

Clinician’s Guide to Video Platforms (2026 Edition)

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1. Why Video Matters

Video communication remains the most complete form of remote interaction available in clinical care. While audio-only visits expanded access during the COVID-19 public health emergency, video encounters continue to provide a richer clinical exchange. Visual cues, facial expression, and the ability to observe movement or physical findings contribute to important context that cannot be captured through audio alone.

Recent national data confirm that video remains central to telehealth delivery. Approximately 39 percent of U.S. adults reported using telehealth services in the past year, and among those users, roughly 70 percent of encounters were conducted using video rather than audio-only modalities.¹ Although overall telehealth volume has stabilized following its pandemic peak, video continues to represent the dominant format for virtual visits due to its diagnostic utility and impact on patient–provider rapport.

As video becomes a routine component of care delivery, clinicians and administrators must understand the technical factors that influence quality, reliability, and privacy. Platform selection, performance under real-world conditions, and security posture all directly affect the patient experience and the clinician’s ability to deliver care effectively.

This guide focuses on those technical considerations: how video platforms function, how to evaluate their capabilities, and how to support reliable, secure use in clinical settings. Broader topics such as reimbursement, workflow design, training, and policy are acknowledged but addressed through other Telehealth Resource Center (TRC) resources referenced later in this document.

¹ Sources:

JMIR (2024), *Prevalence and Disparities in Telehealth Use Among U.S. Adults*

JAMA Network Open (2024), *Trends in Telemedicine Use, 2022–2023*

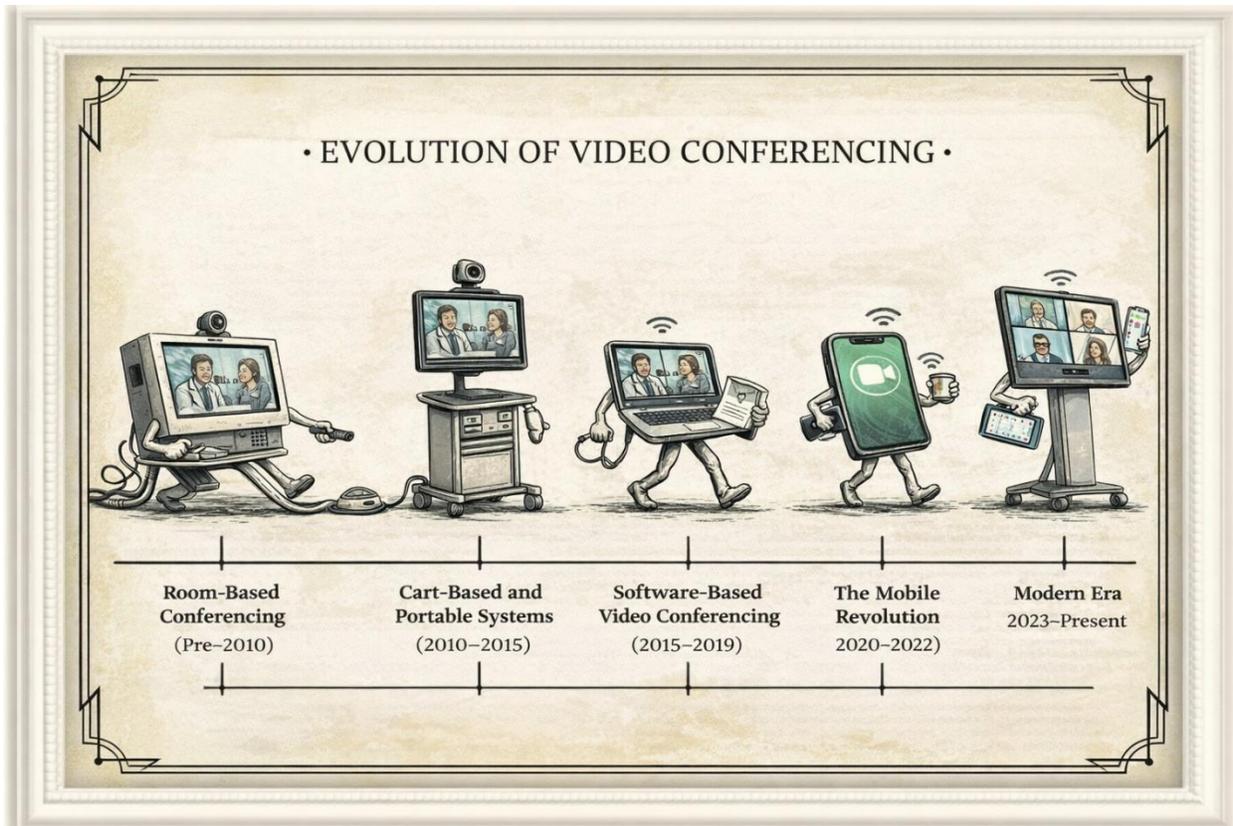
CDC/NCHS National Health Statistics Reports No. 205 (2024)

2. Understanding Video Platforms in Healthcare

2.1 From Boardrooms to Bedside: A Brief History of Video in Healthcare

Telehealth video has evolved from a niche, high-cost capability into a routine component of healthcare delivery. Understanding this progression helps clinicians and administrators make sense of today’s platforms, why they look the way they do, what assumptions are built into them, and where their strengths and limitations originate.





Room-Based Conferencing (Pre-2010)

Early healthcare video conferencing relied on fixed, room-based systems installed in dedicated clinical or administrative spaces. These systems used proprietary codecs and managed networks to deliver reliable, high-quality video, but required significant capital investment, specialized infrastructure, and ongoing IT support.

As a result, adoption was largely limited to organizations with sufficient technical capacity, including academic medical centers, tertiary hospitals, and government programs. Early clinical use cases focused on scenarios where connectivity could be tightly controlled, such as teleradiology, telepsychiatry, and rural specialty consults using leased or dedicated network connections.

Cart-Based and Portable Systems (2010–2015)

Advances in hardware miniaturization and networking led to the emergence of mobile telehealth carts. These systems combined displays, cameras, microphones, and clinical peripherals into a single movable unit, allowing telehealth encounters to occur at the bedside or within clinic exam rooms.



While carts improved flexibility and clinical reach, they still depended on specialized hardware, local network configuration, and on-site technical support. For many organizations, cost and operational complexity remained barriers to broad deployment.

Software-Based Video Conferencing (2015–2019)

By the mid-2010s, software-based video platforms began replacing dedicated hardware systems. Browser-based applications and downloadable clients enabled secure video visits using standard desktop and laptop computers.

The adoption of WebRTC standards and the expansion of cloud infrastructure dramatically lowered barriers to entry. Costs declined, scalability improved, and interoperability increased. However, early platforms varied widely in their ability to meet healthcare privacy, security, and compliance requirements, prompting the need for careful evaluation of their suitability for clinical use.

The Mobile Revolution

The widespread adoption of smartphones and tablets fundamentally expanded access to video-based care. App-based and browser-native solutions allowed patients to join visits from home, work, or other non-clinical environments, introducing the concept of direct-to-patient telehealth at scale.

This shift placed new emphasis on user experience factors that had previously received less attention, including camera placement, lighting, audio quality, and variable network conditions. Mobile-first design continues to play a critical role in improving access, particularly for patients with limited broadband options or geographic constraints.

The COVID-19 Catalyst (2020–2022)

The COVID-19 public health emergency accelerated telehealth adoption at an unprecedented rate. Temporary policy changes, reimbursement flexibility, and the necessity of remote care led to rapid normalization of video visits across many specialties.

During this period, clinicians and patients became broadly familiar with video encounters, and vendors expanded cloud-based offerings capable of supporting healthcare privacy and security requirements. Video shifted from a supplemental option to an expected mode of care delivery.



Modern Era (2023–Present)

Today’s video platforms are integrated, adaptable, and increasingly intelligent. Many systems connect directly with electronic health records (EHRs) to support scheduling, documentation, and billing. Cloud-based services have simplified deployment and scalability, while also introducing new considerations related to data handling and security.

Artificial intelligence is now embedded in many platforms, supporting functions such as noise suppression, video optimization, transcription, summarization, and language access. Accessibility features, including captioning, interpreter routing, and adaptive bandwidth management are increasingly standard.

Video has become foundational infrastructure, supporting both clinical encounters and broader communication needs across healthcare organizations.

Understanding this evolution helps explain the design assumptions and capabilities of modern platforms—and provides context for evaluating which features matter most in today’s clinical environments.

2.2 Key Features of a Modern Video Platform

Modern video platforms share a set of core capabilities that determine how effectively they support clinical care. While individual products differ, these features establish baseline expectations for reliability, usability, and compliance in healthcare settings.

Core Capabilities

At a minimum, a clinical video platform must support stable, secure real-time communication.

- **Secure real-time audio and video:** Encrypted communication protects patient information during live sessions.
- **Virtual waiting rooms and participant controls:** Support orderly session management and inclusion of caregivers, interpreters, or additional clinicians.
- **Content sharing:** Enables screen, image, or document sharing for patient education and collaborative review.
- **In-session chat and annotation tools:** Allow supplemental communication without interrupting the visit.
- **Optional recording capability with consent:** Supports training or documentation when explicitly enabled and governed by policy.



Integration and Accessibility

Platforms function best when integrated into existing clinical systems and workflows.

- **EHR connectivity:** Allows visits to launch from the patient chart and supports documentation continuity.
- **Single sign-on (SSO) and role-based permissions:** Simplify access management and reduce credential risk.
- **Interpreter routing and language access tools:** Support compliance with accessibility and equity requirements.
- **Closed captioning and live transcription:** Improve access for patients with hearing impairment and support comprehension.

Ease of Use and Reliability

Effective platforms minimize friction and adapt to real-world conditions.

- **Browser-native operation (WebRTC):** Reduces installation barriers and simplifies access for patients.
- **Dynamic quality management:** Adjusts bitrate and resolution to maintain continuity during network fluctuations.
- **Audio and video optimization:** Noise suppression, echo cancellation, and low-light correction improve clarity.
- **Cross-device compatibility:** Supports desktops, tablets, and mobile devices with consistent performance.
- **Scalability:** Accommodates both small practices and large enterprise deployments.

Security and Compliance Essentials

Security and privacy are baseline requirements for healthcare video platforms.

- **Business Associate Agreement (BAA):** Required for any platform handling protected health information (PHI).
- **Encryption in transit and at rest:** Protects data throughout communication and storage processes.
- **Multi-factor authentication and audit logging:** Strengthen access control and accountability.
- **HIPAA and HITECH alignment:** Establish minimum expectations for data protection.



Emerging Enhancements

Recent platform development has focused on extending functionality beyond live video.

- **AI-driven tools:** Real-time transcription, language translation, and visit summarization.
- **Asynchronous features:** Secure messaging, image upload, and pre-visit questionnaires.
- **Analytics and reporting:** Insights into connection quality, participation, and utilization trends.
- **Advanced integrations:** APIs supporting medical peripherals, patient portals, and clinical services.

With this foundation, how video platforms evolved and what defines a modern system, the next section examines how these technologies affect the patient and provider experience, focusing on usability, trust, and clinical connection.

3. Patient and Provider Experience

Video technology shapes how patients and clinicians connect, communicate, and build trust. While platform capabilities matter, the success of a telehealth encounter often hinges on whether the technology supports or distracts from the human interaction at its core.

This section focuses on the experiential side of video visits: how patients and providers perceive and interact with technology, and how small, practical choices can reduce friction and improve comfort, clarity, and engagement.

3.1 The Human Side of Telehealth

A common pitfall in telehealth adoption is placing too much emphasis on the technology itself. At its core, healthcare—and telehealth by extension—is a human activity grounded in communication, empathy, and shared decision-making. Technology should reinforce these elements, not compete with them.

Well-designed telehealth systems make themselves almost invisible. When implemented thoughtfully, video platforms enable clear communication while fading into the background of the visit. Poorly implemented systems draw attention to themselves through lag, audio issues, or awkward interaction. This can disrupt clinical flow and patient trust.

Importantly, effective telehealth does not require expensive or specialized equipment. In most cases, organizations can support high-quality encounters using existing devices, paired with a small number of intentional choices around lighting, audio, and preparation. Dollars spent do not



equal care delivered. Understanding how technology affects perception and interaction is far more important than pursuing the most advanced feature set.

3.2 Supporting Patients: Setting Up for Success

Direct-to-patient video care represents a shift from earlier telehealth models that relied on clinic-to-clinic connections. In those environments, staff controlled the room, equipment, network, and workflow. Today, patients often join visits from homes, workplaces, vehicles, or other everyday environments—places where clinicians have little technical or environmental control.

Because patient settings vary widely, success depends on clear guidance, realistic expectations, and preparation that prioritizes comfort over complexity. The goal is not to create a perfect technical setup, but to remove common barriers that interfere with communication.

Device Readiness and Connectivity

Patients should be encouraged to verify basic connectivity and device functionality before the visit.

- Stable Wi-Fi or a wired connection is preferred when available.
- Simple pre-visit checks, such as a lightweight speed test, can help identify potential issues in advance.
- Testing camera, microphone, and speaker functionality before the appointment reduces delays during clinical time.
- Closing bandwidth-intensive applications (such as video streaming or online gaming on the same network) can improve call stability.

Choosing a Device

Patients should use the device they are most comfortable with.

- **Smartphones** are highly accessible and well suited for brief or mobile encounters.
- **Tablets** offer larger screens and easier positioning while remaining portable.
- **Computers** are often best for longer visits, multi-participant sessions, screen sharing, or image review, and allow use of external peripherals.

Peripherals and Environment

- Built-in cameras and microphones are usually adequate, but earbuds or headsets can improve clarity and privacy.
- Patients should face a light source and avoid strong backlighting.
- A quiet, private space with a stable device position helps maintain focus and comfort.



Accessibility and Support

Many platforms include captioning, interpreter routing, or translation tools. Identifying accessibility needs in advance helps avoid mid-visit disruption and supports equitable participation.

Comfort and Presence

Clear expectations, stable setup, and reassurance that questions are welcome can significantly reduce patient anxiety. Even small delays or technical imperfections can change conversational rhythm, so encouraging patients to pause and seek clarification is important.

3.3 Supporting Providers: Creating Connection Through Technology

Providers play a critical role in shaping the telehealth experience. Small adjustments in presence, communication style, and preparation can make video encounters feel more natural and engaging.

Professional Presence

- Position the camera at eye level and look toward the lens periodically to approximate eye contact.
- Use a clean, neutral background with minimal distractions.
- Ensure soft, front-facing lighting to clearly illuminate facial features.
- Maintain the same professional appearance expected for in-person visits.

Audio Quality and Privacy

Clear audio is often more important than high-resolution video.

- Headsets, earbuds, or external microphones can significantly improve sound quality and privacy.
- Providers should confirm audio settings before visits, especially in shared or flexible workspaces.
- Awareness of background noise and mute control helps maintain focus and confidentiality.

Use of Connected Peripherals

When clinically appropriate and supported by workflow, providers may incorporate peripherals such as exam cameras or digital stethoscopes. These tools should be used selectively, when they add clear clinical value, and only after providers are comfortable with their operation.



Communication and Engagement

- Speak clearly and slightly slower than in person to accommodate potential latency.
- Check for understanding more frequently.
- Summarize key points verbally.
- Avoid multitasking or prolonged attention away from the screen—presence is amplified on video.

3.4 Shared Best Practices

While patients and providers have different roles, the core ingredients of a successful telehealth visit apply to both.

Plan for the Unexpected:

- Have a **backup contact method** ready if video quality degrades.
- Be prepared to switch briefly to audio-only or reschedule part of the visit if necessary.

Promote Privacy and Safety:

- Confirm the **patient's identity, current location, and privacy level** at the start.
- Ensure conversations cannot be overheard or seen by unintended parties.

Use Platform Tools Intentionally:

- Waiting rooms, chat functions, interpreter routing, and captioning features can improve flow, accessibility, and clarity.
- Familiarity with these tools helps reduce disruptions during the visit.

Manage Distractions:

- Silencing notifications, stabilizing the camera, and reducing background noise all improve focus and comfort.

Encourage Mutual Comfort and Clarity:

- Set expectations early.
- Encourage patients to speak up, ask questions, and request clarification.
- A calm, steady pace fosters collaboration and minimizes anxiety.

Technology Supports the Visit—It Should Not Dominate It:

- When basic technical elements are in place, clinical relationships can take the lead.



Key Message

High-quality telehealth doesn't depend on expensive equipment. It depends on communication, preparation, and comfort—shared responsibilities that help the technology support relationship and trust.

4. Telehealth Environment & Technical Setup Checklist

Reliable telehealth encounters require more than capable software. Consistent environments, tested equipment, and clear processes reduce technical friction and allow clinicians to focus on patient care.

This section translates the human-centered principles from Section 3 into practical, operational steps organizations can use to prepare telehealth spaces, standardize expectations, and support consistent video performance. These checklists are designed to keep the technology stable and unobtrusive, so the clinical relationship remains central.

4.1 Telehealth Room & Environment Setup Checklist

Space & Layout

- Room provides adequate privacy and meets organizational policies
- Neutral, uncluttered background (or standardized backdrop where needed)
- Camera positioned at eye level using fixed hardware or stable mounts
- Provider seated comfortably with ergonomic positioning
- Adequate distance between camera and provider for natural framing

Lighting

- Soft, front-facing light source illuminating the provider's face
- No strong backlighting (e.g., windows or bright lamps behind provider)
- Overhead lighting adjusted to reduce shadows and glare
- Additional task lighting available if needed

Sound & Acoustics

- Room selected for minimal echo and background noise
- Doors, windows, vents, or appliances minimized for noise
- Acoustic panels or soft furnishings used if space is echo-prone
- Clear signage to reduce hallway interruptions (e.g., “Telehealth Visit in Progress”)



4.2 Technical Equipment Checklist

Core Equipment

- Primary device (computer/tablet) meets platform requirements
- Camera is high enough resolution for clinical video (720p minimum)
- Audio input/output devices tested and functioning
- Headset or earbuds available for improved clarity and privacy
- External speaker pod available for multi-participant visits

Connections & Networking

- Reliable wired Ethernet connection preferred; Wi-Fi validated if used
- Network meets minimum bandwidth thresholds for platform
- TTAC Speed Test or equivalent used to confirm performance
- Network ports/firewalls configured to support telehealth traffic
- Backup network option available (secondary Wi-Fi, mobile hotspot, etc.)

Power & Peripherals

- Devices connected to power or fully charged
- External webcams, microphones, and peripherals recognized by system
- Clinical peripherals available and tested (digital stethoscopes, exam cameras, otoscopes)
- Cables, adapters, and mounts stored in consistent, accessible locations

4.3 Platform & Workflow Checklist

Platform Functionality

- Platform tested using built-in device/connection wizard
- Virtual waiting room configured
- Interpreter/translation routing workflows validated
- Captioning and accessibility features enabled and staff trained
- Provider default settings reviewed (camera, mic, notifications, permissions)

Workflow Preparation

- Staff trained on starting, transferring, and ending video sessions
- Clear workflow for scheduling, reminders, and sending links to patients
- Pre-visit tech-check process in place for new or high-risk patients
- Procedures established for documenting telehealth encounters in the EHR
- Backup phone number recorded in appointment information



Privacy & Security

- Provider verifies patient identity and location at each visit
- BAA in place with video vendor
- Device security meets organizational standards (MFA, antivirus, updates)
- Screens and documents not visible to others during visit
- Headsets used in shared environments to maintain confidentiality

4.4 Organizational Readiness Checklist

Policies & Procedures

- Telehealth policy includes room standards, device requirements, and staff expectations
- Clinical guidelines adopted for specialties using telehealth
- Contingency procedures established for connectivity or equipment failure
- Clear guidance on use of peripherals and documentation requirements

Training & Support

- Staff trained on environmental preparation and technical basics
- Providers trained in communication best practices for video encounters
- Help desk or support line available during clinical hours
- System for logging and resolving recurring technical issues

Quality, Monitoring & Improvement

- Analytics used to monitor call quality, drop rates, and platform performance
- Patient and provider feedback collected regularly
- Identified issues incorporated into continuous improvement plans
- Accessibility and equity considerations reviewed periodically

Key Message

Good telehealth does not happen by accident. Standardizing environments, equipment, and workflows creates the conditions for reliable, professional, and human-centered video care.

[Download Checklist](#)



5. Technical Quality and Performance

Video quality directly affects clinical effectiveness and patient trust. Even when a platform is secure and compliant, poor performance (e.g. dropped calls, distorted audio, frozen video) can undermine communication and disrupt care.

This section describes the technical variables that most strongly influence real-world video performance and outlines practical ways organizations can assess and interpret them.

5.1 What “Good Performance” Means for Telehealth

From a technical standpoint, a successful telehealth video encounter is one where:

- Audio remains intelligible and synchronized
- Video motion appears smooth and natural
- The connection adapts gracefully to changing network conditions
- Failures are recoverable without ending the visit

Importantly, high-quality performance does not require perfect networks. Modern video platforms are designed to operate under variable conditions, including consumer-grade broadband and wireless connections. The goal of technical evaluation is to understand how a platform behaves **when conditions are less than ideal**, not just when everything works perfectly.

5.2 Connection Stability and Network Behavior

Connection stability refers to how consistently a platform maintains a usable session over time, even when network conditions fluctuate.

Key elements to observe include:

- **Latency:** The delay between speaking and being heard or seen. Latency above ~300–400 ms begins to affect conversational flow.
- **Jitter:** Variability in packet delivery timing, which can cause choppy audio or uneven motion.
- **Packet loss:** Missing data packets, which may result in frozen video, garbled audio, or dropped calls.



Practical Testing Considerations

When evaluating platforms, test under multiple conditions:

- Wired Ethernet (baseline stability)
- Typical Wi-Fi environments
- Mobile or mixed-use networks
- Locations with known connectivity challenges
- Observe whether the platform:
 - Maintains the session during brief interruptions (1–3 seconds)
 - Automatically reconnects without user action
 - Clearly signals degraded quality or reconnection attempts
 - Preserves audio when video quality must be reduced

Wireless networks have improved significantly and are acceptable for most telehealth use cases. However, wired connections remain more stable and predictable, particularly in clinical environments with high device density.

5.3 Video Quality and Resolution

Video quality in telehealth is not defined by resolution alone. A clinically usable image depends on how well the platform balances resolution, frame rate, color accuracy, and compression.

Key Video Characteristics

Resolution: The pixel dimensions delivered to the viewer. Higher resolution improves detail but requires more bandwidth.

Frame rate: The number of frames per second displayed. Low frame rates can make motion appear jerky or unnatural.

Motion handling: How smoothly movement is rendered, especially during gestures or repositioning.

Color and exposure: Consistency of skin tones and contrast under typical lighting.

Simple Motion Test

A quick, low-effort way to assess frame rate and motion handling is to slowly wave a hand across the camera view during a test call. Smooth, continuous motion indicates adequate frame rate and encoding. Choppy or stuttering motion may indicate aggressive compression or poor adaptation to bandwidth constraints.



Platforms should degrade video quality gradually underload rather than freezing or disconnecting.

5.4 Audio Quality

In clinical video encounters, audio quality often matters more than video clarity. Even brief audio dropouts can disrupt understanding, rapport, and trust.

Key audio characteristics include:

- **Speech clarity** without distortion
- **Noise suppression** that reduces background sounds without clipping speech
- **Echo cancellation** in rooms without headsets
- **Handling of overlapping speech**, such as interruptions or rapid exchanges

Testing should include:

- Built-in microphones vs external microphones
- Quiet rooms and moderately noisy environments
- Headset and speakerphone configurations

A platform that preserves intelligible audio under marginal conditions is often more clinically usable than one that prioritizes high-resolution video at the expense of sound.

5.5 Platform Adaptability and Recovery

Modern video platforms continuously adjust performance to match network conditions. These adaptive behaviors are critical to real-world reliability.

Evaluate whether the platform:

- Automatically adjusts bitrate and resolution
- Prioritizes audio when bandwidth is constrained
- Recovers smoothly after temporary outages
- Requires user intervention to rejoin sessions
- Fails gracefully rather than abruptly terminating calls
- Low-bandwidth strategies may include:
 - Audio-first or audio-only modes
 - Reduced frame rates or resolution
 - Asynchronous image or video capture as a fallback



Understanding these behaviors helps organizations set appropriate expectations and plan backup workflows.

5.6 Testing in Realistic Environments

Laboratory testing is useful, but it does not replace testing in the environments you serve.

Organizations should:

- Conduct test calls between sites with known connectivity challenges
- Include direct-to-consumer scenarios using home or mobile networks
- Test during peak usage times when networks may be congested
- Observe performance across different devices and operating systems

The goal is not to eliminate variability, but to understand how the platform behaves when variability is unavoidable.

5.7 Interpreting Results and Setting Priorities

Technical evaluation results should be interpreted in context.

Defining Key Terms

Fit for purpose: The platform adequately supports the specific clinical use cases you intend to deliver.

Scalability: The platform can support additional users, sites, or visit volume without significant reconfiguration or performance degradation.

Environmental fit: Performance aligns with the connectivity, devices, and patient populations you actually serve.

Supportability: Your organization can realistically support setup, troubleshooting, and user assistance.

Scoring and Weight

Not all performance characteristics carry equal importance. Organizations may value:

- Audio stability over video resolution
- Recovery behavior over peak image quality
- Mobile performance over desktop optimization



Using scoring scales without a neutral midpoint (e.g., 1–4 or 1–6) can help evaluators avoid defaulting to “middle-of-the-road” ratings and force clearer distinctions.

Weighted scoring allows teams to reflect organizational priorities rather than relying on raw totals alone.

RESOURCE NOTE: These performance considerations are reflected in TTAC’s Video Platform Scoring and Evaluation Tool, which is designed to help teams quantify and compare platform behavior across realistic use cases. The tool supports weighted scoring so organizations can emphasize the technical factors that matter most to their clinical, operational, and connectivity environments. Details and download instructions are provided in [Section 8](#) of this guide.

Key Message

Technical performance in telehealth is defined by consistency, adaptability, and recovery—not perfection.

Platforms should be evaluated under realistic conditions, with attention to how they behave when networks, devices, and environments are less than ideal. Understanding these characteristics allows organizations to select systems that support reliable, human-centered care

Resource: [Prepare for a Remote Visit | Northeast Telehealth Resource Center](#)

6. Security, Privacy, and Compliance

Video platforms used in healthcare must protect patient privacy and support regulatory compliance. As telehealth systems have become more cloud-based and feature-rich, understanding how security, data handling, and access controls are managed has become increasingly important. This section highlights the foundational considerations that help organizations use video technology safely, responsibly, and in alignment with healthcare expectations.

6.1 Why Healthcare Video Requires Additional Safeguards

Unlike general-purpose video conferencing, telehealth platforms routinely handle protected health information (PHI). This includes not only live audio and video streams, but also chat messages, shared images, metadata, system logs, and in some cases recordings.

The widespread adoption of cloud-based services has dramatically simplified the deployment and scaling of video platforms. Cloud infrastructure reduces the need for on-premises hardware, accelerates updates, and improves accessibility across devices and locations. At the same time, it



introduces additional security and governance complexity. Data may be processed, transmitted, or stored across distributed systems, often managed by multiple vendors or sub-processors.

As a result, healthcare video platforms must meet higher standards for:

- Data protection across distributed environments
- Access control and identity management
- Accountability, auditing, and breach response
- Clear delineation of vendor and organizational responsibility

A platform that performs well technically may still be inappropriate for clinical use if these safeguards are not clearly defined and enforced.

6.2 Business Associate Agreements (BAAs)

A Business Associate Agreement (BAA) is a foundational requirement for any video platform that creates, receives, maintains, or transmits PHI on behalf of a covered entity.

Why a BAA Matters

A BAA:

- Defines the vendor's responsibility for safeguarding PHI
- Establishes permitted and prohibited uses of data
- Requires breach notification and mitigation processes
- Clarifies obligations related to subcontractors and cloud providers

Without a signed BAA, a video platform should not be used for clinical encounters involving PHI—even if the technology itself appears secure or is widely used in non-clinical settings.

Practical Considerations

Organizations should confirm that:

- The BAA explicitly covers video, audio, chat, metadata, and recordings
- Cloud storage locations and processing regions are disclosed
- AI features and analytics are included within the BAA scope or clearly excluded
- Sub-processors are identified and governed

A common failure point is assuming that a vendor's security white paper or privacy policy substitutes for a BAA. It does not.



6.3 Data Security Fundamentals

Healthcare video platforms should implement multiple layers of security to protect data throughout their lifecycle.

Encryption

At a minimum, platforms should provide:

- Encryption in transit (for example, TLS 1.2 or higher)
- Encryption at rest for stored content, logs, and recordings

Encryption protects data from interception but does not, by itself, ensure compliance. It must be paired with access control, monitoring, and governance.

Access Control and Identity Management

Effective platforms support:

- Role-based access control (RBAC)
- Unique user identities for clinicians and staff
- Integration with organizational identity systems (SSO)
- Multi-factor authentication (MFA)

Shared logins or generic accounts undermine auditability and increase organizational risk.

Audit Logging and Monitoring

Platforms should maintain logs that record:

- User access and authentication events
- Session activity
- Configuration changes
- Recording access, downloads, and deletions

Organizations should understand how long logs are retained, how they can be accessed, and whether they support internal audits or incident investigations.

6.4 Recording, Storage, and Consent

Recording video visits introduces additional privacy, compliance, and risk-management considerations.

Consent and Transparency

Best practices include:



- Obtaining explicit patient consent before recording
- Clearly indicating when recording is active
- Avoiding automatic or default recording
- Documenting consent within the clinical record

Organizational Risk Management

Many healthcare organizations choose to **disable or disallow recording altogether** as a way to simplify risk management. This approach more closely mirrors traditional in-person care, where visits are not routinely recorded. When recording is not clinically necessary, disabling the feature can reduce storage, access, and breach risks while maintaining alignment with familiar clinical practices.

Storage and Retention

For organizations that allow recording, it is essential to understand:

- Where recordings are stored
- How long are they retained
- Who can access or download them
- How recordings are deleted or archived

Recorded video should follow the same retention, access, and disclosure policies as other forms of clinical documentation.

6.5 Consumer Tools vs Healthcare Platforms

Many consumer video tools offer strong technical performance but lack healthcare-specific safeguards.

Common differences include:

- No BAA
- Limited audit logging
- Inadequate role-based access control
- Data use policies that allow secondary or non-clinical use
- AI processing that occurs outside healthcare compliance frameworks

Even when consumer tools advertise encryption or privacy protections, they may not meet healthcare regulatory requirements. Organizations should be cautious about repurposing non-clinical platforms for clinical care.



6.6 Web-Based, Desktop, and Mobile Platform Considerations

Healthcare video platforms may be delivered through browser-based technologies, installed desktop applications, or mobile apps. Each approach introduces different security and operational considerations.

Browser-based platforms, often built on WebRTC, reduce the need for local software installation and simplify updates. This can lower support burden and reduce exposure to outdated software. However, browser behavior, permissions, and compatibility must still be managed carefully, particularly in shared or locked-down environments.

Desktop applications may offer deeper integration with peripherals, operating system features, or enterprise management tools. They can provide more consistent performance but require active patching and version control to avoid security gaps.

Mobile applications expand access and convenience but introduce additional considerations, including shared device use, operating system permissions, device loss, and variability in security posture across personal devices.

Regardless of delivery method, the same expectations apply: secure authentication, controlled access, auditability, and protection of PHI. The platform architecture should support these requirements consistently across devices and environments.

6.7 Organizational Responsibilities

Even when using a compliant video platform, healthcare organizations retain responsibility for:

- Device security and patching
- User training and access management
- Environmental privacy
- Workflow design and documentation practices

A compliant platform does not compensate for weak operational controls. Security and privacy are shared responsibilities between the vendor and the healthcare organization.

Key Message

Cloud-based video platforms have made telehealth easier to deploy and scale—but more complex to govern.

Strong security and compliance require clear agreements, intentional configuration, and ongoing organizational responsibility to protect patient data and maintain trust.



7. AI and Intelligent Video Features

Advances in artificial intelligence are increasingly shaping how video platforms support telehealth delivery. Many commonly used features—such as noise suppression, captioning, and transcription—are already powered by AI technologies.

This section outlines how AI is used within video platforms today and highlights key considerations organizations should keep in mind as these capabilities continue to evolve.

7.1 AI Is Already Part of Video Platforms

Artificial intelligence is no longer an optional add-on for video platforms. Many AI-driven capabilities are now deeply integrated into the core operation of video communication, often operating automatically and with little or no user interaction.

Common examples include:

- **Audio processing** such as noise suppression, echo cancellation, and voice isolation
- **Video optimization** including auto-exposure, low-light correction, background blur, and framing
- **Live captioning and transcription** to improve accessibility and comprehension
- **Language translation** for real-time or near-real-time interpretation support

These features are widely deployed and generally accepted as quality improvements. In many cases, users benefit from them without explicitly recognizing that AI is involved.

From a technical standpoint, these capabilities are best understood as *assistive enhancements*—they improve clarity, reduce friction, and support communication without changing the fundamental nature of the clinical interaction.

7.2 Documentation and Workflow-Oriented AI

Beyond audio and video enhancement, many platforms now offer AI tools that support clinical documentation and workflow efficiency.

Common examples include:

- Real-time or post-visit transcription
- Automated encounter summaries
- “Ambient” note generation tools



- Keyword extraction or visit highlights

These tools can reduce documentation burden and improve consistency, but they also introduce new considerations related to accuracy, review, and clinician oversight.

Organizations should treat documentation AI as *decision-support or efficiency tools*, not as replacements for clinical judgment or professional responsibility. Providers remain accountable for reviewing, editing, and approving any AI-generated content before it becomes part of the medical record.

7.3 Video AI and Diagnostic Considerations

Some AI-based video features are designed to improve visual quality, but may also alter the appearance of the clinical image.

Examples include:

- Aggressive noise reduction or smoothing
- Automatic skin tone or contrast adjustments
- Background replacement or heavy blur effects
- Auto-framing that crops or re-centers the image dynamically

While these tools can improve aesthetics and reduce distraction, they may also introduce subtle distortions. For use cases such as dermatology, wound assessment, or musculoskeletal evaluation, organizations should carefully assess whether visual AI features enhance or interfere with diagnostic accuracy.

A practical guideline is to enable AI features that improve *clarity and stability*, while disabling those that materially alter appearance unless their impact has been evaluated and accepted.

7.4 Privacy, Security, and AI Processing

AI features often rely on cloud-based processing, which may involve additional data handling beyond the core video stream.

Organizations should confirm:

- Whether AI processing occurs in real time or after the encounter
- Whether audio, video, or text data are stored as part of AI workflows
- Whether AI services are provided directly by the video vendor or by third-party subprocessors



- Whether AI functionality is explicitly included within the scope of the BAA

A common risk is assuming that because a platform is covered by a BAA, all AI features are automatically covered as well. This should be verified explicitly.

Transparency is also important. Patients should be informed when AI features such as transcription, translation, or summarization are used, particularly when they involve data storage or secondary processing.

7.5 Consent and Configuration

Not all AI features need to be enabled by default.

Best practices include:

- Enabling AI features intentionally, based on clinical or accessibility value
- Allowing providers to opt in or out where appropriate
- Clearly signaling when AI tools (such as transcription or recording) are active
- Aligning AI use with organizational consent and documentation policies

Selective enablement helps organizations balance benefit, risk, and user comfort.

7.6 A Rapidly Evolving Landscape

AI capabilities in video platforms are changing quickly. Features, vendors, and integration models are emerging at a pace that outstrips formal policy or regulatory guidance.

As a result, organizations should expect that:

- AI feature sets will expand and change frequently
- Capabilities may differ significantly between platforms
- Evaluation and governance will be ongoing, not one-time tasks

Rather than attempting to predict specific future capabilities, organizations are better served by establishing clear principles for evaluation: transparency, security, clinical appropriateness, and patient trust.

Key Message

Artificial intelligence is already embedded in modern video platforms, quietly improving quality, accessibility, and efficiency.



As AI-enabled features continue to evolve, organizations should focus on intentional use—enabling tools that enhance communication and care while maintaining transparency, security, and clinical oversight.

8. Platform Selection and Implementation

Evaluating video platforms can feel overwhelming, particularly given the number of features, vendors, and technical considerations involved. However, with an organized and stepwise approach, platform evaluation becomes a practical and accessible process for organizations of any size. Taking the time to define priorities, test real-world performance, and document tradeoffs helps teams move from uncertainty to informed decision-making.

To support this process, TTAC has developed a Video Platform Scoring and Evaluation Tool that organizations can use to structure their assessments, capture team input, and compare platforms consistently. This tool is intended to guide discussion and analysis—not replace judgment—by helping teams align technology choices with their clinical, operational, and technical needs.

Using the Video Platform Scoring and Evaluation Tool

TTAC has developed a Video Platform Scoring and Evaluation Tool to assist teams in comparing video platforms across a consistent set of criteria.

The tool is intended to be downloaded and shared with project team members so that individuals can contribute scores based on their respective expertise, such as clinical use, technical performance, security, or operational fit.

The worksheet is divided into **main categories**, each of which includes multiple **subcategories** to support more detailed evaluation. As each subcategory is scored, the worksheet automatically calculates an average score for the corresponding main category.



C2 X ✓ f_x =AVERAGE(C3:C7)

	A	B	C
1	Main Category	Sub-Category	Platform #1
2	Security & Compliance (Average)		2.20
3	Security & Compliance	Meets internal compliance policies / IT standards	1
4	Security & Compliance	Meets HIPAA / HITECH / NIST standards	1
5	Security & Compliance	Encryption in transit & at rest	2
6	Security & Compliance	MFA / access controls	3
7	Security & Compliance	Audit logs & monitoring / Security cadence	4
8	Security & Compliance	BAA availability & execution process	4
9	Patient Ease of Use (Average)		2.80

A final total score is generated by summing the average scores from each main category. This total score provides a high-level comparison across platforms but should not be interpreted in isolation.

C63 X ✓ f_x =SUM(C57,C51,C45,C39,C33,C27,C21,C15,C9,C2)

	A	B	C
1	Main Category	Sub-Category	Platform #1
53	Cost & Deployment Simplicity	Ease of deployment / onboarding	2
54	Cost & Deployment Simplicity	Training & support resources available	3
55	Cost & Deployment Simplicity	Upgrade flexibility / plan tiers	4
56	Cost & Deployment Simplicity	Maintenance / IT overhead required	4
57	Overall Clinical Fit (Average)		2.80
58	Overall Clinical Fit	Versatility for multiple visit types	1
59	Overall Clinical Fit	Suitability for patient population	2
60	Overall Clinical Fit	Flexibility for small, medium, and large practice ne	3
61	Overall Clinical Fit	Provider satisfaction / usability	4
62	Overall Clinical Fit	Patient satisfaction / feedback	4
63	Total Score:	Sum of Averages per Main Category	27.40

Scoring Scale and Interpretation

The default scoring scale in the worksheet uses a **1–4 range**, though organizations may choose to adjust the numerical range without changing the underlying formulas.



Suggested scoring legend:

Score	Description
1	Meets some requirements for the subcategory
2	Meets most requirements for the subcategory
3	Meets all requirements for the subcategory
4	Exceeds requirements for the subcategory

Using a scale without a neutral midpoint encourages evaluators to make clearer distinctions and avoid default “middle-of-the-road” ratings.

Additional guidance on scoring approaches and technology evaluation methods is available in [TTAC’s Technology Assessment 101](#) resource.

Weighting and Context Matter

While the worksheet provides a total score, the highest-scoring platform may not be the best fit for a given organization.

Some categories—such as security, privacy, or performance in low-bandwidth environments—may be more critical than others depending on use case. The worksheet supports weighting or formula adjustments so teams can emphasize categories that align with their priorities.

A platform may perform well overall but integrate poorly with existing systems, exceed budget constraints, or fail to meet a critical requirement. Scoring should be used to inform discussion and decision-making, not to replace it.

Tool Access

The Video Platform Scoring and Evaluation Tool is available at:

Scoring Worksheet Link:

<https://anthc2.box.com/s/nm2hudiqqcp7cic168ygyg0ztj9xxs08>

Key Message

Structured evaluation helps teams move beyond anecdote and preference.

Used thoughtfully, scoring tools support clearer discussion, better alignment with organizational priorities, and more defensible platform selection decisions.



9. Support and Troubleshooting in Real-World Use

Real-world conditions often interfere with even the best-designed video platforms. Connectivity issues, unfamiliar devices, and unpredictable patient environments can all disrupt otherwise effective telehealth encounters. This section focuses on common challenges seen in everyday use, along with practical mitigation strategies and support practices that help reduce disruption—particularly in direct-to-patient telehealth settings where technical and environmental variability is unavoidable.

9.1 Common Failure Points in Video Visits

Most video visit failures are not caused by platform outages or major system faults. Instead, they typically arise from a small set of recurring issues:

- Incorrect device or browser permissions (camera or microphone blocked)
- Inadequate or unstable connectivity at the patient location
- Outdated software, operating systems, or browsers
- Audio misconfiguration (wrong microphone or speaker selected)
- Competing bandwidth use on shared home networks
- Patient unfamiliarity with the platform interface

Recognizing these patterns allows organizations to address problems proactively rather than reacting during live clinical encounters.

9.2 The Value of Pre-Visit Technical Checks

For direct-to-patient video visits, **pre-visit technical checks are one of the most effective ways to improve reliability and patient experience.**

A brief pre-check allows patients to:

- Become familiar with the video platform
- Verify camera, microphone, and speaker functionality
- Ask questions in a low-pressure setting
- Resolve connectivity or device issues before the clinical visit
- Reduce anxiety related to technology use

From an operational perspective, pre-checks reduce provider frustration, shorten visit delays, and minimize the need for troubleshooting during clinical time.



Human Support vs Automated Checks

While many platforms offer automated connection or device tests, these tools are often insufficient on their own. Automated checks can confirm basic functionality, but they do not address patient questions, uncertainty, or contextual issues such as room setup or shared devices.

A **dedicated role or support staff member** who performs pre-visit tech checks is often more effective than a fully automated process. Human support allows for:

- Real-time clarification and reassurance
- Identification of issues that automated tools miss
- Education tailored to the patient's device and environment
- Early escalation when a visit may need to be modified or rescheduled

This role does not require deep technical expertise, but it does benefit from familiarity with the platform, common issues, and patient communication.

9.3 During-Visit Troubleshooting: Keep It Simple

When issues arise during a live visit, the goal is to restore communication quickly without derailing the encounter.

Common first-line steps include:

- Confirming the correct microphone and camera are selected
- Asking participants to pause other bandwidth-heavy activities
- Refreshing the browser or reconnecting to the session
- Switching briefly to audio-only mode if video quality degrades

Providers should avoid prolonged troubleshooting during clinical time. If issues cannot be resolved quickly, having a clear fallback plan—such as transitioning to a phone call or rescheduling—helps maintain patient trust and safety.

9.4 Tiered Support and Escalation

Clear delineation of support responsibilities improves response time and reduces confusion.

- **Tier 1 support** typically addresses basic issues such as permissions, device selection, login problems, and patient guidance.



- **Tier 2 support** handles network configuration, platform outages, integration issues, or persistent performance problems.

Organizations should define how and when issues are escalated, and ensure staff know whom to contact during clinical hours.

9.5 Documentation and Continuous Improvement

Recurring technical issues should be tracked and reviewed periodically.

Useful practices include:

- Logging common failure points
- Identifying patterns by location, device type, or visit type
- Updating patient instructions or pre-check workflows accordingly
- Incorporating feedback from patients and providers

This feedback loop allows organizations to improve reliability over time without increasing technical complexity.

Key Message

Video platforms perform best when supported by people, preparation, and clear fallback plans. Pre-visit technical checks—especially for direct-to-patient care—are one of the most effective ways to prevent disruptions, improve patient confidence, and protect clinical time.

10. Don't Forget – Related TRC Resources

While this guide focuses on the technical aspects of video platforms—performance, security, compliance, and practical support—technology alone does not determine telehealth success. In many cases, non-technical factors have a greater influence on patient experience, provider adoption, and program sustainability.

Key elements not covered in detail in this guide include:

- Provider and staff training
- Telehealth presence, professionalism, and communication skills
- Billing, coding, and reimbursement considerations
- State and federal policy and regulatory requirements
- Program design, workflow integration, and change management



The Telehealth Resource Centers collectively maintain a diverse library of guidance, toolkits, webinars, and practical resources addressing these topics. To avoid duplicating content and to keep this guide focused, several relevant TRC-generated resources are referenced in the accompanying PDF. [Resources Table](#)

Readers are encouraged to explore these materials to complement the technical guidance provided here and to support a more comprehensive approach to telehealth implementation and operations.

Key Message

Effective telehealth programs are built on more than technology.

Training, policy, reimbursement, and human-centered practice are equally critical—and TRC resources are available to support each of these areas.

Conclusion

Video technology has fundamentally changed how healthcare is delivered. It has expanded access, reshaped patient expectations, and become an essential part of modern clinical practice. At the same time, video platforms are no longer simple communication tools—they are complex systems that influence clinical quality, privacy, workflow, and trust.

Careful consideration should be given to the **selection, implementation, and ongoing support** of video technology. Technical performance, security, compliance, and usability all matter, but they are not ends in themselves. The most successful telehealth programs are guided by people and processes, with technology serving as an enabler rather than a driver.

Throughout this guide, we have emphasized that high-quality video care does not require the most expensive tools or the most advanced features. With a clear understanding of needs, realistic testing, and thoughtful support, organizations of any size can make sound technological choices that improve both patient and provider experience.

Telehealth works best when technology fades into the background and the clinical relationship comes forward. With intentional planning and informed decision-making, video platforms can support care that is effective, equitable, and human-centered.

