

Telehealth and Antimicrobial Stewardship: Framework during a period of rapid acceleration within primary care

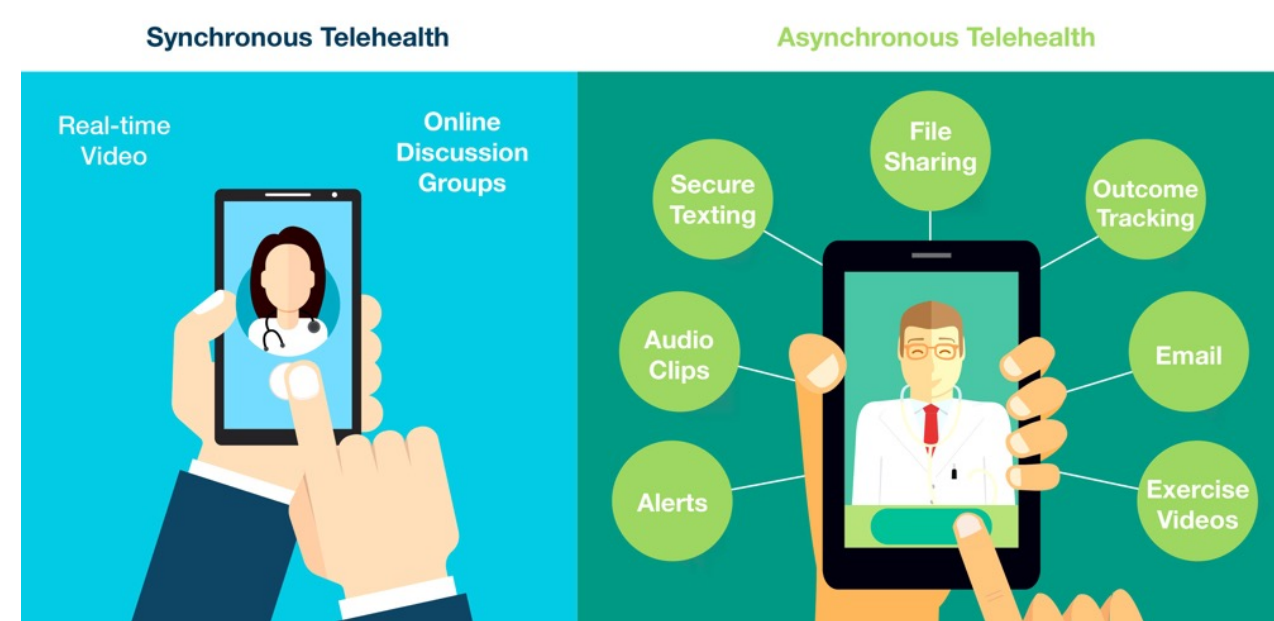
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BACKGROUND

Antibiotic resistance is a global public health threat. Organized antimicrobial stewardship (AMS) programs aim to improve and monitor antibiotic use. The CDC's guidelines *Core Elements for Antibiotic Stewardship* provide a framework for appropriate antibiotic use in hospital, long-term care, and outpatient settings. The greatest antibiotic prescribing happens in outpatient settings, particularly in primary care. The CDC outpatient guidelines highlights Telehealth (TH) AMS as an important future direction. (1) During the COVID-19 pandemic use of TH grew drastically, and TH will remain a primary care priority after the pandemic. (2) TH has unique barriers, therefore, unique AMS approaches are necessary for primary care TH.

WHAT IS TELEHEALTH?



TH is "the use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health and health administration." (3)

SPECIFIC AIMS AND METHODS

To describe the unique barriers that TH presents to appropriate antibiotic use in the primary care setting through a thorough literature review. The purpose of this review is to propose a tailored, sustainable antimicrobial stewardship framework for primary care TH based on the CDC's *Core Elements of Outpatient Antimicrobial Stewardship*.

BARRIERS TO AMS IN PRIMARY CARE TH

Paucity of well-validated AMS strategies specific to primary care TH settings

Inability to complete physical examination

Lack of diagnostic services

Patient expectations, satisfaction ratings, and altered dynamic of patient-provider relationship

Lack of up-front information for providers without patient records and concerns for integrating the visit into current electronic medical records (EMR)

Lack of patient and provider training in use of TH technology, lack of training for shorter visit times, and lack of information technology (IT) support for providers

PROPOSED CORE ELEMENTS FOR TH AMS

COMMITMENT

- Incorporate displays of public commitment to AMS into TH visit
- Identify a single champion to direct AMS activities focused in TH
- Identify I.T. support for TH AMS
- Include AMS-related TH duties in job descriptions or evaluation criteria
- Communicate with all staff to set patient expectations

ACTION FOR POLICY AND PRACTICE

- Use evidence-based diagnostic criteria and treatment recommendations
- Use delayed prescribing practices or watchful waiting when appropriate
- Use guidebooks for clinical decisions
- Use drop-down based ordering to improve prescribing
- Provide communications skills training for providers

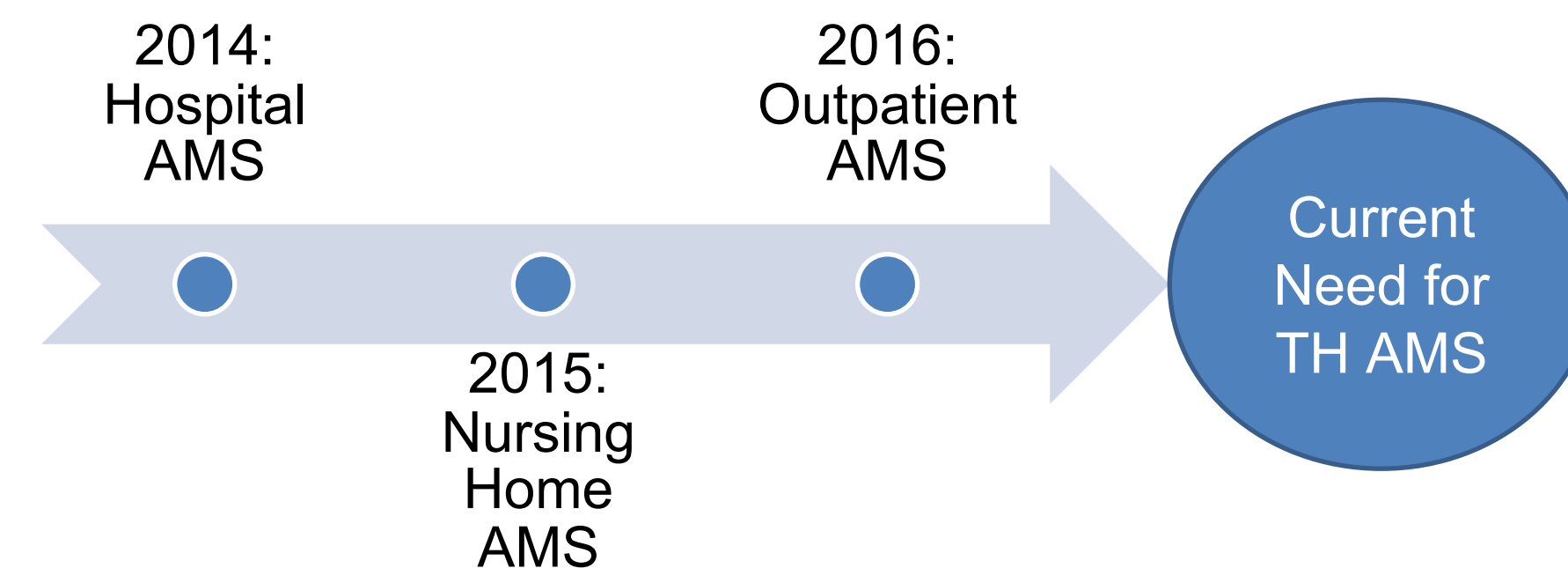
TRACKING AND REPORTING

- Enable a dashboard system for peer and self-review
- Assess and share performance on quality measures
- Develop new TH-specific quality measures to ensure specific goals and patient safety in the growing TH sector

EDUCATION AND EXPERTISE

- Providing TH-tailored stewardship patient education
- Create pre-visit patient technological aides
- Provide training and continuing education activities for providers
- Ensure timely access to persons with expertise

CDC CORE ELEMENTS TIMELINE



AGING AND TH

TH has potential as a convenient care option for older adults, particularly those with mobility issues or limited transportation. A survey of physicians reported TH visits were suitable during the COVID-19 pandemic for coaching older adult through self-examinations and for involving caregivers in medical care, both of which could be helpful for AMS. (4) TH has been touted as an opportunity for chronic disease management for older adults. (4) A barrier for older adult utilization of TH could be patient technical literacy, which is addressed by our adaption of the core elements.

CONCLUSION

There is a critical need for future well-designed studies to develop tailored, sustainable interventions to improve the care of the patients through primary care TH.

REFERENCES

1. Sanchez GV, Fleming-Dutra KE, Roberts RM, Hicks LA. Core Elements of Outpatient Antibiotic Stewardship. *MMWR Recomm Rep*. Nov 11 2016;65(6):1-12. doi:10.15585/mmwr.r6506a1
2. Rodriguez JA, Betancourt JR, Sequist TD, Ganguli I. Differences in the use of telephone and video telemedicine visits during the COVID-19 pandemic. *Am J Manag Care*. Jan 2021;27(1):21-26. doi:10.37765/ajmc.2021.88573 (HRSA) HRSA. Telehealth Programs. Accessed June 25, 2021.
3. Goldberg EM, Jimenez FN, Chen K, et al. Telehealth was Beneficial during COVID-19 for Older Americans: A Qualitative Study with Physicians. *Journal of the American Geriatrics Society*. Jul 10 2021;doi:10.1111/jgs.17370

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