



VITAL ANAESTHESIA SIMULATION TRAINING



VAST Facilitator Course and VAST Course

Dakar, Senegal, 20-25 February 2023
Oumar Kane, Erin Muyres, Teresa Skelton

Executive summary

Situation

At the request of Dr Oumar KANE (Head of Anesthesia at FANN Hospital and Simulation Center Coordinator) and Erin Muyres (Medical Capacity Building Projects Director at Mercy Ships) the Vital Anaesthesia Simulation Training (VAST) Course, Wellbeing course (VAST WB), and Facilitator Course (VAST FC) were introduced in Senegal.

Background

The VAST Course was developed to teach and reinforce essential clinical practices and non-technical skills for both anaesthesia providers and perioperative teams. VAST was first piloted in 2018. Since then, VAST has expanded to encompass a range of courses that have been offered 59 times to participants from 30 countries. The language of teaching has always been English, with occasional concurrent translation to local languages during courses. This is the first time the course was translated into French through a mix of professional translation and translation by VAST volunteers and Mercy Ships. This allowed the VAST Course to be delivered almost entirely in French to a multidisciplinary group of healthcare practitioners who work in Senegal. As this was the first version of translation, materials were edited and updated on site during course delivery by faculty and participants. One course facilitator and the simulation coordinator did use English as the primary teaching language and this was supported by translators supplied by Mercy Ships for the course.

Assessment

All three courses were received with great enthusiasm and a desire for more training and practice. There was significant learning from the experience of delivering the training in a language other than English. This knowledge will inform future course delivery and translation efforts in other languages.

Recommendations

1. Completion of Version 2 of the French translation of all VAST FC, VAST Course and VAST Wellbeing materials and cognitive aids with the assistance of new Senegalese VAST FC graduates.
2. Specifically editing or redesigning the cognitive aids for the difficult airway algorithm to be in line with MAPAR recommendations and 2022 protocols. Consider involving MAPAR in the design or determining if they could provide any to hospitals. <https://www.mapar.org/>
3. Encourage the involvement of the new simulation coordinators trained during the course week in as many simulation training sessions as possible with the perioperative team there as they begin to use the simulation centre regularly so they can continue to refine skills and familiarize with equipment
4. Consider the creation of a subset of scenarios targeted to more advanced course groups such as in the case of the team in Senegal where further scenarios on traumatology and post-operative complications were requested. These should be added onto VAST's Scenario Bank and will be accessible through VAST's website

5. Consider adapting scenarios to participant speciality so that there is a subgroup of scenarios used for example when midwives are participating in training and there are not nurses participating. These should be added onto VAST's Scenario Bank and will be accessible through VAST's website
6. Apply lessons learned from this experience to the delivery of upcoming courses in more remote regions outside of Dakar where familiarity with simulation and crisis resource management may be minimal.

Contents

Acknowledgements	3
Attendees	3
Venue and equipment	4
VAST Facilitator Course	5
VAST Course	5
Simulation coordinator training	6
Social life	6
Course evaluations and informal feedback	6
Challenges and lessons learnt	9
Recommendations	10
Course photos	10

Acknowledgements

We gratefully acknowledge financial support from the:

- Mercy Ships
- Royal College of Physicians and Surgeons of Canada

Attendees

VAST Facilitator Course			
Name	Professional role	Course role	Workplace
Teresa Skelton	Anesthesiologist	Course director	Canada
Gaston Nyirigira	Anesthesiologist	Instructor	Rwanda
Jackson Kwizera Ndekezi	Anesthesiologist	Instructor	Rwanda
Sarah Kwok	Anesthesiologist	Instructor	Mercy Ships
Cassandra Poirier	Anesthesiology resident	Instructor	Canada
Gatwiri Murithi	Simulation coordinator	Simulation coordinator	Kenya
Erin Muires	Nurse	Participant	Mercy Ships
Oumar Kane	Anesthesiologist	Participant	Senegal
Papa Ibrahima Ndiaye	Anesthesiologist	Participant	Senegal
Papa Alassane Leye	Anesthesiologist	Participant	Senegal
Mamadou Mour Traoré	Anesthesiologist	Participant	Senegal

Elhadji Boubacar Ba	Anesthesiologist	Participant	Senegal
Ousmane Aw	IT Technician	Simulation coordinator trainee	Senegal
Mamadou Sy	IT Technician	Simulation coordinator trainee	Senegal

VAST Course			
Name	Professional role	Course role	Workplace
Teresa Skelton	Anesthesiologist	Course director	Canada
Gaston Nyirigira	Anesthesiologist	Instructor	Rwanda
Jackson Kwizera Ndekezi	Anesthesiologist	Instructor	Rwanda
Sarah Kwok	Anesthesiologist	Instructor	Mercy Ships
Cassandra	Anesthesiology resident	Instructor	Canada
Gatwiri Murithi	Simulation coordinator	Simulation coordinator	Kenya
Oumar Kane	Anesthesiologist	Trainee facilitator	Senegal
Papa Ibrahima Ndiaye	Anesthesiologist	Trainee facilitator	Senegal
Papa Alassane Leye	Anesthesiologist	Trainee facilitator	Senegal
Mamadou Mour Traoré	Anesthesiologist	Trainee facilitator	Senegal
Elhadji Boubacar Ba	Anesthesiologist	Trainee facilitator	Senegal
Ousmane Aw	IT Technician	Simulation coordinator trainee	Senegal
Mamadou Sy	IT Technician	Simulation coordinator trainee	Senegal
Mbaye Diaw	Anesthesiologist	Participant	Senegal
Fatou Diop	Anesthesiologist	Participant	Senegal
Aissatou Aïda Sarr	Anesthesiologist	Participant	Senegal
Ibrahima Gaye	Anesthesiologist	Participant	Senegal
Fatoumata Y. Bah	Anesthesiologist	Participant	Senegal
Papa Nguebel Dieye	Anesthesia Technician	Participant	Senegal
Ousmane Sall Faye	Anesthesia Technician	Participant	Senegal
Savia Ndiaye	Midwife	Participant	Senegal
Hawa Ndiaye	Midwife	Participant	Senegal
Khady Faye	Midwife	Participant	Senegal
Yacine Seye	General Surgeon	Participant	Senegal

Papa Makhtar Fall	Orthopedic Trauma Surgeon	Participant	Senegal
Ndeye Astou Diop	Pediatric Surgeon	Participant	Senegal
Marie Paula Apsa Dione	Pediatric Surgeon	Participant	Senegal
Astou Coly Niassy	Gynecologist	Participant	Senegal
Babacar Biaye	Gynecologist	Participant	Senegal

VAST Wellbeing Course			
Name	Professional role	Course role	Workplace
Teresa Skelton	Anesthesiologist	Course director	Canada
Gaston Nyirigira	Anesthesiologist	Instructor	Rwanda
Jackson Kwizera Ndekezi	Anesthesiologist	Instructor	Rwanda
Cassandra	Anesthesiology resident	Instructor	Canada
Gatwiri Murithi	Simulation coordinator	Simulation coordinator	Kenya
Oumar Kane	Anesthesiologist	Trainee facilitator	Senegal
Papa Ibrahima Ndiaye	Anesthesiologist	Trainee facilitator	Senegal
Papa Alassane Leye	Anesthesiologist	Trainee facilitator	Senegal
Elhadji Boubacar Ba	Anesthesiologist	Trainee facilitator	Senegal
Mbaye Diaw	Anesthesiologist	Participant	Senegal
Ibrahima Gaye	Anesthesiologist	Participant	Senegal
Fatoumata Y. Bah	Anesthesiologist	Participant	Senegal
Ousmane Sall Faye	Anesthesia Technician	Participant	Senegal
Savia Ndiaye	Midwife	Participant	Senegal
Hawa Ndiaye	Midwife	Participant	Senegal
Khady Faye	Midwife	Participant	Senegal
Yacine Seye	General Surgeon	Participant	Senegal
Papa Makhtar Fall	Orthopedic Trauma Surgeon	Participant	Senegal
Ndeye Astou Diop	Pediatric Surgeon	Participant	Senegal

Marie Paula Apsa Dione	Pediatric Surgeon	Participant	Senegal
Astou Coly Niassy	Gynecologist	Participant	Senegal

Venue and equipment

Venue

The Simulation Center (Le Centre de Simulation et Santé de d'Innovation Technologique (CESSIT)) at the Cheikh Anta Diop University (UCAD) in Dakar, Senegal

Catering was provided by *Delices du Campus*, the catering company based at UCAD, who organized two coffee/tea breaks with snacks and hot lunches served with water and juices on a daily basis during the course week.

Equipment

The ID badges, equipment identification, and posters and cognitive aides were brought by the Canadian VAST team. Mercy Ships provided the printing of the translated course materials and the office supplies during the week.

All course equipment was organised by the Simulation Center, except for the following items who were provided by Mercy Ships:

General Equipment:

- 10 Sheets
- 4 iPads
- 1 Doll + 1 Football
- 2 Large boxes for equipment (donated to Simulation Center after VAST Course)
- 6 Small boxes for equipment (donated to Simulation Center after VAST Course)

Box 1:

- 2 Yankauers (donated to Simulation Center after VAST Course)
- 2 LMA (donated to Simulation Center after VAST Course)

Box 3:

- 1 Nasal Cannula (donated to Simulation Center after VAST Course)
- 2 IV Fluid Bags (donated to Simulation Center after VAST Course)
- 2 BF Cuffs
- 2x21 Syringes labelled with medications (donated to Simulation Center after VAST Course)
- 2x3 Tablet containers

Box 4:

- 2 Patient gowns

- 2 Surgical gowns
- 1 Box of gloves (donated to Simulation Center after VAST Course)

VAST Facilitator Course

Preparation and translation

This is the first time the course was translated into French through a mix of professional translation and translation by VAST volunteers and Mercy Ships. The process of translating all of the teaching and learning materials for the three courses was an enormous undertaking, and truly group effort. Co-ordination of this monumental task was handled by Sara Whynot in Canada. Likewise, Erin Myers from Mercy Ships was instrumental in her support of this activity. This allowed the VAST Course to be delivered almost entirely in French to a multidisciplinary group of healthcare practitioners who work in Senegal. As this was the first version of translation, where required, materials were edited and updated on site during course delivery by faculty and participants. The task of updating translated materials to create v2 will be shared amongst newly trained simulation facilitators in Senegal.

Facilitation and debriefing practice

The bulk of the course involves practice of the four elements of VAST scenario facilitation: briefing, iPads/prompts, debriefing, and co-facilitation. Participants were divided into two groups to practice these skills while running scenarios for the other group. Meta-debriefings were conducted on the process of scenario facilitation.

Scenario design

Participants also worked in two groups to design new scenarios using the VAST scenario template. Each group presented its scenario to the other group. While the intention of this exercise is to give participants a deeper understanding of the mechanics of scenario design, time did not allow for us to trial the scenarios. Groups designed one scenario on hematoma after thyroidectomy and on how to break the news of a pediatric patient death to the mother. Both scenarios were thought to be common in the practice context of the participants and they wished for more simulation practice in breaking bad news.

Application during the VAST Course

VAST FC participants were assigned to facilitate and debrief the majority of the VAST Course scenarios. Former VAST FC and instructor course graduates delivered the PowerPoint presentations. All the PowerPoint discussions had been translated into French, including subtitles for the videos. This went well with a high level of participant engagement. Meta-debriefings were conducted by Drs Skelton, Poirier, Nyirigira, and Kwizera Ndekezi on the process of facilitation and debriefing. A few new additions to the course including the double sided cognitive aid developed after VAST Honduras proved to be extremely valuable to the group.

VAST Course

The VAST Course was offered in French to 16 multidisciplinary participants who work in Dakar, Senegal. These healthcare practitioners work together regularly and were able to discuss common challenges and solutions. Recurring themes were: the need of re-implementing the Surgical Safety Checklist in Senegal; the lack of certain medications and blood products; and the need to increase the use and availability of cognitive aids in French in the operating rooms. The participants appreciated the rich discussion on non-technical skills and the sharing of experiences between surgeons, anesthesiologists, and midwives to learn from the perspectives of their colleagues.

The skills sessions (difficult airway management, neonatal resuscitation, and primary trauma survey) were all conducted as PowerPoint presentations with concurrent demonstration of skills using mannikins (difficult airway management, neonatal resuscitation) or simulated patients (primary trauma survey). The iPads were used along with these demonstrations to show simulated vital signs.

Simulation coordinator training

Gatwiri Murithi trained Ousman and Mamadou as simulation coordinators. Due to the need for translators, these sessions were supported by the Mercy Ships Day Crew who also saw how the set up for each session were done. Ousman and Mamadou caught on quickly on how to set up and take down a room. They have limited interaction with the medical environment so the visual aids were extremely useful to help them identify the various equipment required for the scenarios. It would be of value to have the Simulation center engage them more in future simulation training to build up their familiarity with the simulation environment and get more comfortable with the medical training environment.

Social life

All VAST course instructors and the simulation coordinator stayed at the same hotel organized by Mercy Ships therefore frequent socialization and course planning took place during meals and down time. Mercy Ships supported food and needed expenses during the stay and also arranged for multiple evening outings. They took instructors on a tour of the ship and arranged two dinners out, one that included the planning and teaching team and Professor Kane as well. Everyone had the opportunity to enjoy the ocean during the meals and try the local fish dish, thiof. The team also visited the African Renaissance Monument, one of the largest statues on Earth that symbolizes the opening of the continent to the rest of the world.

Course evaluations and informal feedback

Combined feedback from online evaluation and paper evaluation translated by Mercy Ships

VAST Facilitator Course feedback

[synopsis of comments]

What went well

- The simplicity and the pragmatism
- Teamwork and caring
- The engagement of all the participants, Encouragement from Facilitators
- Thanks. We are very satisfied with the training. And it is very practical and interactive
- Simple and efficient training
- Thank you so much! What a great team.
- The facilitators are so encouraging. They make the participants feel safe to learn and even when they are giving us points to improve they do it in an encouraging and supportive manner. It is very cool to watch
- I like the mantra...we are all smart and capable. It redirects us to learning and our ability and knowledge as healthcare professionals and keeps us focused on the objectives of the scenarios.

Challenges

- Maybe make the debrief practice a little shorter so everyone has an opportunity to lead a scenario and do a debriefing
- Having the scenarios clearly defined does really help introduce people to simulation, I can definitely see the benefit to it. But I also wonder about if you could do a different approach that doesn't rely on the principal participant to make all the decisions
- More traumatology
- Need more time in the schedule

Take home messages

- Design a scenario, Implementing the practice, How to brief, and debriefing
- Integrate into our toolbox
- Extend to our countries that have limited resources
- This model seems to be very suitable for teaching
- Many more opportunities to partner with VAST and integrate learning into Sim onboard
- Scenario design -improvement in setting the scene before starting the scenario
Debriefing lessons learned

Recommendations

- Suggestion for course participants to take part in updating v2 of documents to correct translation deficiencies and better familiarize with materials
- Continue use of new cognitive aid in debriefing, it was well received and utilized
- Consider developing the scenarios created by the groups further to increase number of scenarios available in courses
- Consider keeping scenario design but due to time may not always be possible to trial them in a simulation

- Encourage VAST facilitator course graduates to take part in VAST courses in lesser resource hospitals or countries that are French speaking as all were strong participants and would be great VAST ambassadors

VAST Course

What went well

- The simulations were practical cases that we face every day so it will help us to develop our skills
- The sequential organisation of the different simulations, role repetition
- The simulation training has allowed us a lot to question ourselves, to always work in a team in order to make the right decision. It's a complementary teaching with strong feelings. It feels like we were in a real situation
- The content of the training such as the communication, scenarios, mutual consideration and the good atmosphere in which the training took place
- Sharing spirit and feedback
- Humility and mutual respect in between
- The open-mindedness of the trainers, the positive interaction between trainers and participants

Challenges

- 1- To do more Simulations 2- Roles distribution according to the specialisations
- I didn't feel the place of the midwife. Her role need to be taken into account
- Conducting this type of training in a medical service with people that work together would be very beneficial
- To give more time to the training
- The scenarios must be more precise, review the translation of the document into French
- To reduce the training duration
- Improve the sessions by bringing more reality from the country's hospitals

Take home messages

- There were multiple notes of feedback on the midwives not having enough of a role to play in the simulations
- Checklists and cognitive aids need to be employed routinely in practice
- A highlighted take home message by most participants was the need to improve closed loop communication and sharing of mental models in crises
- Concerns about implementing new skills in real practice where colleagues may not be employing non technical skills and communication sufficiently
- involvement of each team member regardless their qualification, take into consideration the remarks and suggestions, implement the displayed protocols

Recommendations

- Include scenarios specifically designed for midwives if they are taking the course
- Continue use of new cognitive aid in debriefing, it was well received and utilized

- Ensure the course timing does not interfere with cultural or religious commitments such as having teaching on Friday afternoons and/or weekends
- Consider adjusting scenarios to increase complexity in settings with a higher level of anesthesia or medical knowledge surrounding crisis resource management
- Redesign certain cognitive aids provided to be in line with French currently available cognitive aids and provide those for the group to use in hospital settings

VAST Wellbeing Course

What went well

- The course was precise and clear, the language was easy to understand
- the lovely atmosphere, the mutual respect in between each others , simplicity of the content of the courses
- friendly environment, not feeling judged
- the training was very interactive and well presented
- Human resource management / creation of interactive environment in the workplace/ Debriefing
- Congratulations and thanks to VAST and Mercy Ship trainings. Thank you to all different facilitators for their good mood

Challenges

- increase the time of the program, consider doing the training in local hospitals
- having a dashboard
- to invite more participants, increase the training periods
- To give more time to the training
- reorganize the training by forming and integrating teams that will work together at hospital
- To reduce the training duration
- Improve the sessions by bringing more reality from the country's hospitals

Take home messages

- empathy and listening with kindness
- Apply the SMART method always, have specific objectives, to plan in time
- planning, well--doing and well-being
- better organization of the work and more attention through colleagues, organize simulation sessions
- taking care of myself, spending more time with my family and friends, paying attention to the concerns of my colleagues

Recommendations

- Avoid having this course on a Saturday so it is not rushed or give participants advanced notice to best plan for that

- Consider having a laptop or paper participants can right lines of gratitude during the day, then anonymize them and project them for everyone at the end, this was very well received when we tried it
- Do practical exercises - consider simulating some real-life well-being challenges

Challenges and lessons learnt

The greatest challenge by far was adapting the VAST FC and VAST Course for delivery in a language other than English. It would have been beneficial for VAST FC participants to be involved in translating materials for the VAST Course ahead of time. Having course instructors that spoke French was essential as debriefing and following the scenario was challenging with translation although translators were gratefully provided by Mercy Ships daily for one instructor and the simulation coordinator.

Another challenge identified was the implication of prayer and the cultural schedule on the timing of the course. Future courses in Senegal should ideally run only Monday to Thursday or Friday morning to allow for time for prayer and commitments participants have in the health care system on Saturdays.

Recommendations

1. Completion of Version 2 of the French translation of all VAST FC, VAST Course and VAST Wellbeing materials and cognitive aids with the assistance of new Senegalese VAST FC graduates.
2. Specifically editing or redesigning the cognitive aids for the difficult airway algorithm to be in line with MAPAR recommendations and 2022 protocols. Consider involving MAPAR in the design or determining if they could provide any to hospitals. <https://www.mapar.org/>
3. Encourage the involvement of the new simulation coordinators trained during the course week in as many simulation training sessions as possible with the perioperative team there as they begin to use the simulation centre regularly so they can continue to refine skills and familiarize with equipment
4. Consider the creation of a subset of scenarios targeted to more advanced course groups such as in the case of the team in Senegal where further scenarios on traumatology and post-operative complications were requested. These should be added onto VAST's Scenario Bank and will be accessible through VAST's website.
5. Consider adapting scenarios to participant speciality so that there is a subgroup of scenarios used for example when midwives are participating in training and there are not nurses participating. These should be added onto VAST's Scenario Bank and will be accessible through VAST's website
6. Apply lessons learned from this experience to the delivery of upcoming courses in more remote regions outside of Dakar where familiarity with simulation and crisis resource management may be minimal.

Course Photos

















