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Meeting Report: 1st Cardiovascular Outcomes Research In Perioperative Medicine (COR-PM) Conference

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Abstract

The first Cardiovascular Outcomes Research in Perioperative Medicine (COR-PM) conference took place on May 13, 2022, in Palm Springs, CA, USA and online. Here, we 1) summarize the background, objective, and aims of the COR-PM meeting; 2) describe the conduct of the meeting; and 3) outline future directions for scientific meetings aimed at fostering high-quality clinical research in the broader perioperative medicine community.

Background, objective, and aims of the COR-PM meeting

Anesthesiology research has contributed to marked improvements in patient safety and quality of care.^{1,4} Currently, only 8.2 deaths per million US surgical hospital discharges are consequent to apparent anesthetic complications.² In contrast, 30-day mortality after inpatient surgeries is about 1.3%.³ This translates to 189,690 deaths in 14.3 million admitted surgical patients yearly in the United States. The most common and potentially preventable causes of 30-day mortality after non-cardiac surgery are cardiovascular events.^{5, 6} Given more than 300 million yearly operations worldwide, even small reductions in postoperative cardiovascular complications would substantially decrease suffering and healthcare expenditures.⁷

Despite its relevance to perioperative mortality, relatively little funded clinical cardiovascular outcomes research is conducted in US academic anesthesiology departments.⁸ Indeed, the ongoing decline in the physician-scientist workforce sparked the Director of NIH, Francis Collins, to convene the physician-scientist working group in 2014 to provide recommendations to enhance its robustness and diversity.⁹ The field of anesthesiology lags behind surgery and medicine in *per capita* NIH funding.^{10, 11}

Despite efforts to provide junior applicants with competitive advantages including early-stage investigator designation, the critical transition from career development to independent investigator status, often referred to as “K2R,” remains challenging. The transition may be especially challenging for women and other underrepresented investigators.^{12, 13} Additionally, many US academic anesthesiology programs lack enough strong clinical research mentors to provide sufficient growth of highly qualified clinical outcomes research programs. Most mentor/mentee relationships are based on physical proximity. COR-PM challenges this status quo by proposing that mentors from around the country lead a cross-institutional mentoring effort that will be independent of the physical locations of mentees and mentors.

Existing relationships with three major professional societies contributed to societal support towards the promotion and successful conduct of COR-PM: 1) the early-Stage Anesthesiology Scholars – eSAS; 2) the Pan-African Society of Cardiology – PASCAR; and 3) the Society of Cardiovascular Anesthesiologists – SCA. The organizers convened a steering group comprised of 25 junior investigators from across the US, advised by an international eight-member senior advisory panel comprised of independent investigators with a track record of success in clinical cardiovascular outcomes research. Using a “By Mentees – With Mentors – For Mentees” paradigm, the group outlined the following specific aims to attain COR-PM’s goals:

1. Organize the 2022 COR-PM conference to advance clinical outcomes research in cardiovascular medicine within the T2-T4 translational spectrum.
2. Provide mentorship capacity for junior investigators by providing tangible mentoring to attendees through pairing mentees with mentors across institutions.
3. Create an inclusive and welcoming conference atmosphere by enhancing diversity in all aspects of conference planning and implementation.

Conduct of the COR-PM meeting

The inaugural COR-PM meeting took place on May 13, 2022, the day before the 2022 SCA Annual Meeting and Workshops in Palm Springs, CA, and was also available to online attendees. Marketing included targeted advertising (e.g., SCA newsletter) along with a social media campaign. The final speaker schedule and topics are summarized in Table 1.

Relevant measures for the first COR-PM conference included:

- Fifty-three in-person attendees and 19 virtual attendees, for a total of 72 people.
- Five in-person (\$750 each for travel and registration) and one virtual diversity scholarships were awarded (funded by \$10k NHLBI R13 grant “Cardiovascular Outcomes Research in Perioperative Medicine - COR-PM # R13HL162411”).
- We had a high-impact key-note speaker, one excellent speaker from Uganda, and a mix of highly accomplished early stage and mid/late career speakers.
- Composition moderators/speakers: 7 women, 4 men.
- An option for reduced (\$30) registration for virtual attendees from low- and middle-income countries was available.
- Trans-national mentoring relationships were launched at COR-PM.
- Childcare was provided on site.

Future directions

The feedback received from conference attendees was uniformly positive. The meeting was supported by NIH extramural funding, and the SCA also contributed considerable support. We are grateful that the SCA Board of Directors has agreed to sustain the next COR-PM meeting which is planned for May 5th, 2023, in Portland, Oregon.

Our primary focus for the next meeting will be to convene a group that includes clinical researchers with track records of success in securing federal funding and publishing high-impact clinical research to inform mentees in perioperative medicine wanting to learn about how to conduct quality clinical research. We believe that small and mid-sized academic anesthesiology programs may especially benefit from participation in clinical research since basic science research may require higher up-front resources and sometimes fails to engage clinicians. For 2023, we will enhance our marketing efforts, especially for the highly innovative option to permit low-cost attendance for individuals from low- and middle-income countries. Additionally, we are considering offering a career-development grant-writing session for interested participants.

Our efforts align with those of others including the “Call to action: a specialty-specific course to support the next generation of clinician scientists in anesthesiology” by Cavallone and colleagues.¹⁴ We expect that providing high-quality educational resources to clinical investigators will enhance our specialty’s contributions to the progress of perioperative medicine.

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Conflicts of Interest:

Dr. Sun reports being on the advisory board of Lucid Lane, LLC and receiving consulting fees from Analysis Group (unrelated to this work). The other authors report no potential conflicts of interest.

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Table 1:

Cardiovascular Outcomes Research In Perioperative Medicine (COR-PM) meeting agenda.

Agenda for THE COR-PM Conference: May 13, 2022, Palm Springs, CA		
Session Title (Speakers)	Session Type	
8:30 – 8:45	Conference Welcome and Overview (Brittney Williams, UMaryland, Karsten Bartels, UNMC)	Welcome
8:45 – 9:45	Opportunities for Trials in Cardiovascular Outcomes Research (PJ Devereux, McMaster)	Keynote Address
10:00 – 12:00	Frameworks for Planning Clinical Outcomes Research: Outcome Selection, Josh Billings, Vanderbilt Building and maintaining a biobank for biomarker research (Amanda Fox, UTSW) International collaboration and research in low-resource environments, (Judith Namuyonga, Uganda Heart Institute) Discussion (Megan Prin, UColorado)	Panel
12:15 – 1:15	Mentees meet Mentors Networking Lunch Early Career Investigator Consultations (All speakers and Planning Committee Members as needed)	Networking Open Forum In-person only
1:30 – 2:00	Pragmatic Trials: Real World Experience (Jessica Spence, McMaster)	Plenary Address
2:15 – 3:00	Emerging Topics: Perioperative Cardiac Injury - Heart & Peripheral Organ Crosstalk (Monica Vavilala, UWashingon)	Plenary Address
3:30 – 5:00	Alternative Study Designs – New Approaches to Heart Failure Research Retrospective Cohort Studies and Quasi-Experimental Study Designs, Eric Sun, Stanford Mixed Methods, Prateeti Khazanie, UColorado Discussion	Panel
5:00 – 5:15	Closing Remarks (Karsten Bartels, UNMC & Brittney Williams, UMaryland)	