, people with hearing, visual, or cognitive impairment are often excluded from clinical trials [32]. Furthermore, acceptance of health technology may also be related to a participants' understanding of their condition and their overall interest in their own health or health literacy; in a recent systematic review of the effect of telehealth tools on vulnerable populations, health literacy was only assessed in one of the included 18 studies [33]. Finally, there is a need for further research in remote consultations to consider the impact on other outcomes beyond healthcare use, and patient satisfaction to patient behaviours (such as drug adherence) and shared decision-making [34].

Presently, the context of COVID-19 is driving decisions about how healthcare is delivered. Organisations such as NHS England and Cochrane Effective Practice and Organisation of Care (EPOC) have produced rapid guidance for use of telephone consultations and implementation considerations for use of m-Health technologies in response [35, 36]. The transition from telehealth as a useful mechanism to employ during 'emergency situations', such as COVID-19, to

telehealth being integrated into everyday clinical practice will be challenging. Such transition relies upon clinician education and training, funding to support telehealth provision, and the establishment of systems to support telehealth as a 'business as usual' strategy to routinely deliver care [37]. However, as yet we can only speculate how policy or organisation drivers, or patient demand, will change our behaviours post-COVID. While the current evidence base and guidelines are helpful, questions remain about the quality of care delivered remotely, the impact of remote care interactions on drug adherence, and the appropriateness and acceptability of care given remotely for the population of people with, or at risk of, osteoporosis. In the meantime, clinical services should maximise any opportunity to evaluate the impact of any urgent and unplanned changes in practice on patient and practitioner outcomes.

Code availability Not applicable.

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Data availability Not applicable.

Compliance with ethical standards

Conflicts of interest None.

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