Providers' Attitudes to Proposed Changes in the CCHD Screening Algorithm

Undergraduate Research Scholars

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INTRODUCTION

Since 2013, Screening for Critical Congenital Heart Disease (CCHD) has been the standard of care, using an algorithm developed in Sweden. However, as this algorithm is complex and easily misinterpreted. In summer 2020 a panel of experts proposed a more simplified algorithm. As this strategy has not been tested, the American Academy of Pediatrics (AAP) has not endorsed this algorithm.

METHODS

We sent an anonymous web-based survey regarding the current and proposed CCHD screening algorithms to the members of the American AAP Section on Cardiology and Cardiac Surgery, the Pediheart online community, the Wisconsin AAP, the Wisconsin Guild of Midwives, the Association of Women's Health, Obstetric and Neonatal Nurses as well as the Wisconsin Association for Perinatal Care.

The proposed changes:

1. **All saturations ≥ 95%**
2. **Only two chances to pass**

Although these changes would simplify the CCHD screening algorithm, it would come at a cost of a slightly higher false positive rate. We asked if the proposed changes should be implemented and what increase in the false positive rate could be tolerated.

RESULTS

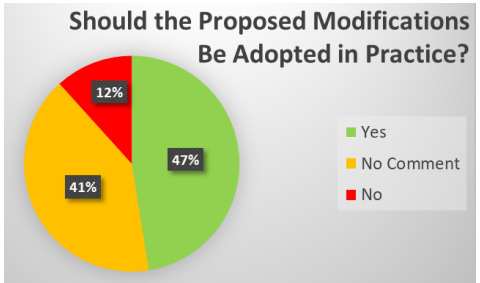
Table 1 Survey Respondents

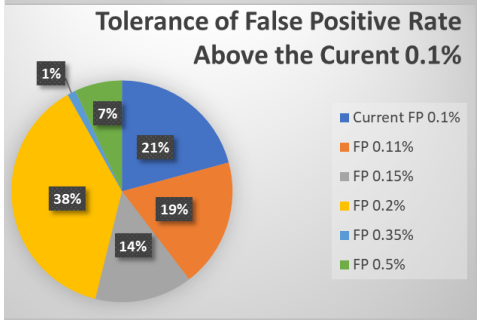
Nursing	Pediatric Cardiology	Primary Care	Midwifery	Neonatology	Other	Total
111	104	58	20	17	25	335

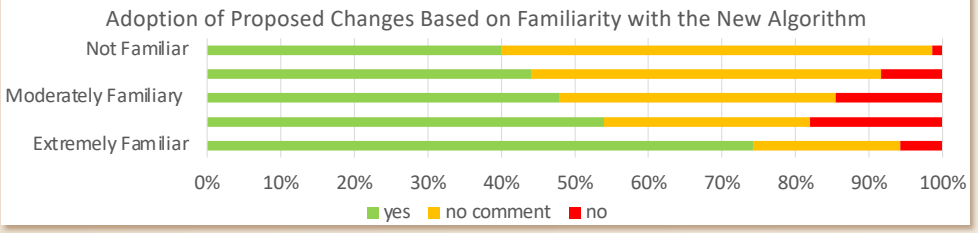
87.7% were somewhat or extremely satisfied with the existing protocol.

Factors Influenceing Willingness to Adopt the Proposed Changes	
Increasing Familiarity with Proposed Changes	P = 0.001
Field of Practice	NS
Years of Experience	NS
Increasing Familiarity with Existing Protocol	NS

Factors Influencing Willingness to Accept a Higher False Positive Rate	
Newborn Echocardiography on Site	P < 0.001
Patient Transfer for Evaluation Not Needed	P < 0.001
Respondent Personally Performs CCHD Screening	P < 0.001
Field of Practice	NS
Years of Experience	NS







CONCLUSIONS

Survey respondents were generally satisfied with the existing CCHD screening protocol but many felt that the proposed protocol modifications should be adopted into clinical practice.

Those most familiar with the proposed changes were the most likely to support these changes.

Although many were willing to tolerate an increased false positive rate in CCHD screening, those providers who could not complete the assessment of a baby who failed the CCHD at the birth site had the lowest tolerance for an increased false positive rate.

The respondents' field of practice and years of experience were not significantly significant in regard to their recommendations to adopt the propose modifications or their tolerance of increased false positives.

Acknowledgements

We would like to thank all respondents and Vivian Thorne at the AAP.

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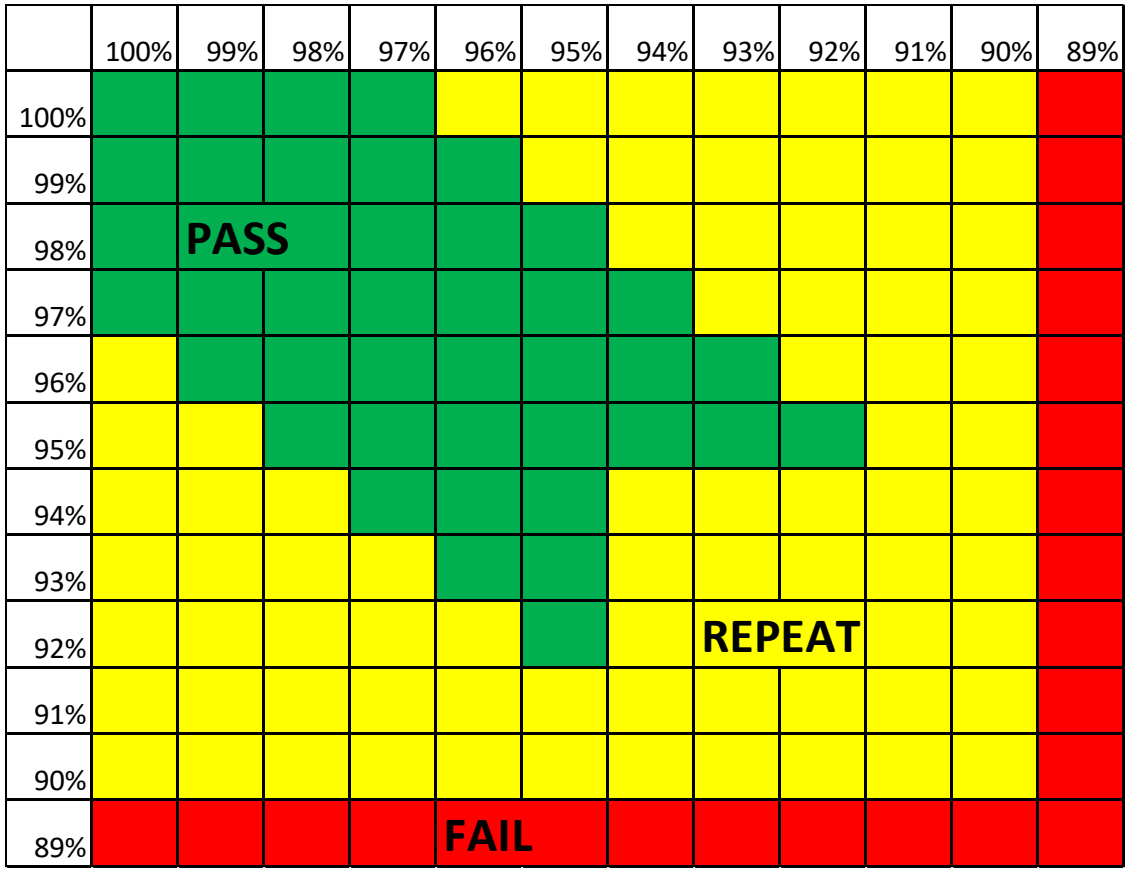
- **Regarding the Existing CCHD screening algorithm:**
- **92.5%** felt the algorithm was extremely or somewhat easy to perform.
- **90.4%** felt the algorithm was extremely or somewhat easy to interpret.
- **87.7%** were extremely or somewhat satisfied with the existing CCHD screening strategy.



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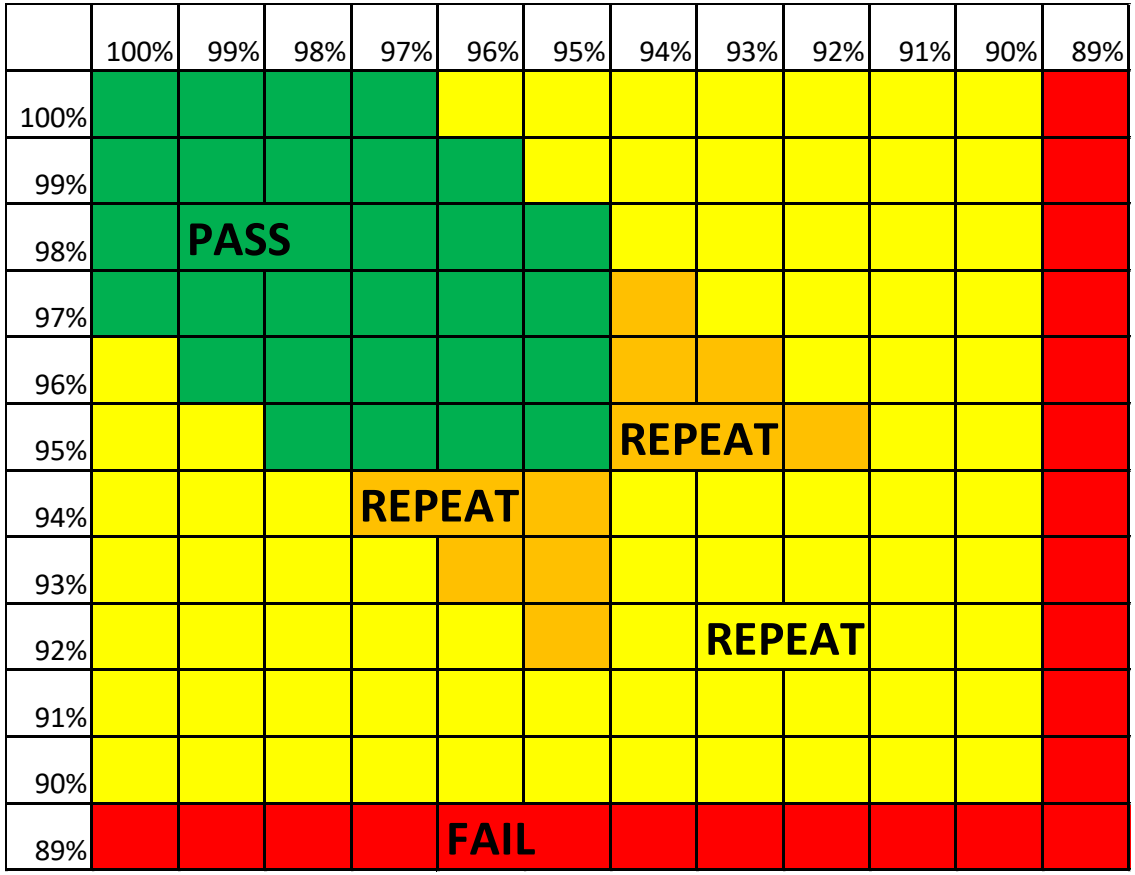
- **Regarding the Proposed CCHD screening algorithm:**
- **53.7%** were moderately to extremely familiar with the proposed algorithm.
- Those most familiar with the proposed algorithm were the most likely to endorse its use.



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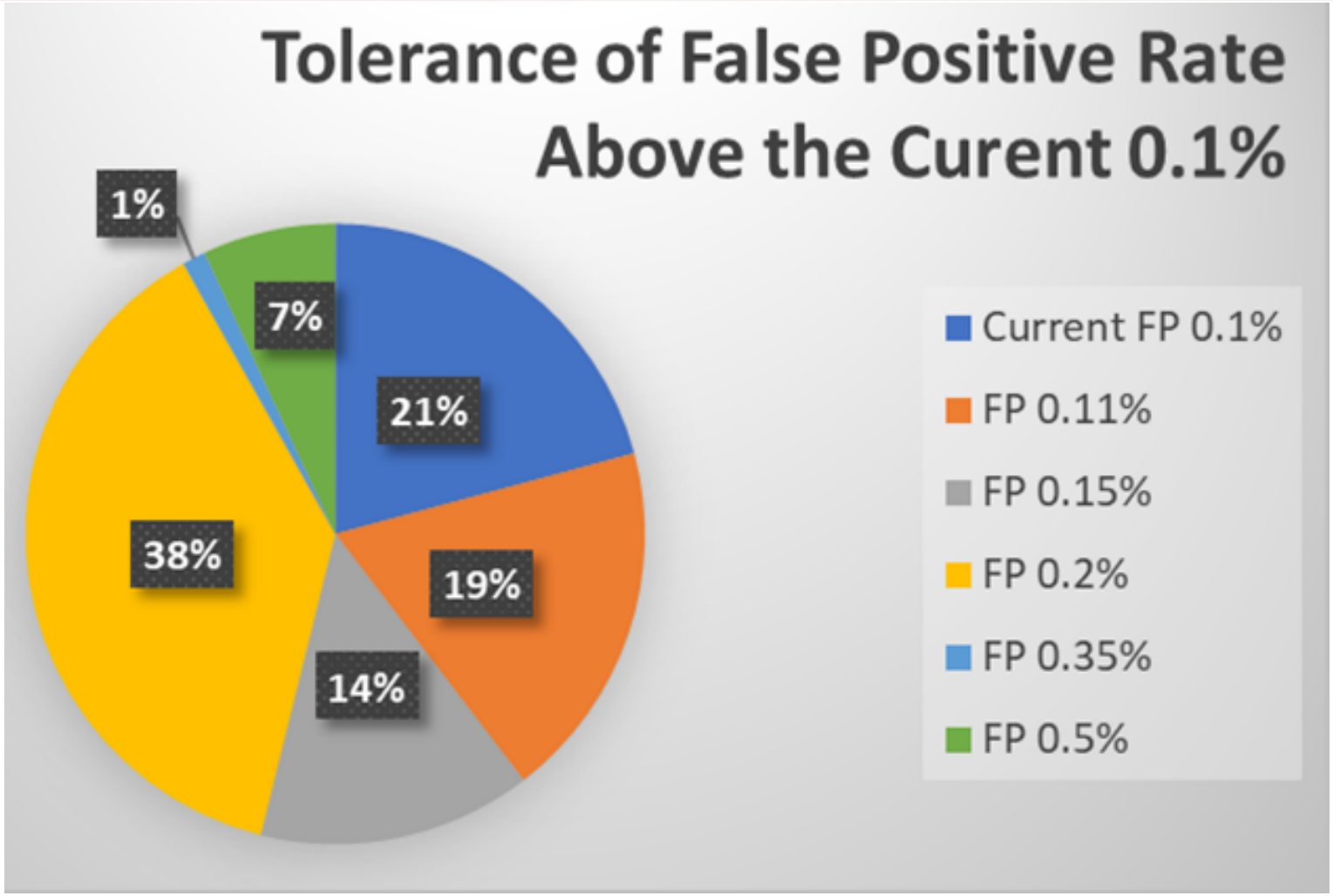
Tolerance of False Positive Rate Above the Curent 0.1%



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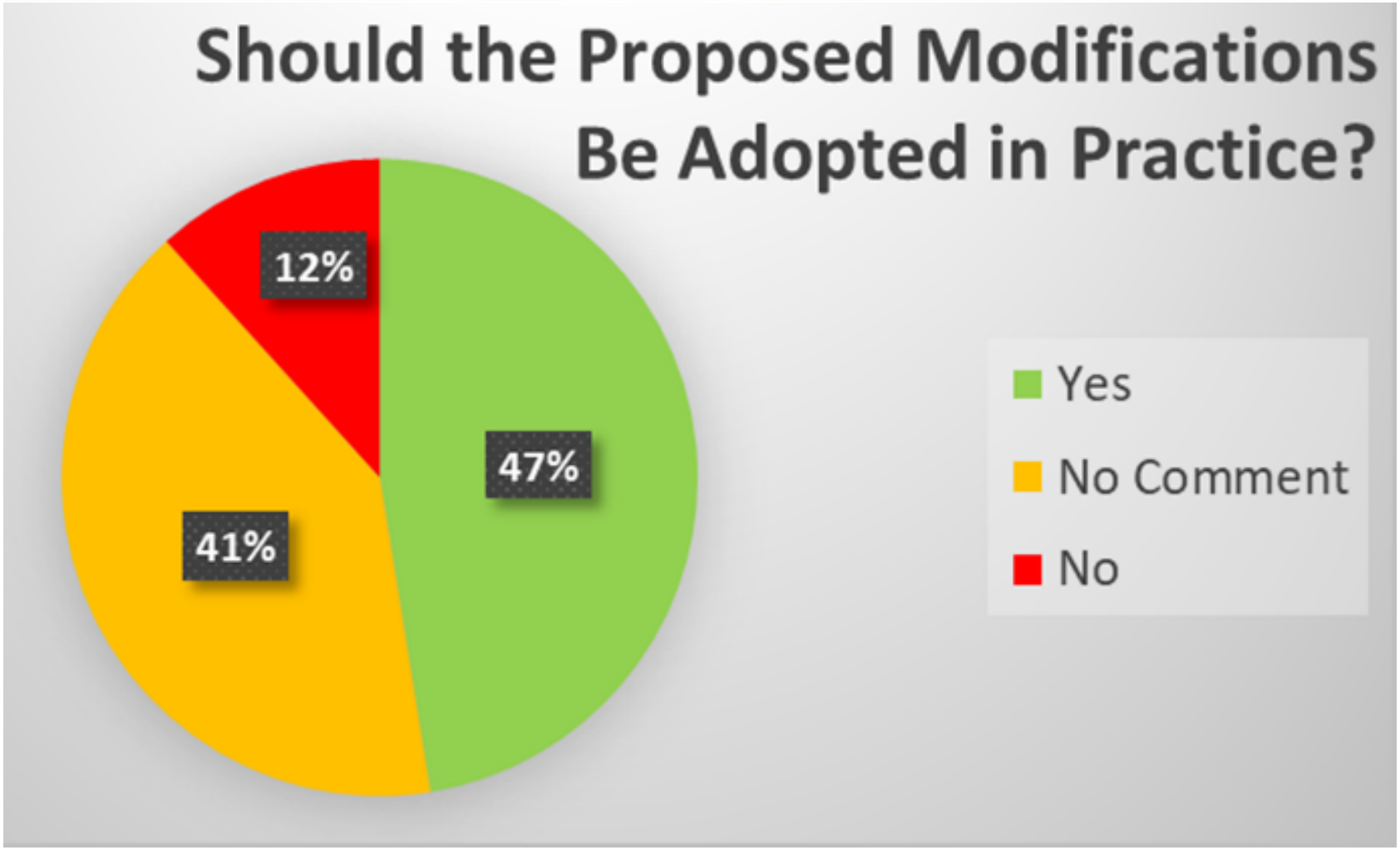

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- **Conclusions:**
  - The current CCHD screening algorithm is generally well received.
  - Many providers would tolerate the higher false positive rate that might come with the proposed changes in the algorithm.
  - Those most familiar with the proposed changes are the most likely to support them.
  - The proposed changes are generally viewed favorably although support to change the algorithm is not overwhelming.