Need Help Navigating the Hospital Maze to a Non-operating Room Anesthesia Site? There's an App for That

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Background/Introduction: In-hospital navigation is a known challenge not only for patients and visitors, but also for new hospital employees. Various programs attempt to optimize in-hospital navigation for patients and visitors. These range from simple individual patient escorts to the complex wayfinding systems with 3-D maps registered to multiple preinstalled beacons. To our knowledge, no formal programs exist specific for new hospital employees. Anesthesia personnel involved in non-operating room anesthesia (NORA) must navigate through the hospital maze often traversing multiple floors. In addition to anesthesia attendings, CRNAs and support staff, there is an annual need not only for primary orientation of new anesthesia residents to these locations, but reorientation given the complexity of navigation. Often, this requires another senior anesthesia provider for personal escort who would otherwise be occupied.

Methods/Results: To solve this navigation problem, we built a simple in-hospital navigation application for anesthesia providers going to and from NORA sites. The application contains a repository of photographic step-by-step navigational directions (Fig 1) for the various NORA sites at the Department of Anesthesiology & Perioperative Medicine, Penn State Health Milton S. Hershey Medical Center. The web-app is hosted on Google sites (https://sites.google.com/view/psu-hmc-anesthesia-asa/home) and is optimized for cell-phone use, eliminating the need of downloading, ensuring platform compatibility across cell phone makes and models, and provides version control.

The navigation to each NORA site begins from the Main OR board, where NORA cases are assigned and breaks for providers are managed. A paper flyer is displayed at the main OR board consisting of a description of the web-application, a QR code and shortened URL to reach the website. The NORA site application was launched on October 2019, has been accessed 1-2 times per day since launch and has been met with positive reviews throughout the anesthesiology department at Penn State University Medical Center.

Conclusion: In summary, we present the design and implementation of a simple turn-by-turn in-hospital navigation application that is novel due to its utility for anesthesia providers. Future plans include expanding locations to include guidance to emergent airways and codes, and the development of a more interactive interface registering each set of directions to a hospital map allowing multiple starting points. We hope that the design of this navigation app can serve as a framework for other institutions to create a simple solution for in-hospital navigation for healthcare providers.

Figure 1: Screen-shots of the app, optimized for cell phone use. Left: homepage of the app. Right: In red – Menu for additional site navigation, access to the flyer and submission for questions or comments, In blue – Examples of the navigation interface.

References:
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