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An Analysis of Provider Attitudes Toward a Clinical Decision Support System for the Intrapartum Management of Group B Strep

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Intro/Background

Clinical decision support systems (CDSS) are tools that can be embedded within electronic health records (EHR) and aim to help clinicians make evidenced-based decisions, reduce waste, and improve patient safety. There are a number of ways to utilize CDSS, but its success is dependent on the end user as poor functionality and lack of approval will negatively affect its use. From August 2014 to July 2015, the labor and delivery floor at Lehigh Valley Health Network (LVHN) had implemented a CDSS within the EHR to help providers select the best intrapartum antibiotic as prophylaxis for Group B Strep (GBS) based on the 2010 revised Center for Disease Control guidelines. While there is an ongoing investigation about how well the CDS is performing, it may also be helpful to assess provider opinions on barriers to use of this tool.

Problem Statement

This investigation aims to determine provider attitudes toward the CDSS for the intrapartum antibiotic prophylaxis for GBS as well as determine potential ways to improve it with the recent implementation of a new EHR at this health network.

Methodology

A Web based survey was sent via an anonymous link to all eligible residents, physicians, and midwives (n=59) who work on the labor and delivery unit at LVHN. The survey collected information about ease of finding and use of the CDSS, helpfulness of the tool, demographic information of the respondents, as well as experience with the EHR. The survey was available for two weeks and was conducted 5 months after the CDSS was no longer available secondary to a change in EHR systems. As the purpose of the survey was for quality improvement purposes, the survey was not submitted for IRB approval. Given the small sample size, the survey was piloted for appropriateness and ease of read by one physician at the health network.

Results

The survey had a 37.3% response rate. The demographics of the respondents are included in table 1. The majority of respondents were aware of the CDSS (93%), felt that they had received adequate notification and/or training (66%), and knew how to find the tool in the EHR (83%) (figure 1). However, opinions of the necessity of the tool and whether it helped providers make better antibiotic choices were varied as evidenced in figure 2. Respondents thought the tool was easy to use (78%) but not necessarily an efficient use of time (55%). Despite this, 55% of respondents felt that the tool should be implemented into the new EHR, while 38% were undecided.

Characteristics	Resident		Physician		Midwife		Total	
	N	%	N	%	N	%	N	%
Gender								
Male	0	0	6	46	0	0	6	27
Female	7	100	7	54	2	100	16	73
Age								
25-30	7	100	0	0	0	0	6	27
31-40	0	0	3	23	0	0	4	18
41-50	0	0	7	54	0	0	7	32
51-60	0	0	3	23	1	50	4	18
61-70	0	0	0	0	1	50	1	5
Years in practice if not a resident								
1-5	NA	NA	1	8	0	0	1	7
6-10	NA	NA	6	46	0	0	6	40
11-20	NA	NA	4	31	1	50	5	33
21 or more	NA	NA	2	25	1	50	3	20
Prior use of any EMR other than CPN*								
Yes	4	57	11	85	2	100	17	77
No	3	43	2	15	0	0	5	23
Years of experience with CPN								
Less than 1	1	14	0	0	0	0	1	5
1	1	14	0	0	0	0	1	5
2	2	29	0	0	0	0	2	9
3	2	29	1	8	0	0	3	14
4	1	14	0	0	0	0	1	5
5 or more	0	0	12	92	2	100	14	64

* Prior to implementation of the new electronic medical record in August 2015.

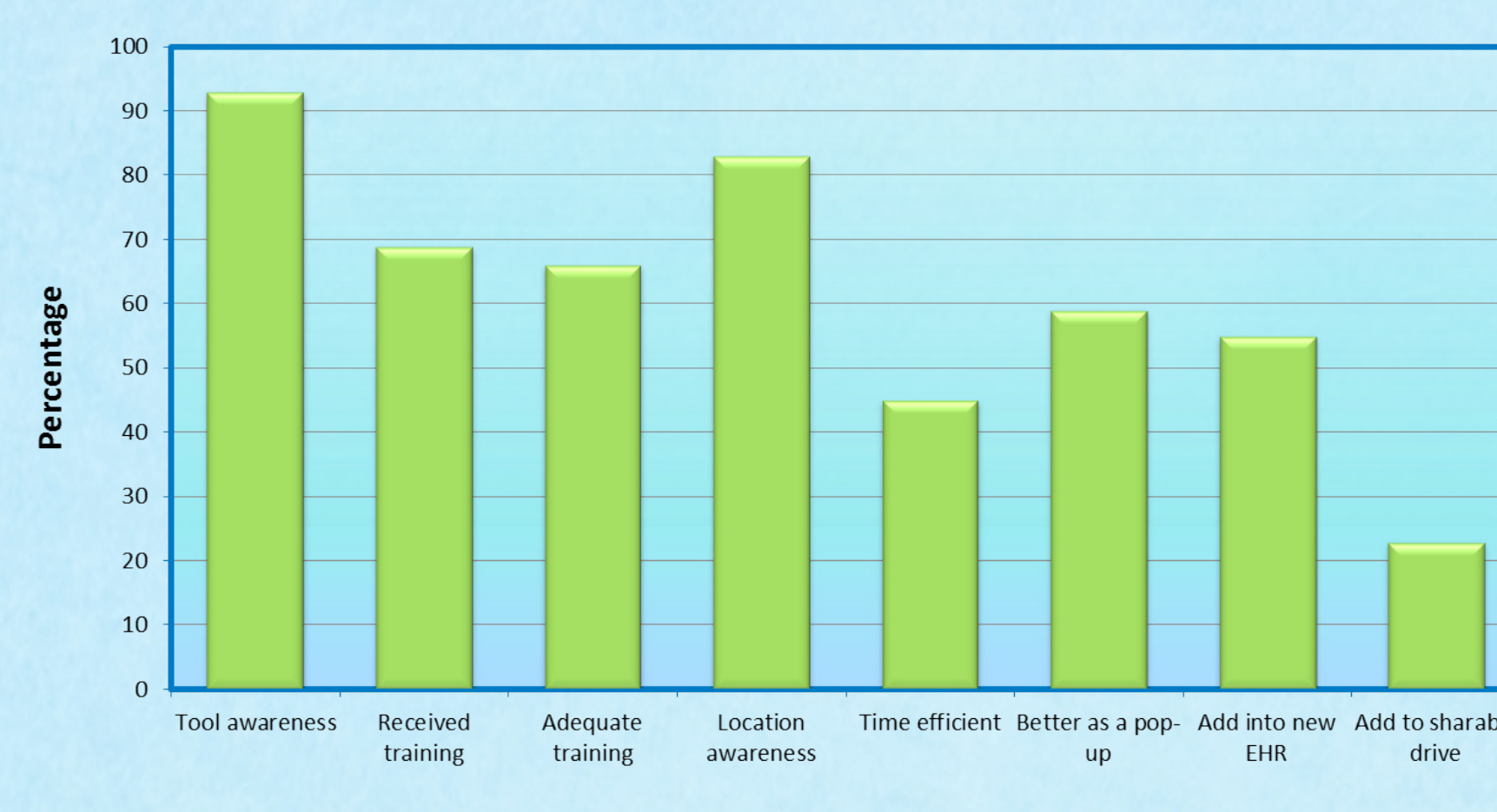


Figure 1: Percentage of yes responses to general awareness and potential improvement questions. Note: the CDSS was only available as a clickable tool and not as a pop-up.

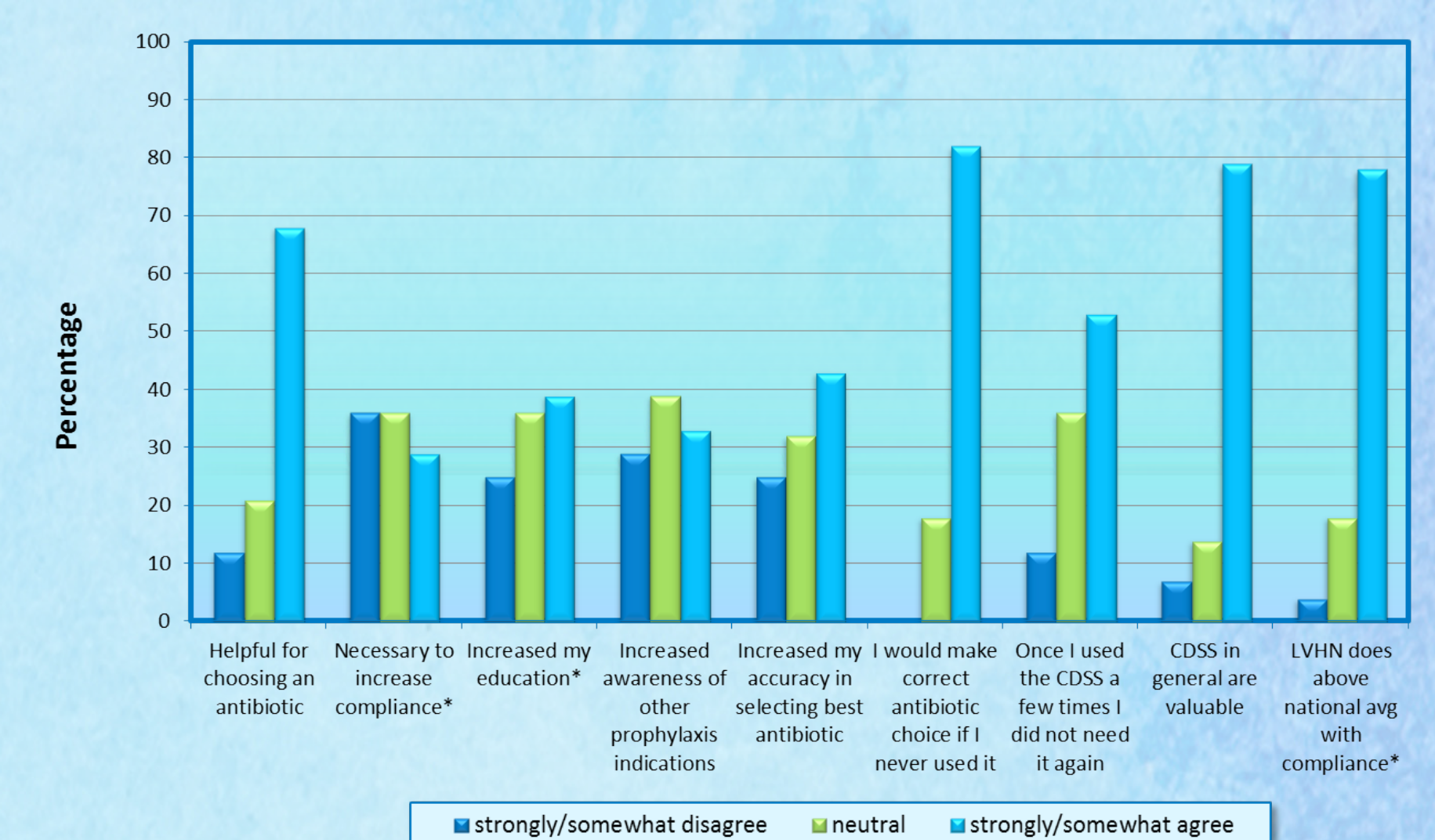


Figure 2: Percentage of respondents that agreed, disagreed or felt neutral to questions related to the goals of the CDSS. * relates to the CDC guidelines of GBS prophylaxis.

Conclusions and Future Implications

With some improvements in functionality and continued provider input, the CDSS for GBS antibiotic prophylaxis can be a beneficial asset to help prevent neonatal sepsis due to GBS. Further studies assessing how well providers at LVHN comply with the CDC guidelines may help strengthen support for the use of this CDSS.

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