

# Award: Reed Williams Award for Excellence in Innovation in Surgical Education

## Basic Information

Your name

David Velez

Your title:

MD, PGY-5 Surgery Resident

Your institution:

University of North Dakota

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Your innovation:

The Operative Review of Surgery

When did you implement this innovation (what year)?

2021

## Short Essays

What is the problem that is being addressed by this innovation? Why is the innovation important? How does the innovation build on previously existing knowledge or technology? What is the intended audience for this innovation?

The problem being addressed and importance of the innovation is rapid access to no-cost, high-quality, surgery-dedicated educational material. The program builds on and takes inspiration from many other successful programs; including Behind the Knife, SCORE, OrthoBullets, UpToDate, Life in the Fastlane, etc. The primary audience is surgery residents but has been used by other residents, medical students, practicing physicians and different people throughout the world.

Please describe the innovation and how it was developed and implemented. What background work, including perhaps a needs assessment, was done? How were all relevant stakeholders involved?

The innovation is a program called The Operative Review of Surgery (The O.R.). It is a non-profit online educational resource dedicated to the practice of surgery. It is committed to providing the most effective, up-to-date and comprehensive material for residents, students and practicing physicians. It is completely free and is intended for the sole altruistic purpose of providing access to education and assistance to trainees in need of help. It includes three basic sections. (1) 'The Review of Surgery' contains over 600 topics related to the field of surgery in bullet point format. The content covers almost all areas of surgery from PNETs to Trauma, and everything in between. The format allows for rapid-access to the pathophysiology, presentation, diagnosis and treatment of both the common and uncommon entities encountered in surgery. It is used by students and residents to rapidly look up a topic while on rounds, while preparing for cases, reviewing for M&M or just for general studying. (2) 'On Call' provides rapid guidance for the most common pages and problems encountered when managing the surgical patient. It provides help in the management of common problems such as chest pain, nausea, agitation, etc. (3) 'ABSITE/Boards' provides a review for residents in preparing for the ABSITE and Board examinations. It reviews the exams and available resources. Recommendations are given to guide residents in how to most effectively prepare for the exam.

The program started when, as a medical student, David purchased one of the most common ABSITE review books. The very first section he reviewed, looking at blood thinners and their mechanism of action, was blatantly wrong. He then began making his own notes to study from. He updated the pages daily as he studied for ABSITE, prepared for conferences, and read through textbooks. Over the course of the next 3 years the project grew to over 600 topics with over 2,000 pages. As pages were shared with other residents, he was encouraged to make something of the project. Ultimately the decision was made to transform the pages into a website. Opposed to traditional textbooks, it would allow rapid access via the internet and not require carrying a bulky textbook. It would be free so that everyone would have open access to everything, no matter their financial situation. The format would also allow for instantaneous corrections and updates. Over the next year David taught himself HTML/CSS coding to develop the site. It officially launched one year ago. It is still being updated daily. Over time, other residents have been able to contribute and join the mission as it evolves.

The O.R. has become a passion project that David plans to work on and grow throughout his career. He eventually plans to take on more residents to grow specific sections as well as accept pages through a peer-reviewed process.

Please describe the research design for measuring the effectiveness of the innovation.

Effectiveness of the innovation has been measured by tracking online usage through Google Analytics. There is also rapid response to all email inquiries. Any corrections or updates are made within a few days. Similarly, both changes to format and additional sections have been created based on user feedback. The project has received numerous letters of support from users across the country.

What were the results of the innovation? What was the impact?

As of September 2022, the program has active users in all of the United States. Although 88% of users are in the United States, it has been used in 85 countries throughout the globe. Outside of the U.S., the most common countries are the United Kingdom, China, and Canada. It has seen over 5,000 different users with over 60,000 page views. The most commonly viewed subjects have been ABSITE review, general abdomen, trauma, and on call topics.

What are the main strengths and weaknesses of the innovation?

There are numerous strengths of the program. It is available to anyone at no cost and does not require any sign up or release of personal information. It provides rapid access with material available at the click of a button, without having to carry around bulky textbooks. Information is continually being added and can be updated instantly when needed.

Information is given in bullet-point format to facilitate a rapid-review of high-yield material. At the same time, it is comprehensive and has an enormous library of content. The primary weakness would be for those that prefer the classic physical textbook written in long summary paragraph format - although this is outside of the goal for this program.

How have you disseminated the results of this innovation?

The results of the innovation, specifically, have not been disseminated. The project, however, is available to anyone and dissemination of the project itself is spread mostly by word-of-mouth from active users.

## **File Uploads:**

Please upload a letter of support from a resident, faculty, education administrator, or anyone else with knowledge of the innovation and its impact.

- [Letters-of-Support.pdf](#)