



A New Model for Real-Time Decision Support in Critical Care Settings:

How VideoConsults Is Transforming Emergency and Trauma Care Through On-Demand Specialty Access

EXECUTIVE SUMMARY

Emergency and trauma teams operate under immense time pressure, where access to the right specialist can mean the difference between life, vision, or death. Yet across the United States, specialty coverage in emergency departments remains fragmented. Nearly 70% of community hospitals lack reliable on-call specialty support after hours, and critical access hospitals often operate with minimal coverage.

VideoConsults by HealthOcta is re-engineering that model. By integrating tele-specialty access directly into the emergency and trauma workflow, VideoConsults enables on-demand consultation across high-impact specialties — cardiology, neurology, ophthalmology, infectious diseases, and psychiatry — with diagnostic data flowing seamlessly from devices to specialists.

The result is not just faster consultations, but data-driven, evidence-based, and defensible clinical decisions made in real time.

Gaps in Emergency Specialty Access

Despite advancements in telehealth, most emergency departments still face structural barriers in accessing specialists:

- **Limited 24/7 Coverage:** Over 30% of U.S. hospitals report gaps in on-call specialty coverage at least one night per week (ACEP, 2022).
- **Transfer Dependence:** Up to 25% of all interfacility transfers from community hospitals occur primarily due to the unavailability of specialists, not clinical necessity (JAMA, 2020).
- **Cost and Risk Exposure:** Each avoidable transfer can cost between \$8,000 and \$15,000, increase liability exposure, delay definitive treatment and

lead to potential loss of revenue & community trust.

- **ED Overload and Burnout:** Emergency medicine physicians are overextended, managing increasingly complex, multisystem cases without access to specialist input.

The healthcare system has matured in its digitization, but specialty access remains analog, dependent on call schedules, phone trees, and manual workarounds.

The VideoConsults Way: Specialist Access as Infrastructure

VideoConsults was built on a simple idea: emergency and trauma care should not depend on geography or staffing. It should depend on connectivity, capability, and confidence, a new kind of digital access fabric that sits between hospitals, their specialists, and is focused on improving ready-access for the patients they serve.

Rather than acting as a telemedicine provider, VideoConsults functions as a specialty access fabric, a unifying layer that uses telemedicine technology to link people, data, and devices.

The VideoConsults fabric enables hospitals to deploy their own doctors or tap into a contracted specialist network on demand or on-call, integrates diagnostics (like fundus imaging, ECG data and more) directly into consultations, and streamlines credentialing and documentation so care teams can focus on clinical decisions instead of logistics.

VideoConsults is not a telemedicine service you buy; it's an infrastructure you license and build upon to make it your own, thereby transforming specialty access into a native capability of every emergency and trauma network.

By embedding tele-specialty capability into the emergency workflow and pairing it with diagnostic device integrations VideoConsults enables every healthcare institution to create a clinical fabric that extends specialist reach without adding operational friction or giving up clinical decision-making.

This infrastructure approach with VideoConsults transforms specialty access from an episodic event into a system-wide capability.

Case Example:

Ophthalmology in Emergency Trauma – The Ruptured Globe Dilemma

A 42-year-old male presents to a regional trauma center following an industrial accident. There is visible periorbital edema, decreased visual acuity, and concern for globe rupture.

The trauma team faces a critical decision: treat or transfer.

Without ophthalmology coverage, this decision is high-risk. Unnecessary transfers consume critical

time; delayed recognition of an open globe risks permanent vision loss.

The VideoConsults solution:

The Remidio FOP NM-10 non-mydriatic fundus camera and Remidio PSL portable slit-lamp are directly integrated into the VideoConsults platform.

Within minutes, the trauma team initiates an

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Ophthalmology consult, the streamlined workflow within VideoConsults activates the cameras, guides the team to capture high-resolution fundus and anterior segment images, which are then transmitted securely through VideoConsults to an on-call ophthalmologist.

The specialist reviews the imagery, hops on a synchronous consultation, collaborates through the built-in video interface, and confirms no evidence of

open globe rupture, authorizing local management and observation.

**The patient avoids a 90-mile transfer.
The ED avoids \$12,000 in transfer costs.
The hospital retains both patient and procedure revenue.**

This case exemplifies the power of integrated tele-ophthalmology in trauma care, where data-driven remote evaluation replaces subjective bedside uncertainty.

The VideoConsults Model Extends Across Critical Specialties

Neurology: Stroke, Seizure, and Neuro-Trauma

A 68-year-old female arrives with sudden left-sided weakness and slurred speech. CT imaging is available locally, but no neurologist is on call. Through VideoConsults, the ED initiates an urgent neuro consult. The remote neurologist reviews the CT in real time, performs an NIH Stroke Scale assessment, and authorizes tPA administration within 28 minutes of door time.

Impact: The patient achieves full recovery. The facility meets door-to-needle benchmarks that would have been impossible without tele-neurology integration.

Cardiology: Chest Pain and Arrhythmia Triage

In a community hospital without cardiology coverage, a patient presents with unstable angina and

ambiguous ECG changes. The team uses CardioScreen 12-lead ECG integrated with VideoConsults. A cardiologist logs in within 5 minutes, confirms a non-STEMI pattern, and guides heparinization and monitoring.

Impact: Avoided unnecessary air transfer, stabilized patient locally, and prevented cath-lab overtriage.

Infectious Diseases: Sepsis and Resistant Infections

An LTC resident presents to the ED with fever and hypotension. Cultures suggest multi-drug resistant infection, but no ID specialist is available. Through VideoConsults, an ID specialist reviews the case asynchronously within one hour, adjusts empiric antibiotic therapy based on local antibiogram data, and guides follow-up lab monitoring.

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Impact: Improved survival odds and compliance with CMS Sepsis Core Measure (SEP-1) timelines; reduced broad-spectrum antibiotic exposure.

Psychiatry: Crisis Intervention in the ED

A patient in the ED presents with suicidal ideation and psychosis. Psychiatric boarding typically exceeds 24 hours in such cases. The ED team requests a VideoConsults psych evaluation. Within 15 minutes, a board-certified psychiatrist conducts a video

evaluation, assesses suicide risk, and recommends safe discharge with outpatient linkage.

Impact: Boarding time reduced from 26 hours to 3 hours. The ED bed returns to service; the patient receives immediate continuity of care..

Implementation Model for VideoConsults: From Device to Decision

VideoConsults is delivered as a turnkey or modular solution, adaptable to any facility’s staffing model

Component	Function
Platform Infrastructure	Secure video, data streaming, credentialing-by-proxy, and integrated reporting.
Diagnostic Integrations	Current integrations available with Remidio Fundus camera, Remidio PSL slit-lamp, KardioScreen 12-lead ECG. Device agnostic platform with integrations possible with all types of clinical grade devices including portable ultrasounds, dermatoscopes
Specialist Network	Curated pool of board-certified specialists across high-value domains.
Data & Quality Layer	HL7 / FHIR compliant integration with EMRs, Data analytics & structured reporting for CMS quality measures.

The Strategic Implications for Health Systems

Health systems can now leverage VideoConsults' specialty access fabric not only within a single facility but across entire hospital networks. Through this connectivity, systems can tap into their specialty lines across multiple hospitals or between organizations with collaborative relationships. This inter-hospital integration leads to substantial efficiency gains, higher utilization of specialist expertise, and improved physician work-life balance—clinicians can contribute to emergent consultations remotely without physically rushing to the hospital for every case. Health systems that integrate tele-specialty infrastructure within their emergency networks can:

- **Retain High-Value Care Locally:** Keep cardiac, neuro, ophthalmic, and psych patients within the system, reducing leakage.
- **Enhance Throughput and Efficiency:** Improve ED capacity utilization and staff satisfaction.

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- **Strengthen Value-Based Care Metrics:** Meet SEP-1, stroke, and behavioral health benchmarks.
- **Build Resilience in Staffing:** Hedge against ongoing specialty shortages projected to worsen through 2035 (AAMC Workforce Data).

This represents a structural shift: from reactive, location-dependent coverage to proactive, networked specialty access.

Looking Ahead: A Networked Future for Emergency Care

As the U.S. healthcare landscape continues its shift toward regionalized but interconnected care, the line between “covered” and “uncovered” facilities will blur. VideoConsults envisions a future where specialty expertise is not owned by a building, but shared through infrastructure, accessible, credentialed, and compliant.

The next phase involves predictive routing, AI-assisted triage, and real-time decision support to further compress treatment timelines.

In this future, VideoConsults isn’t a telemedicine platform, it’s the nervous system of an emergency and trauma care framework.

About VideoConsults by HealthOcta

VideoConsults by HealthOcta is not a staffing firm or a generic telemedicine service. It’s a specialty access fabric that enables hospitals, ERs, urgent cares, FQHCs, and even post-acute facilities to connect to the right specialist when they need one. We support everything from emergency neurology for stroke, to psychiatry for crisis intervention, to ophthalmology with fundus and slit-lamp integration. Our model is flexible: you can tap into a curated specialist network, or simply empower your own doctors to deliver virtual coverage more efficiently. This reduces patient transfers, improves throughput, and keeps high-value specialty revenue in your system, while giving patients timely access to expert care.

Learn more at <https://videoconsults.healthocta.com>