Methods: From October 2017 to March 2018, surveys were provided to internal medicine (IM) teams during the first (pre) and last (post) week of a 1-month rotation. Surveys focused on the provider’s prescribing patterns, self-perception of infectious diseases knowledge, as well as provider’s awareness, perception of utility, ease of use of the AM-CDSS, and its impact on prescribing patterns. A retrospective chart review was conducted to compare the appropriateness, route and duration of AMs ordered and not ordered through the AM-CDSS.

Results: The AM-CDSS had a continued interval increase of usage during a 4-month period. A total of 125 surveys were collected (69 pre-AM-CDSS and 56 post-AM-CDSS). Eighty percent of respondents reported having used the AM-CDSS, and 78% reported wanting to continue to use the AM-CDSS. A total of 128 AM orders (AM-CDSS = 60) and non-AM-CDSS = 68 were reviewed for appropriateness. The most common indications for the orders were CAP (54.2%) and UTI (33.3%). AM-CDSS orders were more likely to be appropriate (93.7% vs. 83.3%, p<0.001) and include oral AMs (83.3% vs. 63.3%, p<0.001) than non-AM-CDSS orders. There was a non-significant shorter duration of therapy in the AM-CDSS group (7.5 ± 4.4, p=0.46).

Conclusion: The AM-CDSS was perceived as useful and easy to use and was associated with more appropriate AM use and more frequent selection of appropriate oral AMs.

ABSTRACT

Background: When used as an antimicrobial stewardship tool, Clinical Decision Support System (CDSS) have been associated with more appropriate antimicrobial (AM) use. This QI project aimed to determine the perception towards, acceptance and utilization of an AM-CDSS by internal medicine providers at the Michael E. DeBakey Veterans Affairs Medical Center (MEDPAMEC).

Methods: From October 2017 to March 2018, surveys were provided to internal medicine (IM) teams during the first (pre) and last (post) week of a 1-month rotation. Surveys focused on the provider’s prescribing patterns, self-perception of infectious diseases knowledge, as well as provider’s awareness, perception of utility, ease of use of the AM-CDSS, and its impact on prescribing patterns. A retrospective chart review was conducted to compare the appropriateness, route and duration of AMs ordered and not ordered through the AM-CDSS.

Results: The AM-CDSS had a continued interval increase of usage during a 4-month period. A total of 125 surveys were collected (69 pre-AM-CDSS and 56 post-AM-CDSS). Eighty percent of respondents reported having used the AM-CDSS, and 78% reported wanting to continue to use the AM-CDSS. A total of 128 AM orders (AM-CDSS = 60) and non-AM-CDSS = 68 were reviewed for appropriateness. The most common indications for the orders were CAP (54.2%) and UTI (33.3%). AM-CDSS orders were more likely to be appropriate (93.7% vs. 83.3%, p<0.001) and include oral AMs (83.3% vs. 63.3%, p<0.001) than non-AM-CDSS orders. There was a non-significant shorter duration of therapy in the AM-CDSS group (7.5 ± 4.4, p=0.46).

Conclusion: The AM-CDSS was perceived as useful and easy to use and was associated with more appropriate AM use and more frequent selection of appropriate oral AMs.

INTRODUCTION

- CDSS couples patient data with capabilities of computers to improve clinical decision quality. CDSS have been hypothesized as a means to improve quality, reduce costs, and decrease errors within healthcare.
- When used as an antimicrobial stewardship tool, use of CDSS has been associated with more appropriate antimicrobial use.
- CDSS utilization after its introduction depends on a variety of factors, including user’s perception on its utility and ease of use.
- This project aimed to determine the perception towards, acceptance and utilization of an AM-CDSS by IM providers.

METHODS

- From October 2017 to March 2018, ID pharmacists trained members of IM teams (medical students, medical residents and attending physicians) in the use of the AM-CDSS and provided surveys to be completed during the first (pre) and last (post) week of a 3-month IM rotation.
- Surveys focused on the provider’s prescribing patterns, self-perception of infectious diseases knowledge, as well as provider’s awareness, perception of utility, ease of use of the AM-CDSS, and its impact on prescribing patterns.
- From October 2017 to November 2017 only two IM teams were trained. At the conclusion of the pilot period, a retrospective chart review that compared the appropriateness, route and duration of AMs ordered and not ordered through the AM-CDSS was conducted.

RESULTS

Table 1: Survey Response

<table>
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<th>AM-CDSS use (%)</th>
<th>Non-AM-CDSS use (%)</th>
<th>p-value</th>
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</thead>
</table>
| Early awareness | Strongly agree | 50.8 (51.8%)
| Usefulness | Agree | 50.8 (51.8%)
| Acceptability | Neutral | 50.8 (51.8%)
| Improvement | Strongly disagree | 50.8 (51.8%)

Figure 1: Self-Reported Confidence in Prescribing AM for ID Syndromes

- The AM-CDSS was perceived as useful and easy to use.

- Use of the AM-CDSS was associated with more appropriate AM use and more frequent selection of appropriate oral AMs, both of which are desirable outcomes for AM interventions.

- When feasible, AS programs should consider including easily accessible AM-CDSS in their EMR as an additional tool to improve AM use.

CONCLUSIONS

Table 2: Results

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Figure 2: Comparison of Appropriate AM orders and Orally prescribed AM

- The AM-CDSS was perceived as useful and easy to use.

- Use of the AM-CDSS was associated with more appropriate AM use and more frequent selection of appropriate oral AMs, both of which are desirable outcomes for AM interventions.

- When feasible, AS programs should consider including easily accessible AM-CDSS in their EMR as an additional tool to improve AM use.

CONCLUSIONS

Figure 3: Duration of AM Therapy

- The AM-CDSS was perceived as useful and easy to use.

- Use of the AM-CDSS was associated with more appropriate AM use and more frequent selection of appropriate oral AMs, both of which are desirable outcomes for AM interventions.

- When feasible, AS programs should consider including easily accessible AM-CDSS in their EMR as an additional tool to improve AM use.