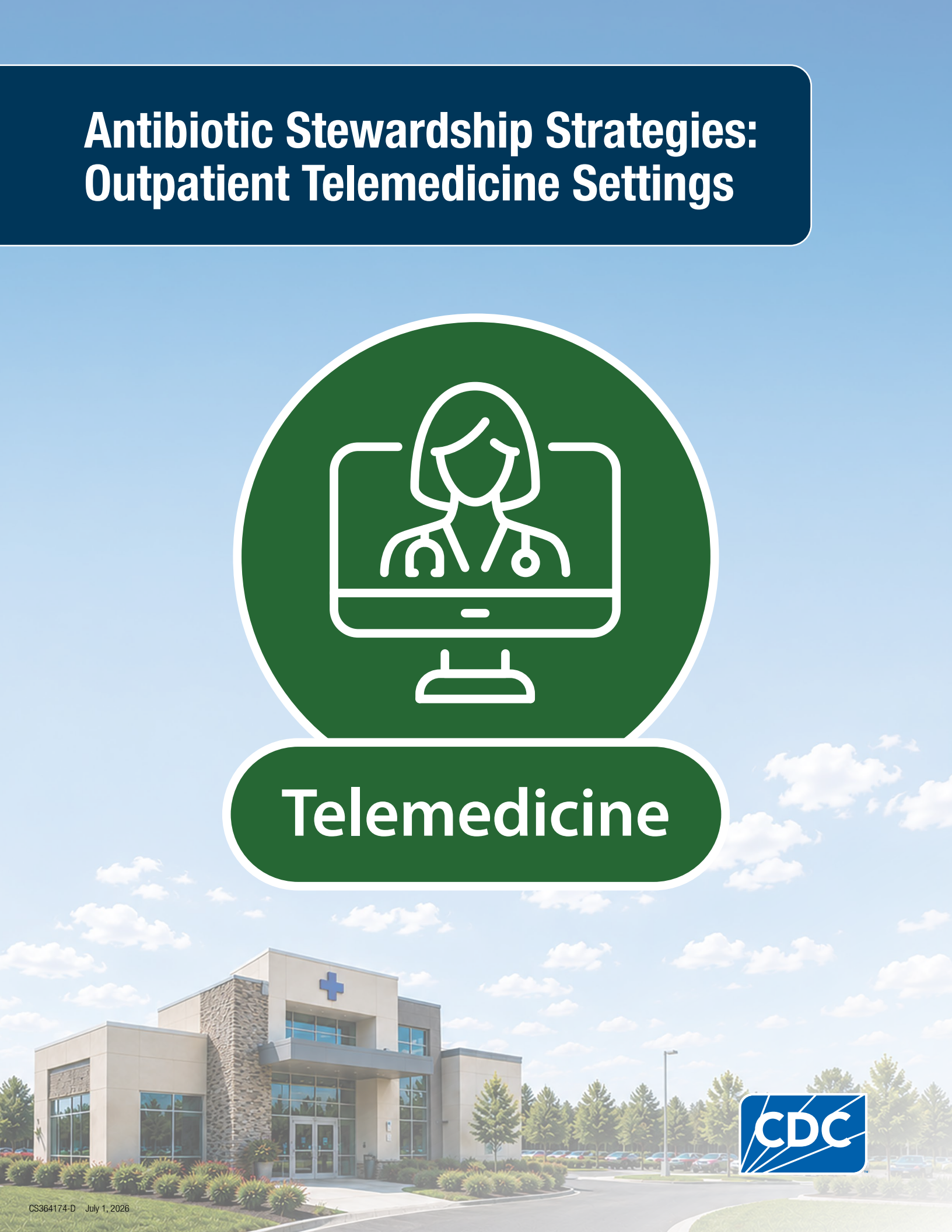
Antibiotic Stewardship Strategies: Outpatient Telemedicine Settings



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Antibiotic use in outpatient telemedicine settings

The expansion of outpatient telemedicine has transformed how patients receive medical care and created opportunities to optimize antibiotic use.[1] Telemedicine has the potential to enhance healthcare access, improve care continuity, enable timely assessment and rapid initiation of treatment when appropriate.[2]

Studies reporting antibiotic use in telemedicine compared to office visits show variable prescribing patterns depending on diagnosis, patient population, and type of virtual visits. For example, virtual visits in urgent care settings were associated with higher antibiotic prescribing, which may be related to increased sinusitis diagnosis reported in virtual visits.[3] Another study found that physicians in direct-to-consumer telehealth platforms, who may lack access to a patient's full medical history, have a higher rate of antibiotic prescribing and lower guideline concordance compared to office visits, particularly for pediatric acute respiratory infections.[4] In contrast, within an integrated health system, primary care telemedicine visits were associated with lower rates of antibiotic prescribing compared to in-person office visits.[5] Another study in a primary care network comparing guideline-concordant antibiotic prescribing for uncomplicated urinary tract infections between virtual and office visits found more appropriate prescribing among virtual visits.[6]

Factors that may impact antibiotic prescribing in outpatient telemedicine settings

- **Gaps in clinical guidance.** Professional society and facility guidelines often do not account for the diagnosis and treatment of common outpatient infections in the virtual environment.
- **Diagnostic limitations.** Certain conditions, such as otitis media, require a physical examination that may not be available through telemedicine.
- **Limited access to testing.** Laboratory or point-of-care tests may not be available for conditions where diagnostic testing is indicated (e.g., for pharyngitis).
- **Incomplete patient information.** In some telehealth models, clinicians may lack access to the patient's medical history or an established relationship, which can contribute to unnecessary or inappropriate antibiotic prescribing.

Antibiotic stewardship strategies for outpatient telemedicine settings

Health systems and direct-to-consumer telemedicine companies can adapt the *Core Elements of Outpatient Antibiotic Stewardship* framework to support appropriate prescribing in virtual settings. Key strategies include:

- **Establish standards for tele-diagnosis and treatment.** Develop setting-specific practice recommendations for conditions that frequently lead to an antibiotic prescription. Incorporate referral pathways and triage systems to in-person evaluation (e.g., physical examination, laboratory testing) when needed for accurate diagnosis.[7]
- **Prioritize high-quality audio/visual technology available.** Use live video interactions for virtual visits where antibiotics may be prescribed to support better information gathering, diagnostic accuracy, and treatment planning.[8]
- **Formalize antibiotic stewardship commitment.** Define antibiotic stewardship duties within telemedicine organizations. Visible leadership commitment can help prioritize stewardship goals and justify resource allocation. Adapting public commitment to the virtual space can improve accountability and optimize prescribing practices.[7]
- **Adapt antibiotic stewardship interventions to virtual workflow.** Embed evidence-based strategies into telehealth platforms, such as clinical decision support for upper respiratory tract infections,[9] delayed prescribing, or watchful waiting. Justification alerts[10] or requiring clinicians to document rationale for antibiotic use can also be embedded in telemedicine platforms.
- **Track and report prescribing metrics.** Implement audit and feedback at the individual and practice-level to improve antibiotic prescribing.[11] Reporting antibiotic use measures with peer comparisons can be integrated into telemedicine electronic medical records.
- **Provide targeted clinician and patient education.** Offer training on adapted practice guidelines and provide feedback on adherence to those guidelines to decrease inappropriate antibiotic prescribing.[12] Enhancing clinicians' communication skills when discussing the need for antibiotics with patients can improve prescribing and patient satisfaction.[13]

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