Effectiveness of an Intelligent Sleep Management System in the US Military: Preliminary Results

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INTRODUCTION

- Despite very high prevalence and documented adverse consequences of insufficient and disturbed sleep in the US military, there are well-recognized barriers limiting access to evidence-based sleep interventions within the military health system (MHS).
- Chief among these barriers is an insufficient number of trained sleep specialists and sleep centers.
- The aim of this pilot study was to evaluate provider feedback on sleep assessment results with a novel sleep telehealth platform at a busy military treatment facility as part of a larger implementation effort

METHODS

- The sleep telehealth platform consists of an online web portal for patients and providers, a secure mobile app, and integrated wearable sensors using a commercial off-the-shelf solution, Fitbit.
- Health providers recruited from the Internal Medicine clinic and the Sleep Disorders Center at Walter Reed National Military Medical Center (WRNMMC).
- Effectiveness defined based on RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) framework.
- Providers completed a questionnaire measuring satisfaction and usability metrics of a sleep assessment report.

TELEHEALTH PLATFORM

The purposes of the sleep telehealth platform include:

- Help primary care managers (PCMs) assess sleep complaints (Fig 1).
- Empower patients and PCMs to make evidence-based sleep treatment decisions.
- Deliver evidence-based behavioral sleep treatments via mobile devices (Fig 2).
- Connect patients with sleep specialists in virtual or physical sleep centers.

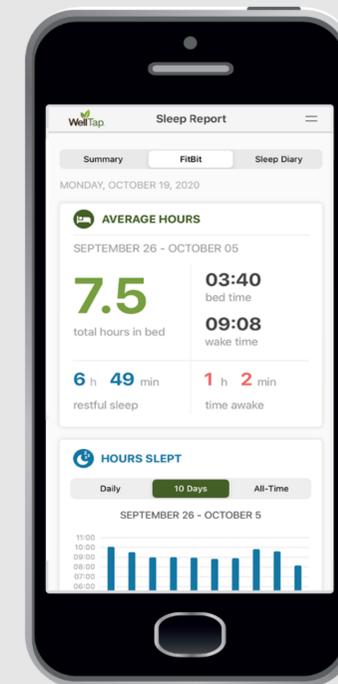Fig. 1. WellTap Military Sleep Assessment Results, page 1 of 5.

Fig. 2. secure mobile app as viewed by the patient

RESULTS

- Participants: 21 providers
- All respondents were "satisfied" or "very satisfied" with the report content and format.
- 95% of respondents reported the report was "usable" or "very usable" for assessing for, providing evidence-based treatment recommendations of, and documenting sleep problems.
- 88% of respondent reported that the sleep report would "improve" or "improve very much" their assessment, evidence-based sleep treatment recommendations, and documentation of sleep problems.

CONCLUSIONS

- Results of this pilot study demonstrate providers viewed the sleep assessment favorably.
- Providers were highly satisfied with the content, usability, and credibility of the report, and felt this intervention would improve their documentation.
- Research is ongoing to further evaluate the implementation of this sleep telehealth platform.