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Recommendations to Enhance Telemedicine in Nursing Homes in the Age of COVID-19

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Nursing homes (NHs) have been at the frontline of the COVID-19 pandemic.[1,2] Despite representing <1% of the U.S. population, NH residents account for nearly 33% of all COVID-19 deaths.[3] The Center for Medicare and Medicaid Services implemented sweeping telemedicine (TM) regulatory relief in an effort to reduce COVID-19 spread in NHs. Telemedicine activity in U.S. NHs has expanded dramatically[4] but has not been without its challenges. Herein, we report 12 recommendations to enhance and sustain TM (Table 1) from a TM adoption study, certified as quality improvement by the UW-Madison Health Sciences IRB.

A convenience sample of NH (n=9) in South Central Wisconsin were recruited based on geography (rural vs. urban), ownership and profit status. Each NH had newly adopted or significantly expanded TM during the COVID-19 pandemic. Key informants (n=27) involved in the structure and conduct of TM encounters were interviewed or surveyed including NH staff, long-term care advanced practice providers (APPs), and regional healthcare sub-specialist providers.

Study participants identified five technology enhancement needs, including: 1) improvements to connectivity and bandwidth; 2) an increased supply of TM devices; 3) availability of sound amplification devices; 4) availability of telehealth-ready stethoscopes, and 5) enhancements to video quality. Internet connectivity and bandwidth as well as TM device availability improved in all participating NHs although technology bottlenecks were still a problem in several facilities. The volume capabilities of the TM devices employed in NHs was often inadequate and participants identified secondary sound amplification devices as a critical need for encounters with hearing-impaired residents. Although many TM encounters did not require a heart or lung exam,

APP participants noted having a telehealth-ready stethoscope available would further alleviate the need for face-to-face encounters when encountered with a scheduling conflict or a facility outbreak. Some respondents noted the video quality on existing TM devices was inadequate for performing skin and wound assessments and expressed a desire for high-resolution camera/video devices in residents with these issues.

Study participants identified three scheduling enhancement needs, including: 1) availability of a common scheduling system; 2) centralization of NH scheduling responsibilities; and 3) development of blocked TM scheduling. Successfully scheduling a TM encounter requires coordinating the provider, NH staff and resident schedules and ensuring availability of TM equipment. A common scheduling system that was used and viewable by all the participants could potentially reduce the frequency of calls and rescheduled appointments. In lieu of a technology fix, participants noted significant scheduling efficiencies could be achieved by centralizing scheduling related tasks to a limited number of trained individuals who were given sufficient time to complete this work. Participants also noted that scheduling activities was improved by developing fixed times during which providers were allowed to conduct their TM encounters. While this enhancement has the potential to conflict with provider schedules, blocked scheduling greatly reduces NH workflow disruptions, and most facilities were able to negotiate blocks of time that were mutually acceptable to their providers.

Deficiencies in information exchange was identified as a common problem area by study participants and has been reported by others.[5] Giving providers and their clinic staff remote access to NH electronic health record would facilitate TM encounter preparation and pre-charting activities. Establishing standard procedures for information

exchange that include the type and quality of information that should be collected, how it is shared and who is responsible for these tasks was also identified as a critical need by study participants.

The individual facilitating the TM encounter was another problem area identified by study participants. While non-clinical staff were capable of participating in scheduling and set up of equipment, TM encounters facilitated by these individuals were limited by poorer information exchange and reduced capacity to conduct key aspects of the physical exam. Centralizing TM encounter facilitation to a limited number of trained clinical staff enhanced inter-professional rapport and improved overall quality and efficiency of these encounters.

Implementing these twelve recommendations come with costs that must be offset if TM is to be sustained. Gillesipie et al. have previously argued that existing TM regulatory waivers implemented in response to COVID-19 must be made permanent.[6] Provider and NH reimbursement models will also need to be modified in order to correctly incentivize provider use of the TM modality and provide facilities with the resources to purchase and maintain TM equipment as well as hire and retain staff responsible for critical TM tasks. While navigating this path forward will not be easy, the potential benefits of sustaining the current TM expansion[7,8] are too great to go back to the pre-COVID status quo.

TABLE 1: Enhancements needed to make nursing home telemedicine encounters easier and more effective

Equipment and Infrastructure

1. NHs should invest in the infrastructure necessary to support telemedicine encounters through improved connectivity and bandwidth
2. NHs should invest in dedicated and adequate/appropriate equipment to conduct telemedicine encounters (e.g., laptop or tablet)
3. NHs should have ready access to secondary sound amplification devices to use during telemedicine encounters with hearing-impaired residents
4. NHs should have ready access to a telehealth-enabled stethoscope that allows providers to remotely perform a heart and/or lung exam when necessary
5. NHs should have access to high-resolution video or camera equipment that enhances remote assessment of skin and wound findings

Scheduling

1. NHs should develop or invest in a common platform that allows key individuals to schedule telemedicine encounters
2. NHs should centralize scheduling of telemedicine encounters to a core individual(s)
3. NHs should adopt telemedicine block schedules that factor in sufficient time before and after encounters for inter-professional information exchange and care-planning

Information Exchange

1. NHs should provide clinicians and their staff with remote access to NH electronic health records
2. NHs and providers that engage in TM encounters should develop and implement procedures and staff training that standardize: 1) the types of information shared between NH staff and providers; 2) how these types of information should be shared; and 3) who is responsible for these information sharing tasks

Telemedicine Encounter Facilitator

1. NHs should identify and dedicate staff to facilitate telemedicine encounters
2. The telemedicine encounter facilitator should be a clinician (I.e., RN or LPN)

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