Dr. Teodor Grantcharov: Bringing the "Black Box" to Stanford to Improve Safety in the Operating Room

by Elizabeth Joyce Freeman, Senior Advisor, Stanford Medicine Center for Improvement

Dr. Teodor Grantcharov's interest in improvement began over two decades ago. His PhD focused on developing computer systems for measuring the skill of surgeons with the goal of improving training and reducing errors. He believed that these systems would improve patient safety. He rejected the premise that harm was inevitable because every patient was different. He strove to understand why variability occurred and gradually became convinced an important key was to understand what happened in the operating room – one of the least understood environments in healthcare.

Dr. Grantcharov completed his surgical training at the University of Copenhagen and received his doctoral degree in Medical Sciences at the University of Aarhus in Denmark. Dr. Grantcharov is now a Professor of Surgery at Stanford University and the Associate Chief Quality Officer for Innovation and Safety at Stanford Healthcare.

He has become internationally recognized as a leader in patient safety with his work on curriculum design, assessment of competence, and the impact of surgical performance on clinical outcomes. Dr. Grantcharov developed the surgical Black Box concept, which aims to transform the safety culture in medicine and introduce modern safety management systems in the high-risk operating room environment.

He has worked in health systems all over the world and found a welcoming environment in Toronto where in 2014 he developed the first "Operating Room Black Box" prototype together with a team of computer and data scientists, designers and human factor experts. His research aims to increase transparency and accountability by measuring process measures in addition to outcomes. He believes those on the front line of care want to know what they can do in their daily work so they can improve. There is much to learn from the objective analysis and critical reflection on our performance as individuals, teams and an organization. But the learning needs to be based on objective measurement, not biased perceptions. The Black Box platform allows teams to examine deeply what happens, during a surgical procedure – information that has never been available to us before. To effectively use the data collected, requires organizational culture and leadership to embrace the information and prioritize learning from it. Patient Safety in the operating room requires a culture of psychological safety for every single member on the team.

Dr. Grantcharov has more than 220 peer-reviewed publications and more than 200 invited presentations in Europe, South- and North America. He
holds several patents and is the Founder of Surgical Safety Technologies Inc – an academic startup that commercializes the OR Black Box platform. He sits on numerous committees with Surgical Professional Societies in North America and Europe. We are thrilled to welcome him into the SMCI community of improvers!

Performance Improvement Activity Focus

Inaugural Joint Resident Safety Council/Advanced Course in Improvement Science Quality Symposium Recap

by Elizabeth Joyce Freeman, Senior Advisor, Stanford Medicine Center for Improvement

On May 15, 2023, SMCI partnered with the Resident Safety Council (RSC) and Drs. Larry Katznelson and Lisa Shieh, to conduct a joint Quality Symposium. There were 40 posters from RSC participants representing 14 clinical departments, including 15 posters from the Department of Medicine. The RSC posters were judged by four prestigious panels of judges including lead judges Patricia Britt RN, Lauren Destino MD, David Larson MD, and Laurice Yang MD.

In addition, 13 graduates of SMCI’s Advanced Course in Improvement Science (ACIS) from Cohorts 1 and 2 displayed posters from their projects. The ACIS projects represent participants’ progress on “third order” problems as described by Dr. David Larson, ACIS Cohort 1-3 Executive Director.

Over 100 people participated in this in-person event after three years of holding the RSC portion of the event via Zoom.

Everyone thrived in connecting and learning from the wide array of participants and departments represented.

Huge thanks and congratulations to Luisa Fernandez and Celina Meza who superbly led the event coordination and planning. Thanks to David Entwistle, Drs. Katznelson, Maggio, Lee, Sehgal and Shieh who also supported this event. For more information on the event, please click here for the event website. Poster winners listed here.

Improvement Training Programs

RITE Realizing Improvement through Team Empowerment

CELT Clinical Effectiveness Leadership Training

PE Process Excellence

ACIS Advanced Course in Improvement Science

SMCI Video Series Stanford Medicine Center for Improvement Video Series
As a devoted reader who anxiously awaits the SMCI newsletter each month to read inspirational musings in the ESU corner, we thought you might be wondering just who these people are and what is the ESU? Hi. We’re the Evaluation Sciences Unit. It’s nice to meet you. We’re a group of 15 health services researchers and implementation scientists who conduct mixed methods research, evaluation, and QI both within SHC and with external health care organizations and community groups. We have three MD faculty, four PhD trained researchers, and eight master’s levels social science researchers, data analysts, and biostatisticians who can be found in the flesh on Mondays and Wednesdays in the Stanford Research Park, and at all other times in the Zoom-verse. We enjoy long walks on the beach, chocolate, and partnered approaches to evaluation of improvement and implementation efforts in healthcare services. Some highlights of our current projects include:

- Improvement Capability Development Program (ICDP) projects with several departments: Medicine exploring access to advance care planning conversations for non-English-prefering patients in the hospital; ED and Neurology to capture efforts to improve ED referral processes to facilitate timely access to neurology follow-up care; and Anesthesiology evaluating the implementation of an anesthesiology-specific safety and quality reporting system in the EHR.
- Evaluation of the American College of Radiology Learning Network collaboratives to improve breast positioning during mammography and lung cancer screening.
- Partnering with Dr. Daniel Tawfik (Pediatrics – Critical Care) to develop and validate a prediction model of physician burnout.
- Partnering with the SHC Office of Patient Engagement to evaluate the Patient Pre-Visit Experience Initiative which aims to improve access to care for new and return patients by implementing system-wide changes in scheduling and referral systems.
We are always happy to connect with people to discuss their ideas and any evaluation or research needs. You can find more information and connect with us via our super snazzy website: https://www.stanfordevaluationsciencesunit.org/.

Have you followed SMCI on LinkedIn yet? If not, click here, and select the "follow" button.

By following SMCI on LinkedIn, you can stay up to date on SMCI events and opportunities as well as connect with other professionals interested in healthcare improvement.

Save the Date

See below for events that you will want to note on your calendar.

We are excited to share some fantastic updates for the upcoming Stanford Medicine Lean Healthcare Academic Conference. Part of our lineup of esteemed speakers is now confirmed, and they will be addressing key themes that align with our conference focus on Better Health for All Through Improvement.

We are delighted to announce that Liz Wiseman, Bob Rebitzer, and Lane Donnelly will be joining us as speakers for the conference. These engaging speakers' sessions align perfectly with our conference themes:

- Better Health for All Through Improvement
- Advances in Transforming Waste into Value
- Learning and Improving Together
- Applying a Health Equity Lens in Improvement
- Elevating the Patient and Family Experience

Now, it's your turn to make an impact at the conference! We are inviting you to submit an abstract for presentation at the Stanford Medicine Lean Healthcare Academic Conference. This is an excellent opportunity to share your valuable insights, research findings, and successful case studies with a diverse audience of physicians, quality improvement leaders, and experienced practitioners.

Don't miss this chance to showcase your work! Submit your abstract by June 16th for consideration. Abstract submissions should align with the conference theme and sub-themes mentioned above.

We encourage you to visit our conference website for more information. Registration will open mid-June!
Healthcare Con 2023 returns to a live event at Stanford University! Save your seat and join regional healthcare professionals on June 12-13, 2023 for a 2-day conference that includes three exceptional keynote speakers and an extensive array of podium sessions, poster presentations, and rapid-fire sessions! The final program will release in March 2023. Space is limited for this event, so visit the website to learn more and register today!

**Download flyer here.**

**Event Details:**
- **Dates:** June 12-13, 2023
- **Time:** 8:15 AM – 5:00 PM
- **Location:** 326 Galvez St, Stanford, CA 94305
- **Fees:** $350 Early-bird, $400 Regular
- **Contact Hours:** Available in March 2023

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**Interested in Joining Us?**

Together, we are creating a community of improvers that is inclusive of everyone in the Stanford Medicine community.

[Join SMCI today](#)

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**Special Thanks to the SMCI Communications Workgroup!**

Amy Alcantara, Teri Ard, Nathalie Cheng, David Crichton, Lisa Freeman, Cessa Heinzmann, Kathleen Lacar, Celina Meza, Sharon Platt and Hayley Tse

*If you would like to join our team, please contact us at [SMCI@stanfordhealthcare.org](mailto:SMCI@stanfordhealthcare.org)*

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