

Chao-Wen Chen, MD & MS
Trauma and Surgical Critical Care Service
Department of Surgery
Kaohsiung Medical University
100 Shin Chuan 1st Road
Kaohsiung 807, Taiwan
Tel: 886-7-3121101 ext 7579
Fax: 886-7-3208255
Email: kmutrauma@gmail.com



Dear Dr. Ko:

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It is my great honor to be one of the international scholars of the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) this year. I would like to give my deepest thanks to the American College of Surgeon for providing me such an opportunity to explore the current trend of quality assurance.

Taiwan has offered universal health coverage to our island's 23 million citizens since 1995. This is a public program run by the government based on a single-payer model. Care providers were reimbursed based on a "fee- for-service" basis. Quality improvement based on the claim data has encountered lots of obstacles in the past years. I believe the room for quality improvement warrants more insightful and diverse exploration from other healthcare systems. As globalization increases, so does the prompt dissemination of research insights as well as emerging better solutions for dealing with old problems. That's also the main reason I seek for the opportunity of international scholarship of ACS-NSQIP. The perspective of quality improvement based on cultural competence is mainly integrated by the understanding each other's attitudes and building of strength of each other's knowledge. Prior to my visiting program of ACS-NSQIP, I look forward to learning the entities regarding the NSQIP roadmap, the extent of participation of different stakeholders in quality improvement, the future of interoperability with other surgical quality programs, the incentive of best practice sharing, and the collective action of continuous quality improvement in

your surgical ecosystem. After my visiting program, I think that the fabulous experience retrieved from NSQIP on continuous quality improvement has fulfilled all of my expectations relevant to accelerating science-to action in surgery as well as expanded my power of envisioning the future of quality improvement in our surgical society.

During my visit to the US, I have well nourished by lots of salutary lessons about the excellence and innovation focusing on continuous quality improvement of surgical care. The first part of my visit is to explore the magnificent scope of surgical quality improvement in the Massachusetts General Hospital (MGH). As the third oldest general hospital in the United States, MGH has an excellent tradition relevant to surgical quality improvement and indeed harbors a well functioned and organized ecosystem in reality. Dr. Matthew Hutter is the host of my visiting program at MGH. He is a visionary, charming and approachable mentor. He kindly introduced the renowned Codman Center for Clinical Effectiveness in Surgery, and also showed me the history of their efforts on delivering the safest, highest value patient care through innovative research and education. At first, Dr. Zhi Fong and Dr. Sahael Stapleton guided me to explore the institutional effort on promoting the efficiency of the operation room as well as their hall of fame of surgical excellence. I met another quality experts including Dr. Dave Shahian and Dr. George C. Velmahos. Dr. Shahian shared his experience on the change management of improving quality care and analyzed the different QI perspectives based on NSQIP and STS registry. Dr. Velmahos invited me to join their trauma M&M. I found that their multidisciplinary discussion regarding quality improvement was supported by evidence-based medicine and clinical buy-in. This kind of collective action relevant to quality assurance is pretty effective and feasible. In addition, Dr. Hutter also arranged a series of interview with their QI experts, including Executive Director of Organizational

Effectiveness, Clinical Review Nurses for ACS NSQIP and MBSAQIP. From the interview, I found there were strong infrastructures to support their delivering quality care and maintaining sustainability. I also noticed they introduced excellent business intelligence software to curate various kinds of dashboards to facilitate discovery of insightful information. They also showed me the quarterly report of key quality and safety indicators which incorporated various kinds of quality metrics from hand hygiene surveillance to risk-adjusted outcomes. The reports aim at assisting senior leadership in tracking high stakes quality and safety metrics. I am very impressed by their collective efforts on quality improvement, especially their innovative and networked governance to create speedy synergies across different competencies and expertise to deal with complex problems.

The second stop of my learning tour is Mayo Clinic in Rochester. Dr. Robert Cima hosting my visiting program. He is a generous gentleman loving to share his visionary viewpoints and experience on quality improvement in surgery. He shared what he initially achieved the advance of SSI reduction in colorectal surgery and then disseminated the culture to Gynecology division with Dr. Sean C. Dowdy. In the meantime, I was invited to observe the patient-centered design of their institution and the visionary plan of "OR of the future". I also have an in-depth interview with Dr. Henry Schiller, to discuss the state of art of quality improvement in trauma and acute care surgery, and queried about the details as to TQIP program with their program manager. They also introduce their review tool for trauma performance improvement and other efforts on optimizing manpower allocation for avoiding medical errors. Dr. Elizabeth B Habermann, a surgical outcome research expert good at data analysis and methodology, shared her viewpoints and experience about leveraging the data to generate the positive impact on streamlining and modernizing surgical practice. Dr. Mohamad Bydon, the ACS NSQIP Surgeon Champion provide

me the solid advice relevant to utilizing data in quality improvement and repeatedly notify me that data can be used for good or for evil. He suggested me not to weaponize the QI data. After the intense program incorporating with many interviews and interaction with various experts, I tried to chat with the auxiliary staff not listed on my meeting schedule to explore more perspectives on quality improvement. To my surprise, I found that almost all personnel attributed their success in providing the high quality of care to the institutional value regarding "the needs of the patient come first". They repeatedly highlighted that the crucial part of their success is the mutual support of leadership and teamwork across different domains. Based on my observation, I believed the culture of continuous quality improvement has been a kind of essential elements in the ecosystem of surgical service in Mayo clinic.

After the on-site visits of these fabulous institutions, I went to Orlando attending the 2018 Quality and Safety Conference. It's a great opportunity for fostering my panoramic views on the scope of quality programs of ACS. Prior to the main theme of Quality and Safety conference, I joined the pre-conference workshop on QI methodology and enjoyed the lectures full of accessible wisdom and vivid experiences. Meanwhile, in addition to quality programs, I also probed the extent and depth of the scope of ACS from the on-site concierge service. For example, as an instructor of ATLS, I also noticed there were other trauma education programs tailored for the rural setting, disaster response or advanced surgical skills. On the other hand, I spent some time on surgeon specific registry and investigated the fundamental structure of the dataset with the assistance of ACS staff. As the rising trend of digital knowledge management, I think it might be promising for surgeons' self-assessment of performance in the transboundary world. Moreover, I met Dr. Mark E. Cohen and Dr. Yaoming Liu. They helped me to solve some questions regarding the analytic methods of institutional benchmarking and 8-day cycle. In the

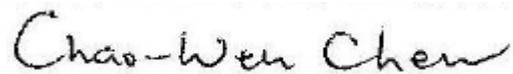
following days, I immersed myself in plenty of power-capsule lectures including nuts and bolts, methodology, review, overview, or latest proceeding of various domains. I found lots of smart ideas and precious experiences retrieved from solid data. There are great intellectual assets glittering in various kind of best practice sharing. The major problem for me was the limited time for fulfilling my various interests in the diverse sessions.

Although I didn't have enough time to go around, I still captured much insightful information in the conference, and also exchanged many ideas with different quality improvement professionals and domain experts. As a trauma surgeon, I am glad to meet two extraordinary experts who have ever visited Taiwan, Dr. Avery Nathens and Dr. Raul Coimbra in the session relevant to trauma or acute care surgery. They introduced many feasible models to redesign the roles, relationships and governance structures for continuous quality improvement. In the overview session, I learned the latest updated proceeding about ACS trauma program, children surgery verification program as well as the patent-reported outcome. In the statistic session, I enjoyed absorbing the new nutrients of adjusted percentiles, semiannual report and model drill down. Another big gain from the conference is that Rolf Benirschke's great comeback from severe illness also inspired me pretty much. After viewing the hundreds of scientific posters, there were some pearls selected as the competition winners. Their presentation were very compact and full of insights. There is no doubt that my pursuing the advance of quality improvement through the scientific knowledge and best practice sharing in the conference is a kind of rich and rewarding journey.

Finally and once again, I have to express my sincere appreciation regarding your kind assistance relevant to my visit. The overall gain from my visit is fruitful and far beyond my original expectation. Although the healthcare system is different between

Taiwan and the United States, collective action for improving surgical quality worldwide should be achieved through interconnected ecosystem, government, and civil society. Based on the respect of cultural competence, I will try to introduce the vivid success of NSQIP I've experienced in the United States to our people. Your hard work, robust infrastructure, dedication and consistent collaboration for the enhancement of surgical quality would be a great model guiding the renovation of our quality improvement for surgical patients. I also look forward to inviting you to visit our country to expand the realm of NSQIP in the transboundary world.

Sincerely Yours

A handwritten signature in black ink that reads "Chao-Wen Chen". The signature is written in a cursive, flowing style.

Chao-Wen Chen, MD & MS

Appendix A: Photographs



Figure 1. Dr. Hutter and me at the entrance of Codman Center for Clinical Effectiveness in Surgery.

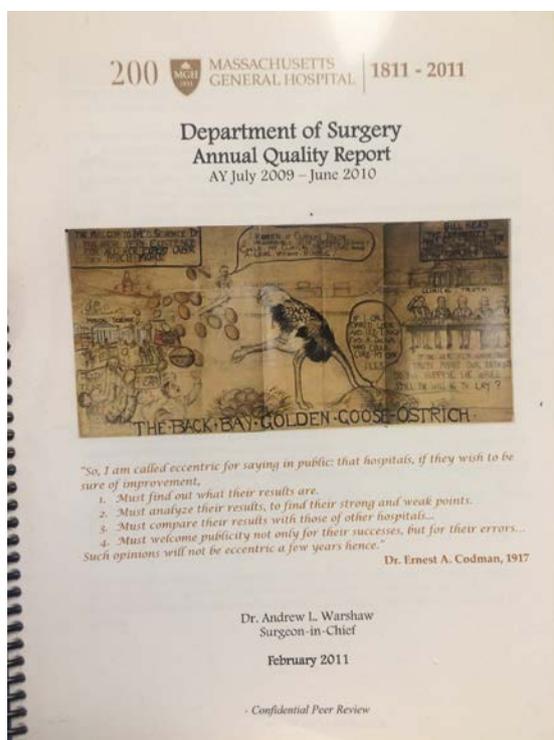


Figure 2. The annual quality report with the renown drawing by Dr. Codman.



Figure 3. Dr. Cima and me pictured in his office.



Figure 4. Dr. Ko and me pictured in the Quality and Safety Conference.



Figure 5. The various kind of trauma programs displayed in on-site concierge service.



Figure 6. Dr. Nathens and me pictured in the Quality and Safety Conference.