INFLUENCE OF TELEPHONE COMMUNICATION ON ANTIBIOTIC PRESCRIBING IN NURSING HOMES

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Background: Suboptimal antibiotic use is a major driver of antibiotic resistance in long-term care facilities (LTCFs). Improving the use of antibiotics in LTCFs has been identified as a public health imperative by both the CDC and WHO. Most decisions regarding medical care in LTCFs occur in the context of brief telephone interactions between nursing staff and off-site clinicians. Studies have shown that telephone communication in LTCFs if frequently of poor quality. Importantly, suboptimal communication has been convincingly linked to an increase in the rates of avoidable hospitalizations as well as excessive use of antipsychotic medications in LTCFs. Moreover, studies have shown that interventions to enhance the quality of telephone communication can lead to improvements in nursing staff satisfaction and better use of oral anticoagulants in LTCFs. On the basis of these studies, we hypothesize that poor communication is also associated with suboptimal antibiotic use in LTCFs. We further hypothesize that improving the quality of communication between nursing staff and off-site clinicians will lead to improvements in the use of antibiotics in LTCFs.

Project Overview: To test these hypotheses, we are proposing a three-phase project:

- **Phase 1 (Pilot Study):** During this phase we will develop and validate a survey instrument that will measure the quality of communication between LTCF nursing staff and off-site clinicians. We will also optimize a strategy for assessing the appropriateness of antibiotic starts in a single LTCF.

- **Phase 2 (Observational Study):** During this phase, we will measure the strength of the relationship between the quality of telephone communication and appropriateness of antibiotic prescribing in a representative sample of LTCFs. Data generated from this research will be used to develop a telephone communication quality improvement tool.

- **Phase 3 (Intervention Study):** Initial validation of the telephone communication quality improvement tool developed during Phase 2 of this research will be performed, after which a cluster randomized trial to assess the efficacy of the tool will be initiated.

Community Involvement: LTCFs will have the opportunity to participate in all three phases of this research. Beyond serving as sites for data collection and study interventions, staff in participating facilities will have important input on the design and implementation of the telephone communication improvement instrument.

Significance: LTCFs are major reservoirs for the regional dissemination of antibiotic-resistant bacteria. Strategies to improve the use of antibiotics in LTCFs are desperately needed. This research will generate critical knowledge on the role that telephone communication plays in the prescription of antibiotics and identify facets of the communication process that can be improved through an intervention. This knowledge will be used to develop and test a simple communication improvement instrument that, if proven effective, significantly reduce the inappropriate use of antibiotics in LTCFs. Therefore, we anticipate that important improvements in LTCF resident health as well as improvements in facility and regional control of antibiotic resistance will emerge from this research.