

Utilization of an Innovative Evidence-Based Electronic Medical Software in Colombia

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BACKGROUND

- Pediatric Emergency Medicine Software (PEMSoft) is an evidence-based, point-of-care software created to support clinical practice in high-income countries.
- The software is written in English and is updated continuously.
- EBSCO Health, owner of PEMSof, donates the software to KidsCareEverywhere (KCE) a non-profit organization that has distributed the program in 18 low-income countries.
- Several studies have shown PEMSof to be highly effective in supporting physicians in low-income sites on three continents.
- The PEMSof mobile app resides on the native memory of a smart phone or tablet. The PEMSof web platform is designed for desktop or laptop computers.
- There is no literature on the utilization or efficacy of medical mobile apps among Latin American physicians.
- Colombia is a Latin American country with major disparities in healthcare access.
- PEMSof will assist Colombian physicians in providing better care for sick children.

METHODS

- The KCE team traveled to Colombia in June 2015 and donated PEMSof web and mobile software and trained medical providers.
- Physicians, medical students and other medical staff at four different academic, public and private hospitals from Cali, Bogotá and Popayán received PEMSof.
- Trainees registered through an online pre-course Google form survey.
- Trainees were asked about medical training, comfort with technology, English proficiency, and access to and use of smartphones and web-based medical software.
- Each trainee attended a 90 minute session.
- A follow-up survey measuring the utilization and perceived efficacy of PEMSof was sent to all trained providers one month later.

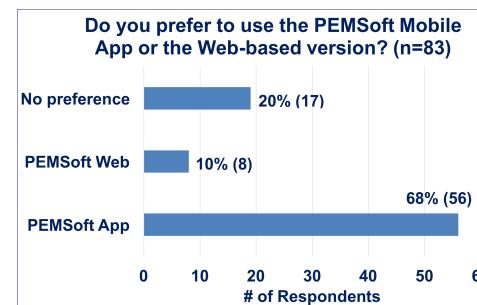
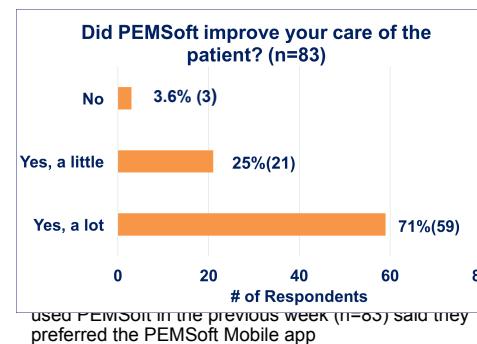


- received the PEMSof software and the formal training.
- In the pre-course survey, 60% of subjects (n=227) described themselves as "very comfortable" with technology.
- Only 20% of participants were "very uncomfortable" with technology.
- 74% described their comfort level with written English as "average" or greater
- 65% described their comfort level with verbal/spoken English as "average" or greater
- 93 (41%) of trainees responded to the one month follow-up survey.



RESULTS

- 89% of respondents (83) reported using PEMSof Mobile at least 1 or more days in the previous week.
- 89% of respondents (83) said they did not face any barriers in using PEMSof Mobile inside the hospital.
- Of those who used PEMSof in the previous week, (n=83), 100% said it was easy to find the answer to their clinical question.
- Of those who used PEMSof in the previous week (n=83), 96% said the software improved pediatric clinical care.
- 71% said PEMSof improved clinical care by "a lot".



CONCLUSIONS

- Spanish-speaking Colombian medical professionals believe the PEMSof software, written in English, is easy to use and improved their clinical care of children.
- The majority of the clinicians immediately adopted PEMSof into their practice and into hospital workflow, in place of conventional information sources, such as textbooks, cards and hospital guidelines.
- Few barriers were reported in the hospital use of PEMSof.
- None of the medical providers trained identified English language as a barrier.
- Most providers preferred the mobile app over the web version of PEMSof.
- The vast benefits of this software reference tool on quality of pediatric emergency care are potentially transformational.
- The mobile app offers a familiar, highly scalable, and extremely inexpensive technology for improving pediatric care in low-income countries.
- Additional studies are warranted to assess the long-term impact and sustainability of this intervention over time.

LIMITATIONS

- Not all trainees responded to the follow-up survey, but the response rate of 41% is higher than expected in a global health project.
- Ongoing utilization rate and perceived efficacy after one-month is unknown.
- Study sites in Colombia were urban hospitals, and the results may not be generalizable to other populations, especially in rural areas where English proficiency may be less.

ACKNOWLEDGEMENTS

- EBSCO Health (Ipswich, MA) gifted the software to KidsCareEverywhere, a California nonprofit organization, who then donated PEMSof to Colombian medical providers for this project.