

**MOST INFLUENTIAL  
HEALTHCARE LEADER  
2023**

# Gennaro Maida

CHIEF EXECUTIVE OFFICER AT DENOVO INNOVATIONS GROUP

## LEADING INNOVATION AT THE INTERSECTION OF MEDICINE AND TECHNOLOGY

In today's digital era where the realms of medicine and technology intertwine, Gennaro Maida, the visionary Chief Executive Officer of Denovo Innovations Group, stands out as an example of innovation, exemplary leadership, and an unwavering dedication to lifelong learning. Reflecting upon his professional journey, Gennaro eloquently expresses, "The fusion of medicine and technology is reflected in my recent accomplishments. It showcases the interplay of groundbreaking innovation, astute leadership, and an unyielding commitment to constant growth, resulting in novel Digital Health Technologies."

From a young age, Gennaro's passion for medicine was ignited by his family's long

line of physicians. "At the age of two, I was entrusted with the Merck Manual of Diagnosis and Therapy, which served as the catalyst for my love of medicine," he fondly recalls. Fueled by an innate aptitude for engineering, Gennaro pursued a degree in Biomedical Engineering from the renowned Pratt School of Engineering at Duke University. "This formative academic foundation not only provided me with invaluable exposure to digital design, medical informatics, and biotechnology but also nurtured many of my future interests. My insatiable appetite for knowledge has always been a part of my character." This search for knowledge flowed into the realms of clinical medicine and research as Gennaro continued his studies.



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Gennaro's focus extended beyond the boundaries of traditional medicine, as his forward-thinking mindset gravitated towards constructing the clinics of the future, with a particular emphasis on their role within smart cities with integrated in-home medical services. Over a span of 15 years, Gennaro embarked on a transformative journey encompassing network design, unified communication solutions, control systems, and IoT. "Through my collaborations with multinational corporations and enterprise-class clientele, I gained invaluable insights into managing expectations and striking a balance between the needs of diverse stakeholders," he shares.

"I discovered that the essence of effective leadership often lies in educating and empowering those you serve," he emphasizes. "Recognizing this, I harnessed my expertise in medicine and technology to craft innovative solutions." In the past half-decade, Gennaro dedicated himself to mastering data science and its applications in medicine, perceiving its immense potential to revolutionize patient care. "With the advent of cutting-edge technologies such as cloud computing, IoT, edge computing, and machine learning, I envisioned the remarkable capacity of these innovations to augment the capabilities of clinicians, enhancing patient care," he explains.

The emergence of the COVID-19 pandemic propelled Gennaro's visionary endeavors into reality. Denovo Innovations Group was created to solve problems inherent in remote medicine. The aim is to support early-stage startups or



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agile technology carve-outs in larger companies to solve these issues. The Denovo Innovations Group model is to build and lead Clinical and Scientific Research teams to solve medical challenges with Digital Health Technologies. Drawing upon a wide network and broad experience, Denovo has had the opportunity to work in a variety of areas.

In an early project, Gennaro acted as virtual CTO and cofounder of Vital Intelligence, a data science driven Digital Health Technology company. Denovo collaborated closely with computer vision experts and spearheaded the development and commercialization of a state-of-the-art system to assess potential respiratory infections. "This venture evolved into the groundbreaking initiative known as

Vital Intelligence, which thoroughly tested my leadership abilities," Gennaro recounts. His unwavering dedication and innovation earned him accolades as a Top 100 Visionary in Healthcare through the International Federation for the Advancement of Healthcare. Success at Vital Intelligence led to a variety of follow up roles. These include being a member of advisory boards for cutting edge health tech companies, new executive leadership roles, and overtaking operations for an independent company.

Assuming a role as virtual Chief Medical Technology Officer, Gennaro found himself working to build distributed health tools of the future. Gennaro's breadth of knowledge expands outside of the traditional roles of CMO and CTO leading to the creation of a new position. "We are in the early stages of building Healthcare 4.0, where medicine is propelled by cutting-edge digital technology," he exclaims.

"I aim to leverage my leadership skills and expertise as a leading authority in medicine, technology, and data science, paving the way towards a more patient-centric and distributed medical system."

### **Revolutionizing Healthcare: Denovo Innovations Group's Vision for a Connected Future**

With Vital Intelligence, Gennaro focused on remote acquisition of vital signs from video (live or recorded) to better assess health status. The applications were many, ranging from remote COVID assessment to Zoom integration for more thorough remote visits, to in-hospital non-contact patient monitoring. The commercialized technology worked from UAV platforms and had applications in search and rescue operations. Being able to remotely assess vital signs from practically any camera platform on the planet was incredibly exciting. Vital Intelligence had a quick exit one year after opening.

Moving on to a second entrepreneurial role as Chief Medical Technology Officer, further exploration into distributed medicine was on

the horizon. Gennaro's new focus was on other forms of real time remote patient and remote therapeutic monitoring through wearables and edge computing. Denovo aimed to support the creation of novel digital therapeutics for both prescription and nonprescription use, adding new tools to a physicians' toolbelt. "Overcoming old barriers of short discrete visits in both time and space, we aim to bring the patient and physician closer together."

The innovative approach of Denovo Innovations Group, which aims to transform healthcare by analyzing real-time, longitudinal patient data, fascinated Gennaro. He was particularly intrigued by the shift from reactive to proactive healthcare using real-time data, machine learning, wearable technologies, and smartphones/edge computing. Denovo Innovations Group's scientific and technical focus is on preventative, interventional medicine in both the somatic and mental fields. The synergy between real-time data, machine learning, and clinical medicine captivated Gennaro and is now a large part of the digital health care transition. The goal is to optimize patient outcomes and improve the



quality of life by monitoring and mitigating risks through technology.

Gennaro recognized the potential for significant impact in optimizing the healthcare system and enhancing patient outcomes. He sees Denovo Innovations Group as a catalyst for transforming the healthcare landscape, creating a connected future where technology and medicine converge seamlessly through prescription and non-prescription digital therapeutics.

### **Bridging the Gap: Leading the Fusion of Healthcare and Technology at Denovo**

Gennaro's collaborative approach to partnerships has been crucial to Denovo Innovations Group's success. He has formed alliances with industry-leading partners, preparing companies to navigate critical milestones such as FDA class II 510(k) submissions, SBIR/STTR Grant pursuits, and patent submissions. His early work on an FDA submission, with support from



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well-known academic centers, demonstrates his expertise and commitment, pushing the boundaries of healthcare technology.

To bridge this gap, Denovo Innovations Groups' primary focus is to build and lead world class medical and scientific R&D teams supporting startups and entrepreneurial ventures within larger companies. Leaning on existing network connections that encompass many fields such as data science, software engineering, clinical medicine, scientific research, billing, and legal, creation of new teams for each endeavor is a must; each project offers unique needs and challenges. This allows Denovo to expand its network and support with each project allowing for continual improvement and deeper dives into

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the challenges of distributed medicine and the fusion of technology.

As a primary inventor, Gennaro has made significant contributions by driving innovation and developing algorithms for real-time detection and interventions of various health issues. As an inventor he focused on reducing sleep disturbances due to PTSD. His role in forming partnerships within the medical military complex in San Antonio strengthens Denovo's commitment to the military community.

In the fast-paced startup environment, Gennaro's leadership style is dynamic. "I've established and nurtured strategic partnerships, harnessing the power of collective expertise," he states. Gennaro's leadership has earned him recognition in the healthcare community. "Being honored as a Top Leader in Healthcare at the Health 2.0 Conference in 2022 was a significant moment," he shares.

#### **Integrating Medicine and Technology for Effective Healthcare Solutions**

"We strive to build bridges between physicians and patients, leveraging advanced technology to facilitate a more direct and personal approach to healthcare," Gennaro adds. We aim to help guide patients and physicians in selecting and utilizing therapeutic technologies and non-prescriptions technologies to improve a patient's health and wellness.

Denovo stands out as a solutions provider. Whether the question is "Can you detect infection from a drone?" or "Can you scientifically improve upon a current product and clinically validate it?" Denovo works to find technology solutions to clinical challenges. Relying on medical science, problems are first

scientifically theorized and then prototyped based on peer reviewed research and expert direction. Teams are built during this time to prepare for commercialization, clinical validation, and marketing, tailored for specific clinical fields. By combining medical science and research to build next generation software and devices, many challenges can be overcome!

#### **Pioneering Remote Patient Monitoring and Transformative Healthcare Solutions**

"At Vital Intelligence, I had the privilege of spearheading an innovative data analytics platform that advanced remote patient assessment and improved COVID screening," Gennaro explained. The platform was based on image photoplethysmography (PPG) extracting vital signs from practically any camera and platform on the planet. It enabled remote/non-contact monitoring of patients' vital signs including heart rate, respiration rate, temperature, and oxygen saturation. The acquisition of real-time data improved the efficiency and accuracy of COVID assessments prior to testing.

Under Gennaro's leadership, a pivotal partnership was formed with a renowned academic center and their technology commercialization division. Collaborating closely with a team of PhD researchers, they optimized the platform and expanded its capabilities. This experience highlighted Gennaro's ability to foster cross-disciplinary collaboration, and work with remote multinational teams.

The versatile nature of the screening kiosk designed and built by Gennaro allowed for deployments across diverse sectors, from Historically Black Colleges and Universities,

NASCAR racetracks, prisons, and even robots. Gennaro's leadership played a crucial role in managing these distinct deployments, ensuring the platform met the unique challenges and requirements of each setting. Denovo's support expanded into acquisition, supply chain management, manufacturing, and deployment during this period of growth.

Building on this track record of innovation, Gennaro has brought his expertise in remote PPG technologies and experience in team and project management to other companies. He was able to transfer his scientific knowledge of remote acquisition and analysis of PPG signals to those acquired by wearables continuing on in the innovative spirit.

"Adaptability and collaboration are ingrained in our DNA," Gennaro emphasizes. Recognizing the essential role collaboration plays in the medical technology sector, the company actively fosters partnerships with healthcare professionals, technology experts, and other stakeholders to develop effective solutions.

To ensure their solutions are clinically sound and technologically advanced, Denovo actively involves subject matter experts from the clinical and research fields. This collaborative approach allows for the integration of medical knowledge and technological advancements, resulting in solutions that are both effective and innovative. Their valuable insights and perspectives are sought through regular discussions, enriching the ideas and solutions generated by Denovo.

### Staying Ahead of the Curve

"My strategies for staying updated with the latest advancements and trends in medical technology are centered around collaboration,

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continuous learning, and seeking guidance from mentors and colleagues," Gennaro explains. Recognizing the value of mentorship and shared learning, Gennaro emphasizes the creation of a collaborative environment fostered at Denovo. Working closely with a nationwide network of experts, the team leverages their collective knowledge and experiences to shape their trajectory and stay informed about the latest developments in the field.

Rather than viewing projects as standalone accomplishments, Gennaro sees each as an opportunity to build deeper and more cohesive teams. Each project, challenge, and success serve as an opportunity to gain new insights and expand their understanding of the technologies applied to medicine. This mindset of continuous learning and improvement allows them to stay agile, anticipate trends, and drive innovation. The continually expanding network provides new opportunities and technologies to apply



Denovo is actively exploring innovative strategies to enhance Remote Therapeutic Monitoring (RTM) for musculoskeletal conditions through the application of cutting-edge technologies and smartphone apps

to medicine including, generative AI, Data analytics, computer vision, signal processing, and more.

**Safeguarding Sensitive Healthcare Data and Ensuring Customer Satisfaction**

"At Denovo Innovations Group, we prioritize data privacy and security to safeguard the sensitive healthcare information entrusted to us," Gennaro affirms. Recognizing the importance of compliance with regulations in healthcare, Denovo works with experts who have a deep understanding of medical, cybersecurity, and military requirements that has been cultivated through collaborations with large nationwide IT groups and

cybersecurity experts. Being centered in San Antonio, surrounded by the largest medical-military complex in the world provides incredible opportunity for creating and bringing new ideas to life.

"We also prioritize user experience to ensure physician satisfaction," Gennaro emphasizes. The commitment to user experience extends to patients as well. Denovo recognizes the significance of user-friendly, accessible, and intuitive solutions that empower patients in their healthcare journey and the physicians guiding them. Customer feedback is actively sought and utilized to continuously refine their products and enhance the user experience.

Implementing medical technology solutions within the healthcare system comes with its fair share of challenges. One of Denovo's initial challenges is gaining acceptance from physicians and healthcare professionals. By involving experts in the development and FDA submission processes, Gennaro aims to build trust and credibility among healthcare professionals.

**Overcoming Challenges in Healthcare Adoption**

Understanding the business aspect of civilian and military healthcare is another challenge that Denovo actively addresses. This includes navigating billing procedures and forming

strategic partnerships in the military acquisition space. By leveraging Gennaro's knowledge and network in the areas Coding, Remote Patient Monitoring (RPM), and Remote Therapeutic Monitoring (RTM), Gennaro ensures that their solutions align with the requirements for reimbursement to improve adoption by physicians. Denovo works closely with experts in defense acquisition to create ideas that are easily utilized by the military, its physicians, and DME suppliers.

Establishing trust in medical technology and algorithms is crucial for successful adoption. Denovo is dedicated to conducting rigorous, IRB-approved clinical research on their solutions to validate their efficacy. Furthermore, pursuing FDA approvals is an essential part of Denovo's strategy to ensure the reliability and safety of its future prescription therapeutic products. The company relies on the knowledge and expertise of clinical research experts and FDA focused legal advisors to navigate the regulatory process effectively.

By addressing these challenges through collaboration, research, regulatory compliance, and strategic partnerships, Denovo aims to overcome barriers and drive successful adoption of their medical technology solutions within the healthcare system.

**Continued application of novel technologies in medicine and adjacent fields**

Denovo Innovations recently worked on initiatives that focus on addressing high-impact conditions such as PTSD, sleep disturbances, and mental health within the military, veterans,

and first responder populations. The company hopes to continue impacting the lives of patients by providing innovative solutions and improving access to mental healthcare in the future.

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conditions through the application of cutting-edge technologies and smartphone apps. Additionally, the domain of RTM in mental health and Cognitive Behavioral Therapies is experiencing swift expansion, thanks in part to Medicare and third-party insurers now offering reimbursement for wellness and preventative medicine; much thought is being applied to innovation these areas.

Exploring innovative methods for gathering health and wellness data from current technologies is also a focal point. By leveraging diverse data acquisition channels, such as cameras, radio waves, audio interfaces, and wearables, the future promises unprecedented ease in health management.

In the fast-evolving healthcare landscape, the emphasis on enhancing the well-being and effectiveness of medical professionals has never been more critical. Denovo plans to focus on the administrative burden that frequently constrains frontline physicians, enabling them to pivot their focus from paperwork back to patient-centric care. Recent advancements, including generative AI, have the capacity to produce concise and accurate insights across various medical subspecialties. By leveraging these advanced algorithms, physicians can access real-time, actionable intelligence, thereby fostering a more informed and efficient approach to patient care.

Denovo is exploring applications of medical technologies such as image-Photoplethysmography in the commercial space. The technique's video-based vital sign capture capabilities offer intriguing possibilities, ranging from detecting deepfake videos to monitoring the health of herd animals and livestock.

It is truly exciting to be at the cutting edge of today's developing healthcare systems. As technology and healthcare merge, the lives of many, many people will be improved. The ability to penetrate underserved areas and underserved populations is of such incredible value it simply cannot be overstated. ■