

# Infection control informatics use and satisfaction among SHEA and APIC members

Max Masnick, BA<sup>1</sup>, Daniel J. Morgan, MD, MS<sup>1,2</sup>, Marc-Oliver Wright, MT (ASCP), MS, CIC<sup>3</sup>, Michael Y. Lin, MD, MPH<sup>4</sup>, Lisa Pineles, MA<sup>1</sup>, Anthony D. Harris, MD, MPH<sup>1</sup>, and the SHEA Research Network



## Abstract (revised)

**Background:** Electronic medical records (EMR) and supplementary infection prevention software (SIPS) play a crucial role in hospital infection control, epidemiology, and antimicrobial stewardship. Hospitals must choose between multiple EMR and SIPS, but little information comparing their capabilities and user satisfaction is available.

**Methods:** We distributed a 22 question web-based survey to hospital epidemiologists and infection preventionists via SHEA and APIC listservs. Respondents were asked what EMR/SIPS their institution used and about their software's capabilities, user satisfaction, cost, and customizability.

**Results:** We received 98 completed responses from SHEA and 42 from APIC. The most commonly used EMRs were Epic (27%), Cerner (18%), and MEDITECH (8%). Fifty-six percent of respondents used common commercial SIPS; most commonly used were MedMined (26%), TheraDoc (16%) and SafetySurveillor (14%).

Respondents rated satisfaction with their infection control software from 1 (not satisfied) to 10 (very satisfied). Those with commercial SIPS had a mean satisfaction score of 7.0 (SD 2.3) overall compared with 4.1 (SD 2.2;  $p < 0.001$ ) for those without. Among SIPS users, infection preventionists reported higher satisfaction (mean 7.5, SD 2.2) than hospital epidemiologists (mean 5.8, SD 2.2;  $p = 0.003$ ).

**Conclusions:** There is substantial heterogeneity in EMR and SIPS usage. Respondents at institutions with commercial SIPS were generally more satisfied with their infection control and antimicrobial stewardship software than those at institutions without commercial SIPS. Hospital epidemiologists were in general less satisfied with their infection control software than infection preventionists.

## Background

- Electronic medical records (EMR) are often augmented with supplementary infection prevention software (SIPS).
- SIPS is used to identify and monitor healthcare-associated infections and antibiotic resistance, and facilitate regulatory reporting.
- Multiple vendors sell SIPS, but little independent information is available on usage and user satisfaction with this software.

### Abbreviations:

- SHEA (Society for Healthcare Epidemiology of America)
- APIC (Association for Professionals in Infection Control and Epidemiology)
- EMR (Electronic Medical Record)
- SIPS (Supplemental Infection Control Software)

## Objective

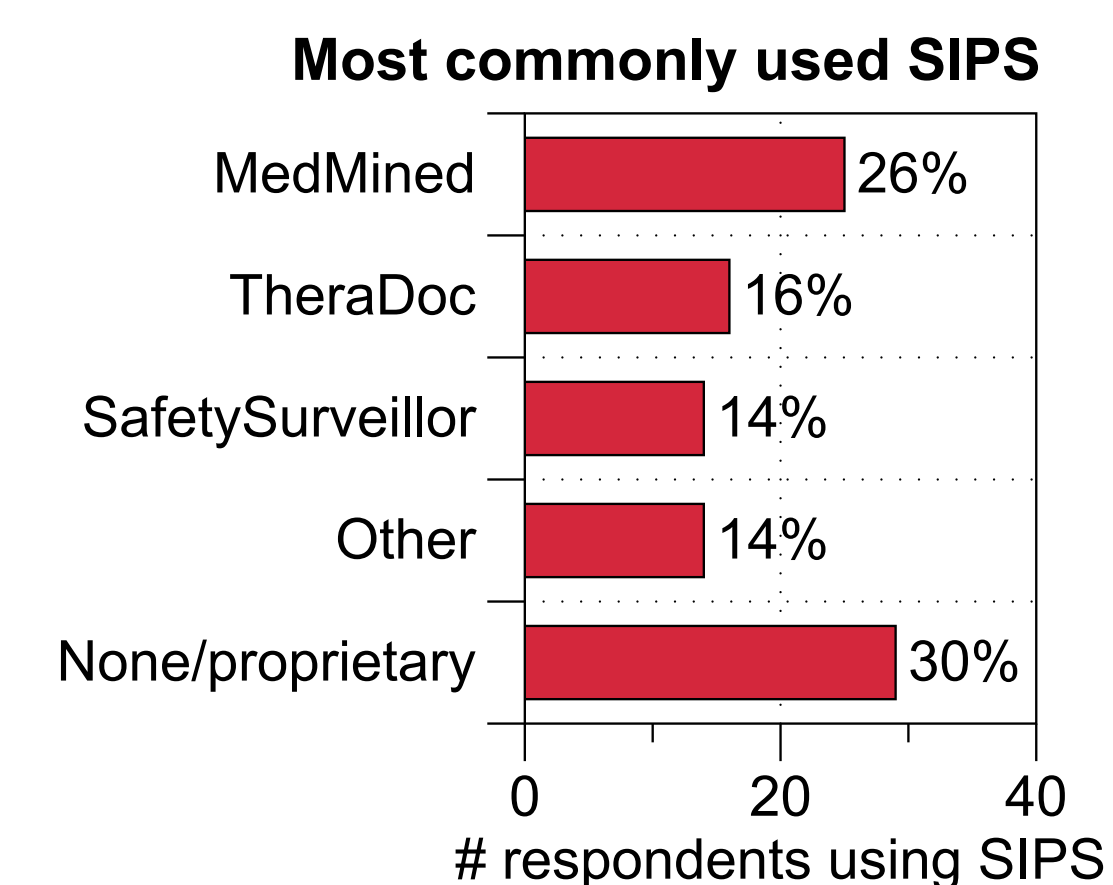
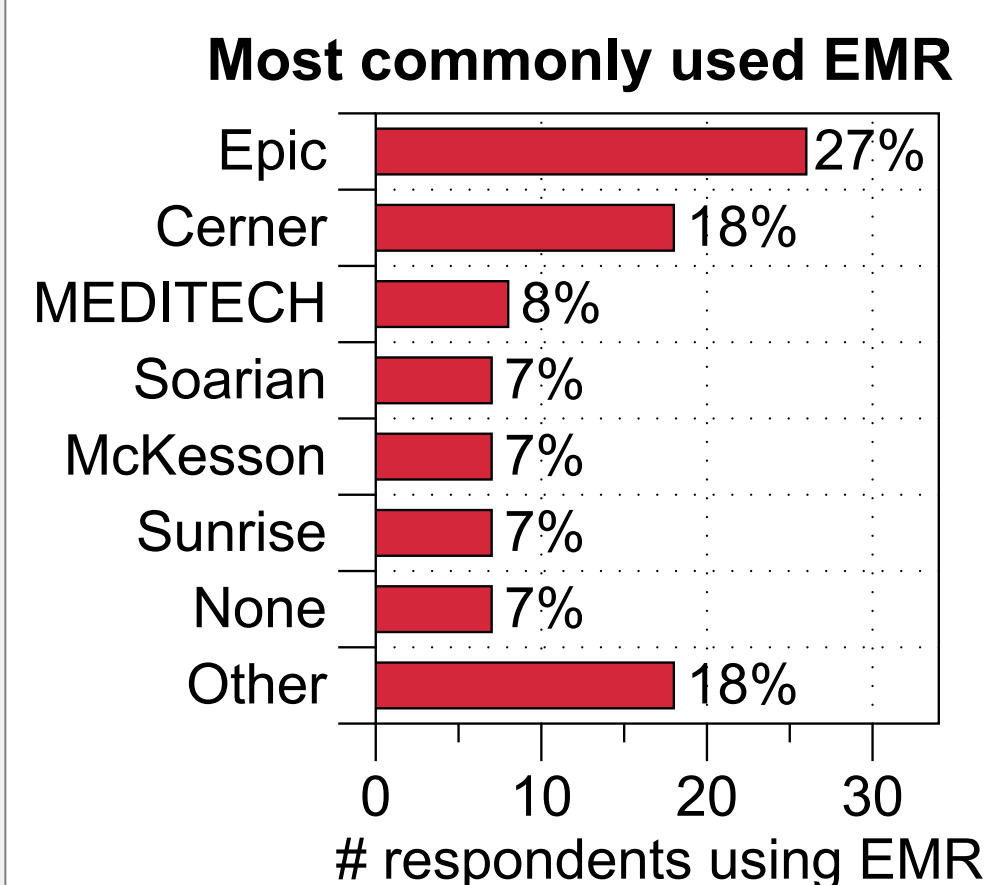
- Describe supplemental infection control software (SIPS) usage and user satisfaction.
- Compare the satisfaction of hospital epidemiologists and infection preventionists with their institutions' SIPS.

## Methods

- Surveyed hospital epidemiologists and infection preventionists through SHEA Research Network and APIC listservs.
- Data collected with web-based survey between April 3<sup>rd</sup> and 19<sup>th</sup>, 2013.
- Respondents at institutions with commercial SIPS ("SIPS users") answered 19 questions about SIPS satisfaction, usage, capabilities, cost, implementation process, and customizability.
- Respondents at institutions without commercial SIPS ("non-SIPS users") answered 13 questions on how their software (EMR alone or proprietary SIPS) met infection prevention and reporting needs, and reasons for not purchasing commercial SIPS.

## Results

- We received 98 completed responses; 56 were from SHEA (174 contacted) and 42 were from APIC (number contacted unknown). Of all responses, 43 were from hospital epidemiologists and 55 were from infection preventionists.
- EMR and supplemental infection prevention software (SIPS) usage was heterogeneous:

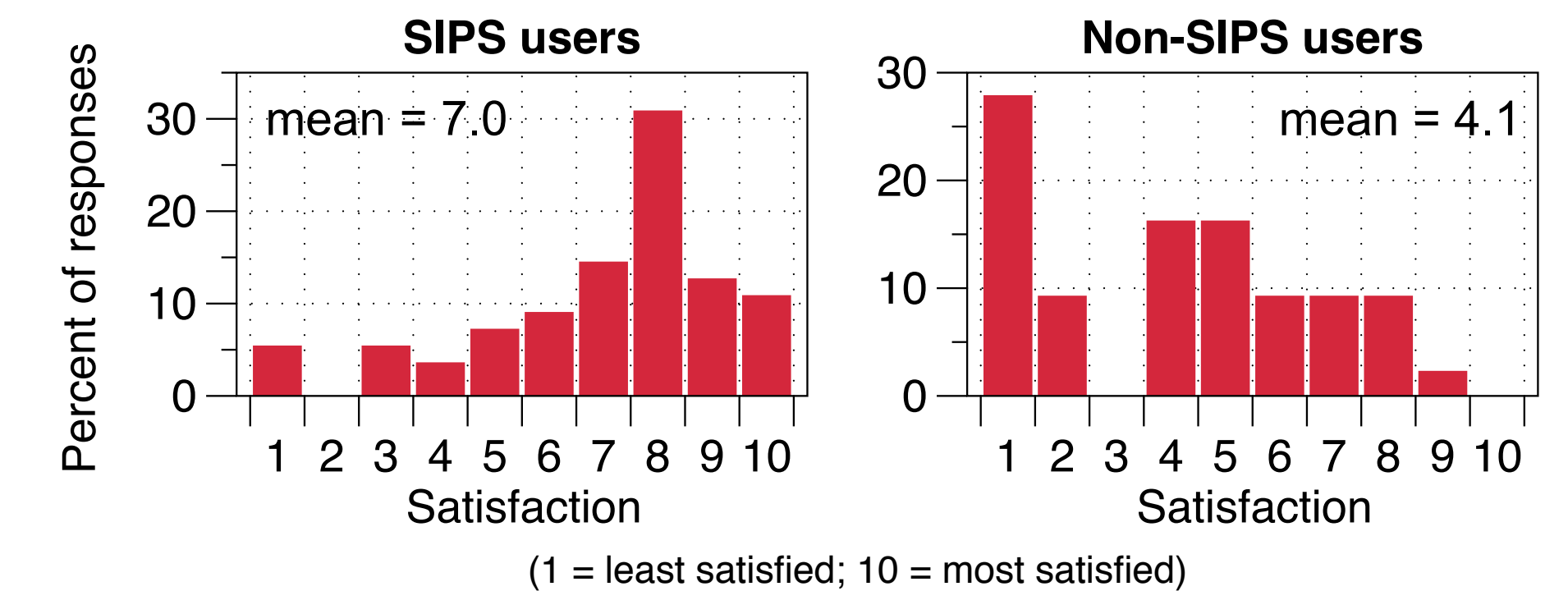


### Author affiliations:

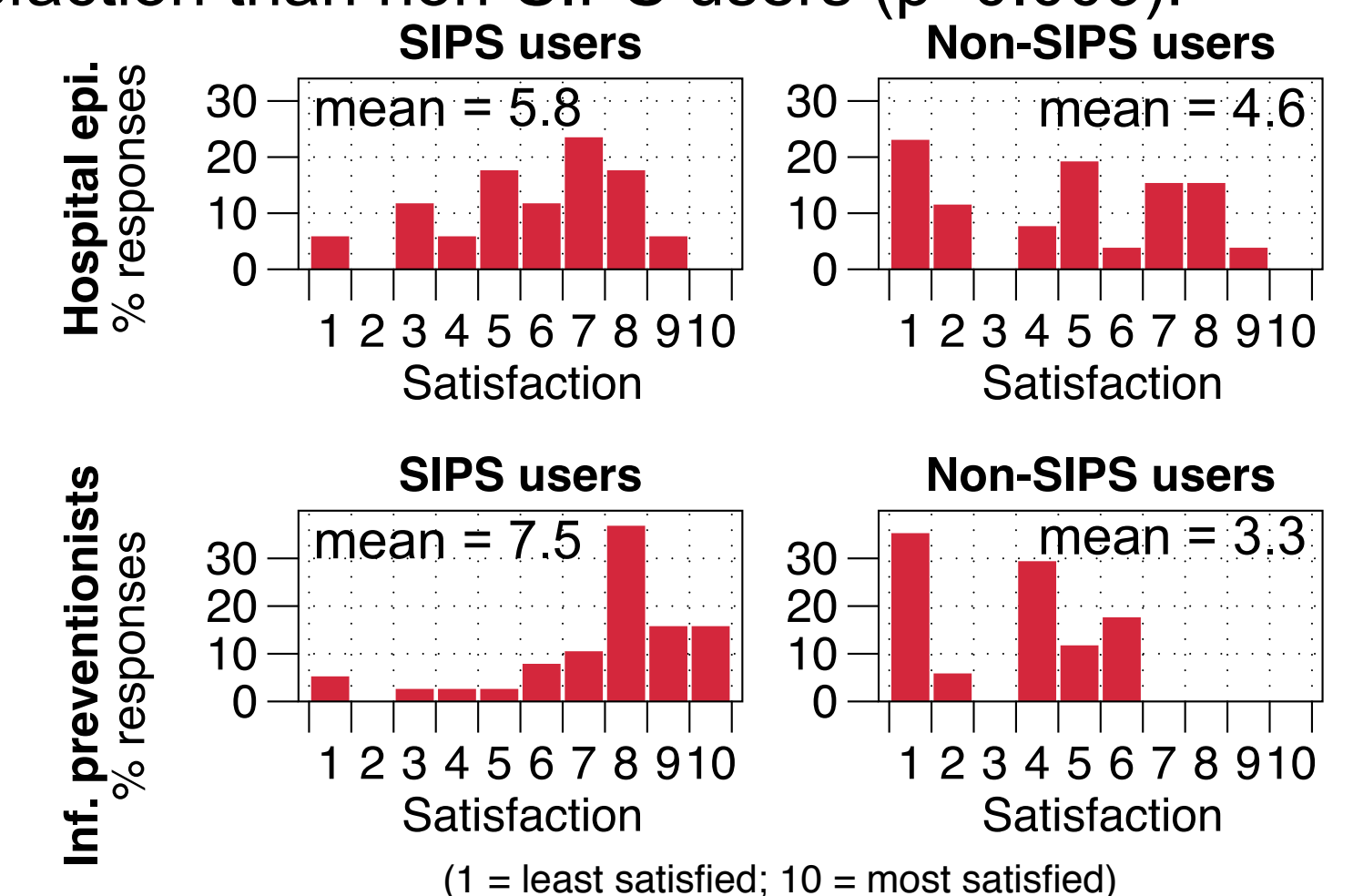
- Department of Epidemiology and Public Health, University of Maryland School of Medicine, Baltimore, MD
- VA Maryland Healthcare System, Baltimore, MD
- Department of Infection Control, NorthShore University HealthSystem, Evanston, IL
- Section of Infectious Diseases, Rush University Medical Center, Chicago, IL

## Results, cont.

- Supplemental infection prevention software (SIPS) users reported higher satisfaction with their software's infection prevention capabilities than non-SIPS users ( $p < 0.001$ ):



- Among SIPS users, infection preventionists indicated higher satisfaction than non-SIPS users ( $p = 0.003$ ):



## Conclusions

- Commercial supplemental infection control software (SIPS) appears to offer benefits over relying on EMR infection prevention capabilities alone.
- Infection preventionists reported higher satisfaction with SIPS than hospital epidemiologists.
- Further research is needed on the usage and effectiveness of SIPS.

### Author disclosures:

- MOW: Advisory board for IC Net Systems (paid position); Epic's Brain Trust for IC development (unpaid).
- No other disclosures.

### Contact:

Max Masnick  
max@umaryland.edu