

WHO WE ARE

Afferent Health is an independent clinical and scientific R&D intelligence firm. We enable health systems, federal partners, and technology teams to transform complex clinical data into deployable decision-support capabilities by integrating advanced ML/AI development with the specialized expertise and personnel required for execution. We learn from the whole record - waveforms, monitor streams, laboratory results, longitudinal EHR data, and clinical text - where the data are richest and the stakes are highest. We earn trust through calibration, physiologic checks, subgroup and transfer testing, negative controls, disclosed limits, and human-use design.

Delivery model. Afferent leads clinical problem formulation, evidence, modeling, validation, acceptance metrics, and specialist inputs. Prime partners lead capture, pricing, contracts, engineering, integration, sustainment, and transition.

CORE CAPABILITIES

- **Complete-record clinical intelligence.** Cohort definition, record linkage, governance, and analysis across waveforms, monitor numerics, labs, EHR data, clinical text, and longitudinal history.
- **Multimodal waveform and signal processing.** Learning from raw arterial pressure, capnography, pulse oximetry, and EEG morphology - not only the summary numbers a monitor reports.
- **Accountable ML/AI and clinical TEVV.** Prototype development, calibration, subgroup and site-transfer testing, explainability, abstention, safety analysis, negative controls, drift monitoring, and test/evaluation/verification/validation support.
- **Perioperative, ICU, and acute-care intelligence.** Risk stratification and monitoring for surgical outcomes, biological age and reserve, delirium, deterioration, kidney injury, respiratory events, readmission, and care transitions.
- **Clinical workflow and decision-support design.** Turning clinical requirements into usable tools for transplant readiness, clinical summaries, release gates, surveillance, OR flow, coding review, and care navigation.
- **Research-to-product and value translation.** Evidence synthesis, data-feasibility review, study design, proof-of-concept planning, prospective validation, and auditable economic-impact and budget models.
- **Clinical solutioning for prime-led federal teams.** PWS-by-PWS clinical workflow, safety and validation, data assumptions, acceptance metrics, SME staffing, and the clinical portion of technical approaches and RFI/RFP responses.

DIFFERENTIATORS

- **Physician-scientist depth.** Clinical validity, workflow fit, and measurable impact are designed in from the start by clinicians and scientists who understand both the signal and the decision it must support.
- **Existing data first.** When a health system already captures the signal, we make that record more useful before asking for new hardware or unnecessary workflow.

PARTNER ECOSYSTEM



COMPANY DATA

LEGAL ENTITY	PRIMARY NAICS	ADDITIONAL NAICS	CONTACT
Afferent Health LLC New York, NY Small business	541690 Other Scientific and Technical Consulting Services	541715 - Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology) 541512 - Computer Systems Design Services	AfferentHealth.com Contact@AfferentHealth.com

KEY PERSONNEL

- **D. K. Adrian Williams, MSc - Founder & Principal.** MD-PhD candidate in computational neuroscience and signal processing, with work spanning multimodal physiology, explainable clinical AI/ML, pulse oximetry, capnography, EEG, research-to-product translation, and day-to-day operations.
- **Joseph R. Scarpa, MD-PhD - Medical Specialist.** Assistant Professor and fellowship-trained liver transplant anesthesiologist; computational biologist and multi-omics scientist; NIA funded Principal Investigator with expertise in perioperative physiology, biological aging, and clinical & translational AI.
- **Ruben Coen-Cagli, PhD - Scientific & AI Specialist.** Associate Professor of Systems & Computational Biology, Neuroscience, and Ophthalmology; physicist and computational neuroscientist; NIH/NEI-funded Principal Investigator with expertise in probabilistic modeling, representation learning, computational neuroscience, and scientific AI.

CURRENT WORK AND PRODUCT DIRECTIONS

- **Surgical Intelligence.** Biological age and reserve, delirium prevention, perioperative risk, failure-to-rescue and readmission, ICU escalation, and OR readiness or flow.
- **Transplant decision support.** LLM-assisted referral readiness, packet quality, clinical navigation, and review support designed around documented transplant-service friction.
- **Clinical AI assurance.** TEVV and release gates for calibration, bias, missingness, drift, cross-site transfer, explanation, human review, and audit-ready evidence.
- **Physiologic intelligence.** Pulse-oximetry equity, capnography, arterial-waveform, EEG, and multimodal decompensation methods built from signals already present in routine care.
- **Clinical data and operations.** Clinical-summary quality, coding and appeals support, opioid-safety surveillance, workforce and rotation operations, and data-trust or reconciliation workflows.
- **Federal clinical R&D work packages.** Evidence-backed concepts and clinical or scientific contributions for pilots, task orders, grants, and R&D programs within prime-led capture and delivery teams.

- **We measure the problem before selling the solution.** The first deliverable is a defensible baseline, calibration and feasibility audit, and value model - not an unsupported promise.
- **One bridge from data to delivery.** Afferent connects clinical need, evidence, modeling, validation, workflow, and SME inputs; partners extend capture, pricing, contracts, engineering, cloud, integration, vehicles, and program delivery.