PARTNERSHIP FOR clean competition

Annual Report



ABOUT THE PCC

Doping is a global problem. We fund solutions.

THE PARTNERSHIP FOR CLEAN COMPETITION IS A NONPROFIT, 501(C)(3) ORGANIZATION WORKING TO PROTECT THE INTEGRITY OF SPORT AND PUBLIC HEALTH BY ENGAGING AND SUPPORTING THE WORLD'S TOP SCIENTISTS AND INNOVATORS IN HIGH-QUALITY ANTI-DOPING RESEARCH AND DEVELOPMENT.



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A MESSAGE FROM THE PCC

Dear Supporters,

As the Partnership for Clean Competition (PCC) moves towards celebrating a milestone anniversary in 2023, we look back on some of the great accomplishments that took place in 2022. The PCC has continued to focus on funding high quality and high impact research across the globe and was able to move the needle more on the fight for clean sport.

At the core of the work that was done at the PCC, we acted to protect the integrity of sport and public health by engaging and supporting the world's top scientists and innovators in highquality anti-doping research and development. To that end, the PCC **committed over \$1.1 million in funding via Research Grants, Fellowships, and Micro-Grants**. The PCC reached agreement on 39 novel research projects (29 previously approved awards and ten new awards). The PCC also committed funding toward three PCC-WADA joint-funded research agreements, via our ongoing MOU with WADA.

The Fellowship program saw continued growth with **three PCC Fellowships being awarded in 2022**. The three new PCC Fellows in 2022 were: Dr. Jenna Goodrum (Sports Medicine Research Testing Laboratory – USA), Dr. Huu Hien Huynh (University of Washington – USA), and Dr. Sara Amalie Solheim (Oslo University Hospital and the Norwegian School of Sport Sciences – Norway).

The PCC convened **three Scientific Advisory Board (SAB) meetings** where new grants were reviewed, working group updates presented, and final research project reports were discussed. 2022 saw a great champion of the anti-doping movement depart the PCC SAB. Dr. Larry Bowers was a key contributor to the formation of the Partnership for Clean Competition and chaired the Scientific Advisory Board from its inception until 2019, during his time with the U.S. Anti-Doping Agency.

The PCC brought together anti-doping scientists and administrators by holding the organization's **first PCC Summit** in Park City, Utah. 35 in-person attendees (and 10 virtual attendees) attended nine informational sessions and one panel discussion focused primarily on innovations in Dried Blood Spot testing and other anti-doping science trends.

As we look towards 2023 and the fifteenth anniversary of the PCC, we reflect on another great year supporting scientific innovation, commitment to the future of anti-doping science, and the impact that our work had on the global community of anti-doping administrators. We look forward to sharing many more great accomplishments of the PCC in the coming years.

Thank you,

Ryan M. Murphy

Ryan Murphy Executive Director



BOARD OF GOVERNORS



Jon Coyles Major League Baseball (MLB) Jon Coyles serves as Vice President of Drug, Health and Safety Programs at Major League Baseball. In his role, Coyles is responsible for overseeing all aspects of Major League Baseball's various drug prevention and treatment programs, including the management of the programs' scientific experts, medical consultants, specimen collection officers, and testing laboratories. Coyles also plays a key role in collective bargaining negotiations with the Major League Baseball Players Association, including the annual review and update of the Joint Drug Program.

Board Chair



Janelle Winston National Football League (NFL) Janelle L. Winston is an attorney with the National Football League, representing the NFL and its thirty-two Member Clubs across the country in labor-management disputes involving compensation and salary, player discipline, electronic medical records, and workers' compensation. Her practice covers negotiation, arbitration, litigation and settlement.



Chris McCleary United States Olympic & Paralympic Committee (USOPC)

Chris McCleary joined the United States Olympic & Paralympic Committee in 2015 and serves as its General Counsel & Chief Operating Officer. In this role, he leads the USOPC teams in legal, compliance, ethics, NGB oversight, finance, information technology, events & logistics, and facilities. He also leads the USOPC's governance work and serves as corporate secretary to the USOPC board of directors. McCleary oversees the USOPC's partnerships with the World Anti-doping Agency, U.S. Anti-doping Agency and Partnership for Clean Competition. He also serves as a member of the Association of National Olympic Committee's Legal Commission.



Ed Merrens M.D. United States Anti-Doping Agency (USADA) Dr. Ed Merrens is Chief Clinical Officer for Dartmouth Health and Associate Professor of Medicine at the Geisel School of Medicine at Dartmouth. Dr. Merrens oversees clinical operations across the Dartmouth Health system. He is a Board Member of the U.S. Anti-Doping Agency (USADA). He has a long-standing involvement in international sports, serving as the team physician and medical director for the USA Biathlon from 1998-2014. He has served as team physician with the U.S. Olympic & Paralympic Committee for the World University Games in Beijing, China (2001) and Olympic Winter Games in Salt Lake City, United States (2002), Torino, Italy (2006), Vancouver, Canada (2010), and Sochi, Russia (2014). Dr. Merrens is a 1988 graduate of Dartmouth College, a 1994 graduate of the Geisel School of Medicine at Dartmouth and holds a 2013 Masters degree in Health Care Delivery Science from the Tuck School of Business and Dartmouth College. He works clinically as a Hospitalist at Dartmouth-Hitchcock Medical Center in Lebanon, NH.

STAFF &

Ryan Murphy Executive Director



Jocelyn Quiles Manager, Communications & Operations

Ryan Murphy was named Executive Director for the Partnership for Clean Competition Research Collaborative in November 2021. In this role, Murphy oversees organizational strategy and daily operations – including budgeting, fundraising, business development, grant administration, scientific outreach, and communication with the PCC Board of Governors and Scientific Advisory Board. Murphy completed an MA in International Sports Law from Anglia Ruskin University in Chelmsford, England, as well as an MSc in Sport and Recreation Management from The University of Sheffield in Sheffield, England. He is a graduate of West Chester University of Pennsylvania with a BSc in Kinesiology. Murphy previously worked as an International Doping Control Officer for International Doping Tests & Management, from 2003 -2015, conducting doping control tests (in-competition and out-of-competition) on athletes throughout the world.

Jocelyn Quiles started as the Manager of Communications and Operations for the Partnership for Clean Competition in September 2022. In this role, Quiles will work in partnership with the PCC's Executive Director in overseeing stakeholder engagement, implementing communication and outreach efforts, and database management. Prior to joining the Partnership for Clean Competition, Quiles attended Indiana State University where she competed in five years of cross country and track and field. She completed a Bachelor of Science in Communication, Public Relations in 2021, and a Master of Business Administration in 2022.



Eric Kerzner National Football League

PCC Treasurer

Major League

Baseball

Eric Kerzner works for the National Football League as Vice President, Labor Relations, supporting Club football and finance executives with the financial components of player contracts and the salary cap. Eric's primary responsibilities include negotiating, administering, and enforcing the League's Collective Bargaining Agreements with the NFL Players Association on financial-related labor matters, including player contracts, the salary cap, compliance, and strategic planning. Eric is also a member of the bargaining team that negotiates with the NFL Referees Association. Prior to joining the NFL, Eric worked in public accounting at McGladrey and Pullen, LLP. Eric graduated from the University of Connecticut in 1996, with a Bachelor of Science degree in Accounting.



Lindsey Ingraham Lindsey Ingraham serves as the Director of MLB Drug, Health and Safety Programs, where she assists in the administration of all of Major League Baseball's drug prevention and treatment programs, including program updates, testing, results management, and disciplinary measures. She works closely with the labs and collectors to manage all aspects of the testing and PCC Secretary results reporting processes. Additionally, in this role, Lindsey plays a key part in the development and delivery of various educational initiatives. Every year she delivers educational programming to Minor League players during Spring Training, to newly drafted players upon signing, and to Top Prospects during the Arizona Fall League. Lindsey was hired by the Office of the Commissioner of Baseball as Specialist, MLB Drug, Health and Safety Programs in January 2015. Lindsey graduated from Cornell University in 2005 and The George Washington University Law School in 2010.

SCIENTIFIC ADVISORY BOARD Co-Chairs



James Dalton Ph.D

James T. Dalton, Ph.D. is Executive Vice President and Provost at the University of Alabama. He received his Bachelor of Science in Pharmacy from the University of Cincinnati (1986) and Doctor of Philosophy in pharmaceutics and pharmaceutical chemistry from Ohio State University (1990). Dr. Dalton rose through the faculty ranks in the Department of Pharmaceutical

Sciences in the College of Pharmacy at the University of Tennessee (1992-2000) before returning to Ohio State where he served as Professor and Chair in the Division of Pharmaceutics (2000-2007). He began an entrepreneurial leave of absence from Ohio State in 2005 and left OSU in 2007 to devote his full time effort as Chief Scientific Officer at GTx, Inc. in Memphis, TN (2007-2014) where he oversaw the preclinical and clinical development of selective androgen receptor modulators. Dr. Dalton then served as Dean at the University of Michigan College of Pharmacy from 2014-2020. He is co-inventor of enobosarm (aka ostarine; the first reported selective androgen receptor modulator) and is an elected member of the National Academy of Medicine.

Matthew Fedoruk Ph.D

Matthew Fedoruk, Ph.D. currently works as the Chief Science Officer at the U.S. Anti-Doping Agency (USADA). With more than 14 years of experience in antidoping and a Ph.D. in Pathology and Laboratory Medicine, Dr. Fedoruk also serves as a standing member of the IWF Anti-Doping Committee, the WADA Health, Medicine and Research Committee (HMRC), the TDSSA



Expert Group Chair and Athlete Biological Passport (ABP) Ad-Hoc Working Group. Before joining USADA, Dr. Fedoruk worked at the Canadian Centre for Ethics in Sport (CCES) and served with the Vancouver 2010 Organizing Committee for the 2010 Olympic and Paralympic Winter Games in Canada. He currently lives in sunny Colorado Springs, Colorado, which is also known as 'Olympic Town USA' for being home to the U.S. Olympic Committee, the high-altitude Olympic Training Center, numerous national sport federations and USADA.

SCIENTIFIC |SORYROA







Lori Bestervelt

Ph.D

M.D.

Gerhard Baumann Past Chief of Endocrinology and Metabolism at the Veterans Administration Lakeside Medical Center and the Associate Director of the Northwestern University General Clinical Research Center in Chicago, Dr. Baumann is a Professor of Medicine Emeritus at Northwestern University. Dr. Baumann characterized the complex nature of growth hormone in human blood, including its various isoforms. He discovered the growth hormone binding protein, the circulating ectodomain of the growth hormone receptor. He is also the co-discoverer of the first reported mutation in the growth hormone releasing hormone (GHRH) receptor gene causing a severe form of familial growth hormone deficiency. He has broad expertise in endocrinology, with particular emphasis on pituitary disease. He is an elected member of the American Society of Clinical Investigation and the Association of American Physicians.

> Dr. Lori Bestervelt is an Entrepreneurial Executive who brings the strong combination of technical and scientific expertise and business acumen, as well as deep P&L experience in product line expansion. She is proud of her high level of name recognition within the dietary supplements, U.S. professional sports nutrition and anti-doping industries. Lori completed Competition & Strategy through the Harvard Business School Executive Education and Corporate Innovation through MIT's Sloan Executive Education. She earned a Doctorate of Toxicology, a Master of Science in Nutritional Biochemistry and a Bachelor of Science in Microbiology & Immunology, all at the University of Michigan. She has been a Member of the Council for Responsible Nutrition and the American Herbal Products Association.

Larry Bowers Ph.D

As USADA'S Chief Science Officer from 2000 to 2016, Dr. Bowers provided leadership and scientific support for USADA's research sample collection planning, results management, arbitration, education programs, and the prestigious USADA Annual Symposium. Past Associate Editor (Drug Testing and Toxicology) for the journal, Clinical Chemistry, Dr. Bowers was the deputy director of the Athletic Drug Testing Laboratory for the 1996 Olympic Games, and has served on several scientific organizations Board of Directors.

Larry Bowers departed from the Scientific Advisory Board in 2022 and is now considered part of the Emeritus Scientific Advisory Board.



Steve Elliot Ph.D

Steve retired from his Scientific Executive Director Position at Amgen in 2012, where he had worked since 1983. During his early years at the company, he performed structure-function studies on erythropoietin and the erythropoietin receptor and is the inventor of Aranesp, a re-engineered analog of rHuEpo with a longer serum half-life. He also played a key role when three cross country skiers who doped with Aranesp were caught and stripped of their gold medals and suspended from competition for two years following the 2002 Olympic Winter Games. Dr. Elliott continues to work in conjunction with the anti-doping movement.

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Gary Green M.D.

Gary Green, MD, was appointed Medical Director for Major League Baseball in 2010. He also serves as research director for MLB. He is a fellow in the American College of Physicians and American College of Sports Medicine and a Clinical Professor in the UCLA School of Medicine in the Division of Sports Medicine, Dr. Green is the head team physician for Pepperdine University and serves on the California Interscholastic Federation Medical Advisory Committee. He is also on review boards for USADA for adverse analytical findings and therapeutic use exemptions. He is in private practice in Pacific Palisades, California at the Medical Doctors of St. John's.



John Lombardo M.D.

M.D.

Dr. John Lombardo serves as the Independent Administrator for the NFL Policy on Performance-Enhancing Substances. He also served as a member of the WADA Therapeutic Use Exemption Expert Group, a reviewer of therapeutic use exemptions for USADA and PGA and a member of the Board of Directors for Sports Medicine Research and Testing Laboratory. He earned a bachelor's degree from the University of Dayton, his medical degree from The Ohio State University and completed his Family Medicine residency at St. Elizabeth's Medical Center in Dayton, Ohio. He served as Medical Director of the Section of Sports Medicine at the Cleveland Clinic and the Medical Director of Sports Medicine at Ohio State University.



Tom Martin Ph.D

Dr. Tom Martin is the Independent Program Administrator for Major League Baseball's Joint Drug Prevention and Testing Program. A native of Forked River, New Jersey, Dr. Martin received his ROTC commission into the Army Medical Service Corps in 1990 and entered Active Service after obtaining a Ph.D. in Inorganic Chemistry from Clemson University in 1995. As part of his military service, Dr. Martin directed two military drug testing laboratories. He culminated his Army career as the Director, Drug Testing and Program Policy in the Office of the Under Secretary of Defense for Personnel and Readiness. He retired from the Army in 2018 as a Colonel and started his current position with the MLB/MLB Players Association.



Dr. Matsumoto is a Professor Emeritus in the Division of Gerontology & Alvin Matsumoto Geriatric Medicine, Department of Medicine at the University of Washington (UW) School of Medicine, and Clinical Investigator in the Geriatric Research, Education and Clinical Center (GRECC) at the Veteran Affairs Puget Sound Health Care System (VAPSHCS) in Seattle. He serves as a member of the Board of Directors of the United States Anti-Doping Agency (USADA); President of the Board of Directors of the Seattle Institute for Biomedical and Clinical Research; and co-chair of the Partnership for the Accurate Testing of Hormones. Previously, he was Director of the Clinical Research Unit, Associate Director of the GRECC, Chief of Gerontology, and an Attending Physician at the VAPSHCS, and on the faculty at the UW for more than 40 years. His research expertise is in androgens and male reproductive endocrinology.

SCIENTIFIC ADVISORY BOARD



Annette Salmeen

Dr. Salmeen, D.Phil., was a 1996 Olympian and gold medalist. She served as an athlete's representative for the USA Swimming national governing body from 1996 to 2005. In 2005, she was elected as an athlete member of the U.S. Anti-Doping Agency Board of Directors and served until 2012. She was a member of the USADA board research committee and was also involved with efforts to support athlete education and the USADA True Sport initiative. She earned her doctoral degree in Biochemistry as a Rhodes Scholar at Oxford in 2001 and studied growth factor signaling pathways as a postdoctoral fellow in the Chemical and Systems Biology department at Stanford. She is currently a lecturer in the Human Biology Program at Stanford.



Michael Sawka Ph.D Chief Scientific Officer of Environmental Physiology and Hydration Associates, Adjunct Professor of Biological Sciences at Georgia Institute of Technology, past Department of Army Science and Technology Senior Scientist appointee, and Chief of Thermal and Mountain Medicine Division at the US Army Research Institute of Environmental Medicine. Dr. Sawka is an expert in environmental physiology (heat, cold, high-altitude), blood volume control, fluid/ electrolyte balance, temperature regulation, and exercise physiology. Dr. Sawka is a Fellow of the American Physiological Society and the American College of Sports Medicine.



John Yates III Ph.D The Ernest W. Hahn Professor in the Department of Chemical Physiology and Molecular & Cellular Neurobiology at The Scripps Research Institute, Dr. Yates is the lead inventor of the SEQUEST software for correlating tandem mass spectrometry data to sequences in the database and developer of the shotgun proteomics technique for analysis of protein mixtures. Dr. Yates was ranked by Citation Impact, Science Watch as one of the Top 100 Chemists for the decade, 2000-2010. Dr. Yates is the Editor in Chief at the Journal of Proteome Research.



IN 2022

The PCC focused on continued research funding and operations.



Funding

Recommended funding for more than **\$1.1 million** in research grants, anti-doping researcher fellowships, and micro-grants.



Publications & Presentations

The PCC facilitated more than **22 publications and presentations** from our funded research.

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Research Agreements

The PCC processed **39 research agreements** (29 previously approved awards and 10 new awards), including **three PCC-WADA joint funded research agreements**.

The Anti-Doping Podcast

The PCC released **24 new podcast episodes** featuring guests from **eight different countries**. The Anti-Doping Podcast had **10,284 downloads/listens** from January 1st through December 31st, or an average of **857 downloads/ listens** monthly.

PCC SUMMIT





The PCC hosted a two day summit in Park City, Utah. The summit included over 40 participants who attended virtually and in person from leading sports and anti-doping research organizations. This meeting served as an opportunity for attendees to share new and exciting things happening within their organizations, as well as best practices and methods for advancing the clean sport movement.

DRIED BLOOD SPOT TESTING



The PCC has been at the forefront of the conversation about changing the experience of blood collection for athletes. Click <u>here</u> to learn more about the work of the PCC and its partners in the development of dried blood spot testing.

\$1,111,337 in total funding committed

Fellowships

- JENNA GOODRUM, SPORTS MEDICINE RESEARCH TESTING LABORATORY. BIOTIN AS A MASKING AGENT FOR HCG USE - A FOLLOW-UP ADMINISTRATION STUDY.
- HUU HIEN HUYNH, UNIVERSITY OF WASHINGTON. SIMULTANEOUS QUANTIFICATION OF TYPE III PROCOLLAGEN FRAGMENTS IN CAPILLARY BLOOD.
- SARAH AMALIE SOLHEIM, OSLO UNIVERSITY HOSPITAL AND THE NORWEGIAN SCHOOL OF SPORT SCIENCES. FURTHER DEVELOPMENT OF BLOOD TESTING: ABP, DETERRENCE AND VIRTUAL TESTING.

Micro-Grants

• NICHOLAS LEUENBERGER, SWISS ANTI-DOPING LABORATORY. INVESTIGATION OF IRON INJECTION IMPACT ON BLOOD DOPING BIOMARKERS IN DRIED BLOOD SPOTS.

Working Groups

• JACOB BEJDER, UNIVERSITY OF COPENHAGEN. CURRENT DETECTION OF RECOMBINANT HUMAN ERYTHROPOIETIN (RHEPO).

Grants - PCC-WADA Joint Fund

- CHRISTOPH STOVE, UNIVERSITY OF GHENT. FULLY AUTOMATED ANALYSIS OF STEROID HORMONES IN DRIED BLOOD SPOTS.
- FONG-HA LIU, NATIONAL MEASUREMENT INSTITUTE. NEW CRMS TO SUPPORT LINEAR MIXING MODEL STUDIES BY GC-C-IRMS.
- FONG-HA LIU, NATIONAL MEASUREMENT INSTITUTE. NEW CRM TO SUPPORT DETECTION OF 6α-HYDROXY-ANDROSTENEDIONE BY CIR IN ANTI-DOPING ANALYSIS.

PUBLICATIONS &

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DESHARNAIS P, NAUD JF. DETECTION OF ACTIVIN RECEPTOR TYPE IIA AND IIB-FC FUSION PROTEINS BY AUTOMATED CAPILLARY IMMUNOASSAY. DRUG TEST ANAL. 2022 OCT 5. DOI: 10.1002/DTA.3378. ONLINE AHEAD OF PRINT. <u>HTTPS://PUBMED.NCBI.NLM.NIH.GOV/36200177/</u>

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GRAU M, ZOLLMANN E, BROS J, SEEGER B, DIETZ T, NORIEGA UREÑA JA, GROLLE A, ZACHER J, NOTBOHM HL, SUCK G, BLOCH W, SCHUMANN M. **AUTOLOGOUS BLOOD DOPING INDUCED CHANGES IN RED BLOOD CELL RHEOLOGIC PARAMETERS, RBC AGE DISTRIBUTION, AND PERFORMANCE.** BIOLOGY (BASEL). 2022 APR 23;11(5):647. DOI: 10.3390/BIOLOGY11050647. <u>HTTPS://PUBMED.NCBI.NLM.NIH.GOV/35625375/</u>

HUYNH HH, FORREST K, BECKER JO, EMRICK MA, MILLER GD, MONCRIEFFE D, COWAN DA, THOMAS A, THEVIS M, MACCOSS MJ, HOFFSTROM B, BYERS PH, EICHNER D, HOOFNAGLE AN. **A TARGETED LIQUID CHROMATOGRAPHY-TANDEM MASS SPECTROMETRY METHOD FOR SIMULTANEOUS QUANTIFICATION OF PEPTIDES FROM THE CARBOXYL-TERMINAL REGION OF TYPE III PROCOLLAGEN, BIOMARKERS OF COLLAGEN TURNOVER.** CLIN CHEM. 2022 OCT 6;68(10):1281–1291. DOI: 10.1093/CLINCHEM/HVAC119. PMID: 35906802.

JAIN V, YANG WH, WU J, ROBACK JD, GREGORY SG, CHI JT. SINGLE CELL RNA-SEQ ANALYSIS OFHUMANRED CELLS. FRONT PHYSIOL. 2022;13:828700

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LORIA F, STUTZ AP, ROCCA A, GRABHERR S, KUURANNE T, PRUIJM M, LEUENBERGER N. **MONITORING OF HEMOGLOBIN AND ERYTHROPOIESIS-RELATED MRNA WITH DRIED BLOOD SPOTS IN ATHLETES AND PATIENTS.** BIOANALYSIS. 2022 MAR;14(5):241–251. DOI: 10.4155/BIO–2021–0252. EPUB 2022 FEB 17. <u>HTTPS://PUBMED.NCBI.NLM.NIH.GOV/35172618/</u>

LORIA F, COX HD, VOSS SC, ROCCA A, MILLER GD, TOWNSEND N, GEORGAKOPOULOS C, EICHNER D, KUURANNE T, LEUENBERGER N. **THE USE OF RNA-BASED 5'-AMINOLEVULINATE SYNTHASE 2 BIOMARKERS IN DRIED BLOOD SPOTS TO DETECT RECOMBINANT HUMAN ERYTHROPOIETIN MICRODOSES.** DRUG TEST ANAL. 2022 MAY;14(5):826-832. DOI: 10.1002/DTA.3123. EPUB 2021 JUL 7. <u>HTTPS://PUBMED.NCBI.NLM.NIH.GOV/34216436/</u>

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MILLER GD, HUSK J, CROUCH AK, EICHNER D. GROWTH HORMONE ISOFORM TESTING IN CAPILLARY DRIED BLOOD SPOTS: RESULTS FROM SINGLE AND MULTIPLE DOSE ADMINISTRATION STUDIES AND LARGE-SCALE FIELD COLLECTIONS. DRUG TEST ANAL. 2022 JUL;14(7):1255–1263. DOI: 10.1002/DTA.3248. EPUB 2022 MAR 10. <u>HTTPS://PUBMED.NCBI.NLM.NIH.GOV/35249266/</u>

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MONCRIEFFE DA, COWAN DA. QUANTIFICATION OF INSULIN-LIKE GROWTH FACTOR-I BY LIQUID CHROMATOGRAPHY-MASS SPECTROMETRY. RAPID COMMUN MASS SPECTROM. 2022 OCT 21:E9408. DOI: 10.1002/RCM.9408. EPUB AHEAD OF PRINT. PMID: 36271225. <u>HTTPS://PUBMED.NCBI.NLM.NIH.GOV/36271225/</u>

POLET, M. 28.03-8.04.2022 MANFRED DONIKE WORKSHOP 2022MAIN TITLE: SULFATED STEROIDS: BRIDGING THE LC VS GC DIVIDE SUB-TITLE: COMPARISON OF NON-HYDROLYZED SULFATED METABOLITES OF METENOLONE AND MESTEROLONE ANALYZED BY 4 DIFFERENT TECHNIQUES

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SAVKOVIC S, LY LP, DESAI R, HOWSOLHEIM SA, LEVERNAES MCS, MØRKEBERG J, JUUL A, UPNERS EN, NORDSBORG NB, DEHNES Y. **STABILITY AND DETECTABILITY OF TESTOSTERONE ESTERS IN DRIED BLOOD SPOTS AFTER INTRAMUSCULAR INJECTIONS.** DRUG TEST ANAL. 2022 NOV;14(11-12):1926-1937. DOI: 10.1002/DTA.3030. EPUB 2021 JUL 12. PMID: 33733610. HTTPS://PUBMED.NCBI.NLM.NIH.GOV/33733610/

THEVIS, M., **"DIFFERENTIATING DRUG USE, MISUSE, AND "NORMAL" EXPOSURE-EXAMPLES OF STRATEGIES ANDOBSTACLES IN CURRENT SPORTS DRUG TESTING PROGRAMS"**, USADA ANNUAL SYMPOSIUM, SEPT 30-OCT 3,2022, COLORADO SPRINGS, CO

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TOBIAS, H.J.; SAUNDERS, T; JONES, A.; BRENNA, J.T. "LIQUID CHROMATOGRAPHY COUPLEDTO IRMS FOR USE WITH ORGANIC MOBILE PHASES." 8TH FIRMS NETWORK CONFERENCE 2022, VIRTUAL, OCT 5 – 7, 2022.



PARTNERSHIP FOR clean competition

INDEPENDENT AUDITOR'S REPORT AND FINANCIAL STATEMENTS DECEMBER 31, 2022

The following documents are excerpts from an independent audit of the Partnership for Clean Competition's finances.



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Independent Auditor's Report

Board of Governors Partnership for Clean Competition Research Collaborative Colorado Springs, Colorado

Opinion

We have audited the financial statements of Partnership for Clean Competition Research Collaborative (the Organization), which comprise the statements of financial position as of December 31, 2022 and 2021, and the related statements of activities, functional expenses and cash flows for the years then ended, and the related notes to the financial statements.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Organization as of December 31, 2022 and 2021, and the changes in its net assets and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the "Auditor's Responsibilities for the Audit of the Financial Statements" section of our report. We are required to be independent of the Organization and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Organization's ability to continue as a going concern within one year after the date that these financial statements are available to be issued.





Board of Governors Partnership for Clean Competition Research Collaborative

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Organization's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Organization's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

FORVIS, LLP

Colorado Springs, Colorado July 10, 2023

Statements of Financial Position December 31, 2022 and 2021

Assets

	2022	2021
Cash and cash equivalents Restricted cash Contributions receivable	\$ 544,317 779,377 300,000	\$ 1,739,816 958,044
Prepaid expenses Prepaid fellowship	26,574 152,500	5,470 28,125
Total assets	\$ 1,802,768	\$ 2,731,455
Liabilities and Net Assets		
Liabilities Accounts payable and accrued liabilities	\$ 119,571	\$ 633,028
Total liabilities	119,571	633,028
Net Assets Without donor restrictions	1,683,197	2,098,427
Total net assets	1,683,197	2,098,427
Total liabilities and net assets	\$ 1,802,768	\$ 2,731,455

Partnership for Clean Competition Research Collaborative Statements of Activities

Years Ended December 31, 2022 and 2021

		2022			2021	
	Without Donor Restrictions	With Donor Restrictions	Total	Without Donor Restrictions	With Donor Restrictions	Total
Revenues, Gains and Other Support Contributions Write-off of uncollectible pledges Other income	\$ 1,950,000 - 31,169	s , , , ,	\$ 1,950,000 - 31,169	<pre>\$ 1,500,000 (74,609) 1,528</pre>	\$ (25,000) -	$\begin{array}{ccc} \$ & 1,500,000 \\ (99,609) \\ 1,528 \end{array}$
Total revenues, gains and other support	1,981,169	ſ	1,981,169	1,426,919	(25,000)	1,401,919
Expenses and Losses Anti-doping research Management and general Fundraising	2,169,222 177,353 49,824		2,169,222 177,353 49,824	2,544,354 168,296 23,065		2,544,354 168,296 23,065
Total expenses and losses	2,396,399	ſ	2,396,399	2,735,715	ſ	2,735,715
Change in Net Assets	(415,230)	I	(415,230)	(1, 308, 796)	(25,000)	(1, 333, 796)
Net Assets, Beginning of Year	2,098,427		2,098,427	3,407,223	25,000	3,432,223
Net Assets, End of Year	\$ 1,683,197	۔ ج	\$ 1,683,197	\$ 2,098,427	' S	\$ 2,098,427

Statement of Functional Expenses Year Ended December 31, 2022

	2022										
	A	Program Services nti-Doping	Management and General		Support Services		Total Support			Total	
		Research	and	General	Fundraising		Services		Total		
Research	\$	1,825,766	\$	-	\$	-	\$	-	\$	1,825,766	
Fellowships and consultants		70,472		-		-		-		70,472	
Salaries		149,991		42,854		21,427		64,281		214,272	
Benefits		-		43,680		4,853		48,533		48,533	
Travel		14,861		-		22,611		22,611		37,472	
Conference		25,515		-		-		-		25,515	
Supplies and office expenses		-		9,354		-		9,354		9,354	
Website expenses		13,708		-		-		-		13,708	
Insurance		-		23,658		-		23,658		23,658	
Advertising		31,485		-		-		-		31,485	
Intellectual property		30,881		-		-		-		30,881	
Professional services and dues		6,480		57,395		933		58,328		64,808	
Miscellaneous Expense		63		412		-		412		475	
Total	\$	2,169,222	\$	177,353	\$	49,824	\$	227,177	\$	2,396,399	

Statement of Functional Expenses Year Ended December 31, 2021

	Program Services Anti-Doping Research				Suppo	ort Services			
			Management and General		Fundraising		Total Support Services		Total
Research	\$	2,112,640	\$	-	\$	-	\$	-	\$ 2,112,640
Fellowships and consultants		175,531		-		-		-	175,531
Salaries		121,640		34,754		17,377		52,131	173,771
Benefits		-		51,189		5,688		56,877	56,877
Travel		2,673		-		-		-	2,673
Supplies and office expenses		-		5,153		-		5,153	5,153
Website expenses		22,184		-		-		-	22,184
Insurance		-		19,749		-		19,749	19,749
Advertising		26,260		-		-		-	26,260
Intellectual property		77,042		-		-		-	77,042
Professional services and dues		6,384		57,451				57,451	 63,835
Total	\$	2,544,354	\$	168,296	\$	23,065	\$	191,361	\$ 2,735,715

Statements of Cash Flows Years Ended December 31, 2022 and 2021

	2022	2021
Operating Activities		
Change in net assets	\$ (415,230)	\$ (1,333,796)
Changes in		
Contributions receivable	(300,000)	232,942
Prepaid expenses	(21,104)	18,889
Prepaid fellowship	(124,375)	63,031
Accounts payable and accrued liabilities	 (513,457)	 545,882
Net cash used in operating activities	 (1,374,166)	 (473,052)
Change in Cash, Cash Equivalents and Restricted Cash	(1,374,166)	(473,052)
Cash, Cash Equivalents and Restricted Cash, Beginning of Year	 2,697,860	 3,170,912
Cash, Cash Equivalents and Restricted Cash, End of Year	\$ 1,323,694	\$ 2,697,860
Reconciliation of Cash, Cash Equivalents and Restricted Cash on the Statements of Financial Position		
Cash and cash equivalents	\$ 544,317	\$ 1,739,816
Restricted cash	 779,377	 958,044
Total cash, cash equivalents and restricted cash	\$ 1,323,694	\$ 2,697,860