Leadership

Digital care coordination

Telehealth

Omnichannel platforms

Clinical and business analytics

Consumer experience

Clinical Practices

Clinical Strategy

Care continuum

Population Health

Quality of care

Real World Evidence

Biomarkers

Therapeutics

Clinical Trials

Digital Health

Clinical Decision Support

Product development

Data integration

Patents

- Secure Computer Based PreOperative Assessment.
- Apparatuses for access to care across referral network

Alon Ben-Ari

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Alon Ben-Ari MD MSc

Physician using data to enhance clinical outcomes, patient satisfaction and margins

Leadership Experience

2017 - Present
VA Northern California Healthcare System Sacramento, CA,NCHCS

Chief Medical Information Officer

Associate Chief of Staff for Clinical Informatics, NCHCS

- Led Health Care System telehealth's arm serving 100,000 patients; architected one-stop-shop customer-oriented web kiosk serving staff's needs; coordinated staffing with primary care and specialty care; managed training and certification; supervised equipment maintenance and preventive maintenance schedules.
- Designed, implemented, and deployed omnichannel scheduling application; 4-fold increase in same-day scheduling saving 500 manhours/month at the call center.
- Architected telehealth chat-bot supporting initial telehealth visit; deployed nationally.
- Patient-facing pre-operative tool leveraging enterprise-grade authentication tools; parallel clinical facing graphical web tool. Patent pending.
- The first in the VA to build and deploy pharmacy curbside medication pick-up tool; used by over 10,000 patients at the peak of COVID-19.
- Supported mass vaccination events by simulating operation; created staffing model; queue optimization; increased daily vaccination capacity to >700 doses.
- Implemented COVID-19 comprehensive reporting system for patients and staff.
- Oversee Veterans Equitable Resource Allocation (VERA) Funding Model for the Healthcare system.
- Chair Clinical Informatics Committee and Data Governance, NCHCS.

- Voting member Veterans Health Administration Data Governance Council. (VHA DGC). A VA Central Office Council reporting to the VA board of governors
- Voting member Data Reporting Analytics Capability Management Board (DRACMB) – cross-agency board to authorize funding for data and analytics for the enterprise.

2012 – 2017
Puget Sound VA Healthcare System Seattle. WA

Director of Regional Anesthesia, Department of Anesthesia

Implemented best practices in post-surgical acute pain.

Clinical and Academic Experience

2017 - Present
University of California Davis

Associate Professor

- Staff Anesthesiologist, Department of Anesthesia.

2012 - 2016
University of Washington

Assistant Professor

- Staff Anesthesiologist, Department of Anesthesia.

2007 – 2011
University of Pittsburgh

Instructor

- Staff Anesthesiologist - Acute Interventional Postoperative Pain Service.
- Clinical Trials & Safety Co-Investigator.

2001 – 2007
Hadassah, Hebrew University Hospital, Israel

Fellow

- Regional Anesthesia and Acute Pain (2007-2008)

Anesthesiology residency and clinical internship

- Spearheaded the development of a therapeutic tissue engineering based technology; resulted in successful feasibility trial of patented fibrin technology applied to the repair of a non-healing bone defect.

Education

2014 – 2019
Stanford, CA

Biomedical Informatics, Stanford's School of Medicine, MSc

1994 – 2000
Technion - Israel Institute of Technology

Doctor in Medicine (Cum Laude)

1991 – 1994
Israeli Army Center of Computing and Cyber Defense

Programmer

APPOINTMENTS AND POSITIONS

ADMINISTRATIVE:

2017 – Present	Chief Medical Information Officer, Associate Chief of Staff for Clinical Informatics, VA's Northern California Healthcare System.

- Chair, Clinical Informatics, and Data Governance Committee, NCHCS.
- Co-Chair, Veterans Equitable Resource Allocation (VERA) funding Committee.
- Co-Chair Data Governance VISN 21.
- Chair Telehealth Advisory Sub-Committee
- Chief Telehealth Northern California Health Care System
- Voting member VHA Data Governance Council.
- Voting member DRACM Office of Informatics.

2015 – 2017	Acting Chief Medical Information Officer, Puget Sound VA Healthcare System.
2013 – 2014	Director Medical Informatics Fellowship Program.
2013 – 2016	Member of the Seattle VA informatics committee.

ACADEMIC:

2017- Present	Associate Professor, University of California Davis, School of Medicine, Department of Anesthesiology, Sacramento CA.
2012 – 2016	Assistant Professor, University of Washington Medical School, of Anesthesiology and Pain medicine, Seattle WA.
2016	Co-Chair Health Learning track at the Hawaiian International Conference on System Science - HICSS (2016).(IEEE conference)
2008 – 2011	Instructor, University of Pittsburgh Medical Center (UPMC), Pittsburgh, PA, USA.
2006 – 2007	Instructor, Hadassah, Hebrew University Medical Center, Jerusalem, Israel.

CLINICAL:

2017 – Present	Staff Anesthesiologist, Department of Anesthesia, Sacramento VA Medical Center.
2012 – 2017	Staff Anesthesiologist, Department of Anesthesia, Seattle VA Medical Center.
2012 – 2014	Director of Regional Anesthesia, Department of Anesthesia, VA Medical Center
2008 – 2011	Staff Anesthesiologist - Acute Interventional Postoperative Pain Service University of Pittsburgh Medical Center (UPMC), Pittsburgh, PA.
2007 – 2008	Fellow - Regional Anesthesia and Acute Pain University of Pittsburgh Medical Center (UPMC), Pittsburgh, PA.
2002 – 2007	Anesthesiology Resident, Hadassah, Hebrew University Hospital, Jerusalem, Israel.

2001 – 2002   Clinical Internship, Hadassah, Hebrew University Hospital, Jerusalem, Israel.

CERTIFICATION AND LICENSURE

MEDICAL LICENSE:

2009 – Present   Unrestricted license in medicine #MD438007, Pennsylvania.

2002 - Present   Unrestricted license in medicine # 34268, Israel.

SPECIALTY CERTIFICATION:

2008 - Present   Specialist in Anesthesia, Israel Board of Anesthesia # 26312.

2007 - Present   European Academy of Anesthesiology (DEAA).

EDUCATION AND TRAINING

2014 – 2019   Biomedical Informatics MSc, Stanford University, CA, USA.

2007 – 2008   Regional Anesthesia Fellowship

                   University of Pittsburgh Medical Center (UPMC), Pittsburgh, PA, USA.

- Excellence in Research Award (top one percent).

2002 – 2007   Anesthesia Residency - Dept. of Anesthesiology and Critical Care Medicine

                   Hadassah, Hebrew University Hospital, Jerusalem, Israel.

- Young Researcher Award for Residents (top one percent).

2001 – 2002   Internship, Hadassah, Hebrew University Medical Center, Jerusalem, Israel.

1997 – 2000   Doctor in Medicine (Cum Laude), Technion - Israel Institute of Technology.

1994 – 1997   BSc (Cum Laude), Technion - Israel Institute of Technology.

1991 – 1992   Programmer – Israeli Army Center of Computing and Information Systems
                   Top 10 software professionals schools in the world.

PATENTS

2022   Secure Computer-Based Pre-Operative Assessment.

2023   Methods and apparatuses for estimating access to care times across a referral
                   network in a healthcare system

INVITED SPEAKER

2024	AIMed, Nov 2024, Orlando FL.
2024	Silicone Valley Cybersecurity Summit, Feb 2024.
2023	National Healthcare CMO, Dallas, Dec 2023
2023	Cybersecurity Summit Healthcare and Pharma, Santa Clara CA
2023	Healthcare Tech National Flagship Summit, Phoenix, AZ.
2023	Ai4, Las Vegas, NV

PROGRAMING LANGUAGES

Operating Systems: Linux/Unix, Windows

Programing Languages: Python, C#, JavaScript

Web and Mobile: ASP.NET, Xamarin, C#, Python (Flask, Django), Javascript (jQuery)

Databases: SQL, Pig, RDF/SPARQL, Neo4j, Apache Spark, MongoDB.

Statistics and Data Analysis: R, Excel, Python.

Simulation frameworks NetLogo, Python(AgentBase, Mesa, simPy).

Reporting: LaTex, Word, Power Point, Excel

CITIZENSHIP AND LANGUAGES

Citizenship: USA, Canada, EU, Israel

Languages: English, French, Arabic, Hebrew

PRE-PRINT

- **AI-Agents in Healthcare https://www.preprints.org/manuscript/202410.0182/v1**

- **Scaling Laws in referral networks.
  https://www.medrxiv.org/content/10.1101/2024.11.06.24316731v1**

PUBLICATIONS

PENDING WORK:

- **Ben-Ari A.,** Carney K., Cahill W., Tu SP. Massive vaccination events. A simulation approach to optimize flow and staffing model.

- **Ben-Ari A.**, George H., Bigeleisen PE. Scaling laws and self-similarity in outpatient referral networks. A Veterans Health Administration (VHA) wide study employing network analysis.
- **Ben-Ari A.** Bigeleisen PE Optimizing referral networks. An agent-based simulation approach to the problem of access to care.

PEER REVIEWED:

- Starr J., Rozet I. and **Ben-Ari A.**, 2018. A Risk Calculator Using Preoperative Opioids for Prediction of Total Knee Revision Arthroplasty. *The Clinical journal of pain*, 34(4), pp.328-331.
- Lee A.T., Gagnidze A., Pan, S.R., Sookplung P., Nair B., Newman S.F., **Ben-Ari A.**, Zaky A., Cain K., Vavilala MS. and Rozet I., 2017. Preoperative low-dose aspirin exposure and outcomes after emergency neurosurgery for traumatic intracranial hemorrhage in elderly patients. *Anesthesia & Analgesia*, 125(2), pp.514-520.
- Baciewicz AM., Lee C., **Ben-Ari A.**, Kim H., Lee AT. Intravenous Tissue Plasminogen Activator Administration for Ischemic Stroke 1 Hour After Epidural Catheter Removal: A Case Report. A&A Case Reports. 2017 Jan 11.
- **Ben-Ari A.**, Chansky H., Rozet I. Preoperative Opioid Use Is Associated with Early Revision After Total Knee Arthroplasty. *Journal of Bone and Joint Surgery (JBJS)*, 2017 Jan 4;99(1):1-9.
- **A. Ben-Ari** and K. Hammond, "Text Mining the EMR for Modeling and Predicting Suicidal Behavior among US Veterans of the 1991 Persian Gulf War," *2015 48th Hawaii International Conference on System Sciences*, 2015, pp. 3168-3175, doi: 10.1109/HICSS.2015.382.
- Hammond KW., **Ben-Ari A**, Laudry RJ., Boyko E, Samore MH. The Feasibility of Using Large Scale Text Mining To Detect Adverse Childhood Experiences in a VA-Treated Population.   Journal of Traumatic Stress. Journal of Trauma and Stress 2015 Dec;28(6):505-14.
- **Ben-Ari A.,** Hammond KW. Text Mining the EMR for Modeling and Predicting Suicidal Behavior among US Veterans of the 1991 Persian Gulf War. *IEEE Hawaii International Conference on System Sciences (HICCS)*, 2015.
- **Ben-Ari A.**, Moreno M., Chelly JE., Bigeleisen PE. Ultrasound-Guided Paravertebral Block Using an Intercostal Approach. *Anesthesia Analgesia* 2009;109(5):1691-4.
- **Ben-Ari A.**, Joshi R., Chelly JE. Ultrasound Localization of the Sacral Plexus Using a Parasacral Approach. *Anesthesia Analgesia* 2009;108(6):1977-1980.
- **Ben-Ari A.**, Rivkin R., Miryam F., Gaberman E., Levdansky L., Gorodetsky R. Isolation and Implantation of Bone Marrow-Derived Mesenchymal Stem Cells with Fibrin Micro Beads to Repair a Critical-Size Bone Defect in Mice. *Tissue Engineering* Part A 2009;15(9):2537-46.
- Rifkin R., **Ben-Ari A.**, Gorodetzky R. High yield Isolation Expansion and Differentiation of Murine Bone Marrow Derived Mesenchymal Stem Cells Use in Fibrin Microbeads (FMB). *Cloning and Stem Cells* 2007;9(2):157-75.

- **Ben-Ari A**, Lewis MC, Davidson E. Chronic administration of ketamine for analgesia. *Journal of pain & palliative care pharmacotherapy*. 2007 Jan 1;21(1):7-14.

- Szalat S., Gershkovich P., **Ben-Ari A.**, Shaish A., Liberman Y., Boutboul E., Gotkine M., Hoffman A., Harats D., Leitersdorf E., Meiner V. Rifampicin-Induced CYP3A4 Activation in CTX Patients Cannot Replace Chenodeoxycholic Acid Treatment. *Biochimica et Biophysica Acta* 2007; 1771(7):839-844.

- Lewis MC., Nevo I., Paniagua MA., **Ben-Ari A.**, Pretto E., Eisdorfer S., Davidson E., Matot I., Eisdorfer C. Uncomplicated General Anesthesia in the Elderly Results in Cognitive Decline: Does Cognitive Decline Predict Morbidity and Mortality? Medical Hypotheses 2007;68(3):484-92.

- **Ben Ari A.**, Elinav E., Elami A., Matot I. Off-Pump Coronary Artery Bypass Grafting in a Patient with Child Class C Liver Cirrhosis Awaiting Liver Transplantation. British Journal of Anaesthesia 2006;97(4):468-472.

- Shimony N., Gorodetsky R., Marx G., Gal D., Rivkin R., **Ben-Ari A.**, Landsman A., Haviv YS. Fibrin Microbeads (FMB) as a 3D Platform for Kidney Gene and Cell Therapy. *Kidney International* 2006;69(3):625-633.

REVIEWS:

- **Ben-Ari A.,** Lewis MC., Davidson E. Prolonged Administration of Ketamine for Analgesia. *Journal of Pain & Palliative Care Pharmacotherapy* 2007;21(1):7-14.

- **Ben-Ari A.**, Davidson E. Ketamine for Chronic Pain. *The Israeli Journal of Symptoms and Pain Control* 2006;16:16-23.

- Pawar R., **Ben-Ari A.** Domb AJ. Protein and Peptide Parenteral Controlled Delivery. *Expert Opinion on Biological Therapy* 2004;4(8):1203-12.

BOOK CHAPTERS:

- Biegeleisen PE., Ben-Ari A., Fanelli A., Ghisi DEF. Ultrasound Guided Thoracic Paravertebral Pectoralis, and Serratus Anterior Blocks, in *Ultrasound-Guided Regional Anesthesia and Pain Medicine*, ed. Biegeleisen PE.(Wolters Kluwer, 2015).

- **Ben-Ari A.**, Ben-David B. Ultrasound Guided Parasacral Block, in *Ultrasound Guided Regional Anesthesia and Pain Medicine*, ed. Biegeleisen PE. (LW&W, 2009), 120-122.

- Biegeleisen PE., **Ben-Ari A.** Ultrasound Guided Thoracic Paravertebral Nerve Block, in *Ultrasound Guided Regional Anesthesia and Pain Medicine*, ed. Biegeleisen PE. (LW&W, 2009), 150-155.

CONFERENCE PRESENTATIONS:

- Starr J., **Ben-Ari A**. A risk calculator incorporating preoperative opioid use to predict total knee arthroplasty revision. *American Society of Anesthesiologists (ASA)*, 2016.

- Starr J., **Ben-Ari A**. Variation in Opioid Prescribing Patterns Before Total Knee Arthroplasty in Veterans Affairs Patients. *American Society of Anesthesiologists (ASA)*, 2016.

- ***Best paper in Information Technology in Healthcare Track***
  Ben-Ari A., Hammond KW. Text Mining the EMR for Modeling and Predicting Suicidal Behavior

among US Veterans of the 1991 Persian Gulf War (Presented at *Hawaii International Conference on System Sciences (HICCS)*, Kauai HI, 2015).

- **Ben-Ari A.,** Rozet I. Chronic Preoperative opioids are associated with early knee revision in patients undergoing knee replacement. (Presented at the *American Society of Anesthesiologists (ASA)*, New Orleans LA, 2014).

- **Ben-Ari A.,** Hammond KW. Adverse Childhood Experiences and Adult Illness in Gulf War Veterans. (Presented at the *American Medical Informatics Association*, Washington DC, 2013).

- **Ben-Ari A.,** Chelly JE. Different Opioids Impact on PCA Pattern of Usage. (Presented at the *Association of University Anesthesiologists meeting*, Philadelphia PA, 2011).

- **Ben-Ari A.,** Marr L. Role of Continuous Peripheral Nerve Blocks (cPNB) in the Incidence of Post-Operative Nausea and Vomiting (PONV) in Major Joint Replacement. A Bayesian Approach to Retrospective Analysis. (Presented at the *European Society of Anesthesia*, Amsterdam, 2011).

- **Ben-Ari A.**, Marr L. Modeling Opioid Hydromorphone ED50 in Surgical Patients for Postoperative Pain, and Quantifying the Pharmacological Effect of a Nerve Block. (Presented at the *Italian Society of Anesthesiology*, Parma, Italy, October 2010).

- **Ben-Ari A.**, Chelly JE, Williams JP. Defining a Quantitative Clinical Phenotype Using Stochastic Modeling. (Presented at the *Association of University Anesthesiologists Meeting*, Denver CO, April 2010).

- Ghisi D., **Ben-Ari A.** Determining Placement Accuracy of Continuous Bilateral Paravertebral Catheters: A Comparison Between Ultrasound Guidance and Blind Technique. (Presented at the *American Society Regional Anesthasia Meeting*, Toronto, April 2010).

- **Ben-Ari A.,** Ruttum D., Biegeleisen PE. Ultrasound Guided Suprascapular Nerve Block in the Supraclavicular Fossa. (Presented at the *American Society Regional Anesthasia Meeting*, Toronto, April 2010).

- **Ben-Ari A.,** Shik V., Chelly JE. Two Unilateral Continuous Thoracic Paravertebral Blocks for the Pain Management of Extensive Rib Fractures. (Presented at the *American Society Regional Anesthasia Meeting*, Toronto, April 2010).

- Wilson S., **Ben-Ari A.** Placement of Peripheral Nerve Catheters for Lower Extremity Amputation in a Patient with a History of Surgical Revascularization: An Indication for Ultrasound. (Presented at the *American Society Regional Anesthasia Meeting*, Toronto, April 2010).

- **Ben-Ari A.,** Belfer I., Dai F., Chelly JE. Quantitative Sensory Testing (QST) and Clinical Variables in Total Knee Arthroplasty (TKA) in Patients with Continuous Peripheral Nerve Blocks (cPNB). (Presented at the *6th Congress of the European Federation of IASP Chapters (EFIC). Pain in Europe,VI*, Lisbon, Portugal, September, 2009).

- **Ben-Ari A.,** Belfer I., Dai F., Chelly JE. Low Dose Continuous Femoral Blocks Does Not Impact Quadriceps Strength After Knee Arthroplasty. (Presented at the *American Society of Anesthesiologists Meeting*, New Orleans, October, 2009).

- **Ben-Ari A.**, Belfer I., Dai F., Chelly JE. Quantitative Measurement of Quadriceps Muscle Function Following Major Orthopedic Surgery. (Presented at the *Annual American Society of Regional Anesthesia Meeting,* Pheonix, April, 2009).

- **Ben-Ari A.**, Moreno GM., Bigeleisen PE., Chelly JE. Ultrasound Guided Continuous Approach to the Paravertebral Space. (Presented at the *International Anesthesia Research Society Meeting*, San Diego, March 2009).

- **Ben-Ari A.,** Uskova A., Rama J., Chelly JE. Ultrasound Guided Sciatic Nerve Block using the Parasacral Approach - Description of Technique. (Presented at the *American Society of Anesthesiogists Meeting*, Orlando, October, 2008).
- **Ben-Ari A.,** Biegelesen PE., Chelly JE. Antero-Medial Ultrasound Guided Approach to a Sciatic Nerve Block. (Presented at the *American Society of Anesthesiologists Meeting*, Orlando, October 2008).
- **Ben-Ari A.,** Frishman M., Rivkin R., Levdansky L., Gaberman Y., Gorodetsky R. Using Fibrin Micro Beads (FMB) for Isolation, Differentiation and In-Vivo Implantation of Mouse Mesenchymal Stem Cells in a Model of Ectopic Bone Formation and Repair of Critical Size Bone Defect. (Presented at the *Symposia in Tissue Engineering and Developmental Biology*, Utah, April, 2007).
- Rivkin R., **Ben-Ari A.**. Levdansky L., Gaberman E., Hotovely AS., Marx G., Gorodetsky R. Fibrin-Microbeads (FMB) for Isolation, Differentiation and Implantation of Bone-Marrow-Derived Mouse Mesenchymal Stem Cells. (Presented at the *International Workshop on Stem Cells and Calcified Tissues*, Tel-Aviv, Israel, 2006).
- **Ben-Ari A.,** Rivkin R., Levdansky L., Gaberman E., Solomon AH., Marx G., Gorodetsky R. Isolation Differentiation and In-Vivo Implantation of Osteogenic and Chondrogenic Cells Derived from Mice Mesenchmal Stem cells using Fibrin Micro Beads (FMB). (*20th International Congress of the Israeli Society of Anesthesia*, Tel-Aviv, Israel, 2005).

INVITED SPEAKER AND WORKSHOPS:

- From computer science to bedside, a clinician's perspective. Keynote Speaker Digital Health Track *Seattle Start-Up Week*, Seattle, Washington, November 2016.
- Data Mining; finding New Gold*, Think Tech Hawaii*, Honolulu Hawaii, May 2015.
- Suicidal behavior in OEF/OIF veterans, from text mining through machine learning to social network analysis. UC Davis Department of Informatics. Sacramento, California, May 2014.
- Ultrasound Guided Peripheral Nerve Blocks Workshop. *Jerusalem University – Anesthesia Department*. Jerusalem Israel, October 2013.
- Ultrasound Guided Peripheral Nerve Blocks Workshop. *American Society of Anesthesiologists Meeting*. New Orleans LA, October 2010.
- Lower Extremity Peripheral Nerve Blocks. *The 4th Regional Anesthesia & Hemostasis Symposium*. Nemacolin resort, Farmington PA, April 2008.
- Ultrasound Guided Peripheral Nerve Blocks Workshop. *The 5th Annual UPMC Pain Management Symposium*. Nemacolin resort, Farmington PA, November 2008.
- Optimizing referral networks. An agent-based simulation approach to the problem of access to care. September 21st 2023, TEDxVeteransAffairs Orlando
- AI Power for Provider Tech Success, Ai4, Vegas, August 2023

PUBLISHED SOFTWARE:

- **Ben-Ari A.**. Abstraction of Generic Opioid Drug Names and Dosages from Full Text Prescription Records. https://github.com/alon-benari, GITHUB, 2014