Implementation Playbook for Inpatient Tele-Specialty Services

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UMMC™
Center for Telehealth and Emerging Technologies

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Project Impact

Rural hospitals across the country are facing a growing crisis in their access to specialty care. Shortages of intensivists, pulmonologists, cardiologists, nephrologists, neurologists, and other inpatient specialists leave local providers without timely expert support, often resulting in unnecessary transfers, delayed critical interventions, and additional strain on already limited resources.

Inpatient tele-specialty services address this gap by using real-time audio and video technology to connect rural providers with board-certified specialists at a hub organization. Patients receive advanced, specialty-level care while remaining at their local hospitals, families stay closer to home, and local clinicians gain valuable mentorship and support in managing complex cases.

This playbook uses Tele-Critical Care (TCC) as the implementation paradigm. The model is designed to be adapted for a wide range of inpatient specialties. Using the same implementation phases, team structures, and sustainability principles can be applied to any inpatient specialty service, making it a replicable framework for rural health systems nationwide seeking to close specialty care gaps.

This approach reduces unnecessary transfers, strengthens hospital sustainability, and helps retain skilled medical providers in rural areas. Successful implementation brings meaningful benefits to patients, health care providers, and the communities they serve.

Project Overview

Telehealth and Inpatient Specialty Care

Inpatient tele-specialty services bring specialist expertise directly to facilities that may not have on-site specialists. Through real-time video, audio, and data sharing, off-site specialists work with on-site clinical teams to diagnose, support, treat, and manage complex cases.

Tele-Critical Care (TCC) serves as the paradigm for this playbook. TCC adapts the tele-ICU model, the most established way to connect off-site intensivists and pulmonologists with on-site clinical teams, for smaller and rural hospitals that do not operate an ICU.

In this setting, off-site teams partner with on-site medical teams to stabilize and manage critically ill patients wherever they present, most often in an emergency department or on a medical floor. Evidence from tele-ICU and TCC programs shows improved patient outcomes, reduced length of stay, and extended access to specialty expertise in medically underserved areas. The same implementation principles demonstrated through this playbook apply to a wide range of inpatient specialty services, including teleneurology, telecardiology, and telenephrology.

Acronyms & Abbreviations

>> Glossary of Terms & Acronyms

Service & Clinical Terms

TCC (Tele-Critical Care): Remote delivery of critical care support to a hospital or facility that does not have an ICU, using real-time video and audio. An adaptation of the tele-ICU model used for smaller and rural facilities.

Tele-ICU: Remote monitoring and co-management of patients in an existing ICU by off-site intensivists.

CAH (Critical Access Hospital): Rural-hospital designation with limited bed size and proximity requirements.

LOS (Length of Stay): Days a patient remains in the hospital from admission to discharge.

ICU: Intensive Care Unit.

ED: Emergency Department.

MDM: Medical Decision Making.

HIM (Health Information Management): Hospital department responsible for medical records, documentation, and standards.

Technology

EMR (Electronic Medical Record): A patient's digital record at a single organization

VPN (Virtual Private Network): Encrypted connection that gives remote providers secure access to a spoke site's network and clinical systems.

Performance & Financial

KPI: Key Performance Indicator.

ROI (Return on Investment): Financial return compared to program costs.

CQI: Continuous Quality Improvement.

Leadership Roles

CEO: Chief Executive Officer.

CNO: Chief Nursing Officer.

CMO: Chief Medical Officer.

CFO: Chief Financial Officer.

Credentialing, Compliance & Contracts

Credentialing: Verification of a provider's qualifications, education, training, and licensure.

Privileging: Granting a provider permission to deliver specific clinical services at a facility.

HIPAA: Health Insurance Portability and Accountability Act.

PHI: Individually identifiable health information protected under HIPAA.

FERPA (Family Educational Rights and Privacy Act): Federal law protecting the privacy of students' education records; applies when a partner site is affiliated with an academic institution.

BAA: Business Associate Agreement.

CPT: Current Procedural Terminology.

MOU (Memorandum of Understanding): A document outlining the terms of a partnership between two organizations.

IRB (Institutional Review Board): A committee that reviews research involving human subjects to ensure ethical protections.

Downtime Workflow: Predefined steps to continue care when technology fails.

Contracting & Procurement

STCA (Standard Terms & Conditions Addendum): Standardized contract language attached to a vendor agreement.

RFP (Request for Proposal): A competitive solicitation inviting vendors to propose a solution and a price.

GPO (Group Purchasing Organization): An entity that negotiates pricing on behalf of member hospitals.

Implementation Phases and Key Activities

- Needs Assessment
- Feasibility Assessment
- Project Kickoff
- Operational Planning
  - Regulatory & Compliance
  - Hospital Engagement & Contracting
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  - Technology & Vendor Selection
  - Credentialing & Privileging
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Pre-Implementation

Planning and Preparation

is the foundation for a successful Tele-Specialty launch. This stage focuses on organizational readiness, team engagement, system setup, policy alignment, and staff preparation to ensure a smooth transition to go-live.

Planning and Preparation

Planning and preparation lay the foundation for a successful tele-specialty launch. The steps below outline an overall workflow that ensures consistent execution across all roles and phases.

1. Needs Assessment

The purpose of identifying a need is to establish the clinical, operational, and community-driven reasons for implementing Tele-Specialty services at a given site.

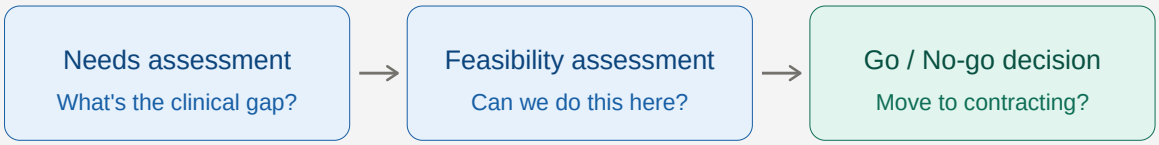
Key Things to Consider:

- Availability of on-site specialists in the service line being considered
- Patient acuity and volume relevant to the proposed specialty
- Transfer frequency for patients who could be managed locally with specialty support
- Baseline data (length of stay (LOS), transfers, mortality, or other specialty-specific metrics) to establish a pre-implementation benchmark
- Hospital or community requests for specialty coverage

2. Feasibility Assessment

The feasibility assessment determines if a proposed tele-specialty program can be realistically implemented in a hospital or facility. This step is critical in justifying whether this program can be executed.

- Clinical Feasibility: Is there sufficient patient volume and acuity to support the service? Are there gaps in specialist coverage that could be filled?
- Operational Feasibility: Does the hospital or facility have leadership and staff buy-in? Are policies and procedures adaptable to tele-specialty workflows?
- Technical Feasibility: Is the existing hardware sufficient, or would new investments be required? Can the telehealth platform integrate with the site's EMR and communication systems?
- Financial Feasibility: Is there funding to support the service? What is the cost of implementation versus expected reimbursement and cost savings (transfer avoidance, length-of-stay reduction)?



Each assessment feeds the next. A clear clinical need and confirmed feasibility are required before moving to contracting and operational planning.

Planning and Preparation

3. Project Kickoff

A project kickoff meeting introduces the project to the full project team and aligns the team on goals, roles, and timelines.

- Assign project lead(s) and define team roles
- Outline the project scope, goals, timelines, and initial deliverables
- Confirm communication and reporting structure

See Project Team Roles in Appendix A and Site Engagement in Appendix B

See a detailed 12-month implementation timeline template in Appendix F

4. Operational Planning

Operational planning prepares the hospital or facility, along with the project team, for the implementation of tele-specialty services. This process ensures that all regulatory, contractual, technical, clinical, and financial requirements are met before go-live.

1 Contracts	2 Credentialing & Privileging	3 EMR Access	4 Technology
Service agreements between the hub organization and spoke site must be fully executed before go-live	Providers must be credentialed and privileged at each spoke site. Start this process as early as possible, it often takes the longest	Remote providers need role-based EMR access. Each system will have a different setup and process	Confirm hardware, internet bandwidth, and VPN connectivity well ahead of go-live testing.

> ***In practice**, addressing contracts, credentialing, EMR access, and technology as parallel workstreams — rather than sequential steps — has consistently shortened time to go-live. Credentialing typically takes the longest, so sites that initiate credentialing alongside contract negotiation avoid it becoming the critical path.*

Planning and Preparation

Key Components of Operational Planning

Regulatory & Compliance

Regulatory and compliance ensure that the project meets all legal requirements at the state, federal, and organizational levels.

- Address medical staff bylaws and privileging rules
- Address licensing & credentialing protocols
- Ensure HIPAA compliance and documentation standards
- Secure Business Associate Agreements (BAAs) for vendors
- Confirm secure data storage procedures

🔑 Key Tips: Regulatory & Compliance

- Involve your organization's Compliance and Privacy Officer at the first project meeting. BAAs and data storage questions often raise issues affecting contract language.
- Confirm whether your state has specific telehealth consent or documentation requirements beyond HIPAA.
- Document HIPAA training completion for all remote providers before go-live.

Hospital Engagement & Contracting

See Interest Meeting in the Appendix C

See Contracting in the Appendix D

Securing a commitment from rural hospitals and formalizing all service agreements.

- Introductory meeting to review and present the service benefits and technical requirements.
- Overview of the contracting process
- Timelines for approval and legal review
- Designate site telehealth champions to maintain regular communication

🔑Key Tips: Contracts

- Define the scope of covered services, hours of availability, and the billing arrangement (e.g., professional fee vs. facility fee split) before go-live.
- Include contract language that explicitly permits remote credentialing and electronic order entry by hub providers.
- Confirm provider compensation structure and payment process before onboarding begins; unclear compensation terms delay provider engagement.

Planning and Preparation

Technical & Infrastructure Readiness

Assessing the technology and infrastructure lays the foundation for a successful service.

- Assess internet connectivity, bandwidth, and existing hardware (e.g., carts, cameras)
- Coordinate with IT for platform integration (e.g., telehealth platform, call routing system, EMR)
- Ensure secure remote access for providers, including desktop shortcuts to the telehealth platform
- Test video/audio functionality across shifts

Technology and Vendor Selection

Conducting a technology assessment and selecting a vendor requires a thorough evaluation to ensure alignment with the project's goals, budget, technical requirements, and long-term sustainability.

Here are the main considerations:

Alignment with Project Needs

- Ensure the solution supports tele-critical care consults
- Functions in an acute care environment (ED, ICU)
- Fits in the clinician's workflow

Technical Compatibility

- Confirm integration with existing systems (EMR), VPN tunneling, and compatibility with in-room equipment

Security and Compliance

- Ensure vendors meet HIPAA, FERPA, and institutional policies
- Clearly defined support protocols

Cost and Contract Terms

- Evaluate hardware and software costs and any licensing fees
- Include training, technical support, and maintenance costs in contract terms

Vendor Reliability

- Assess vendor reputation and experience in critical care or inpatient telehealth

Scalability

- Prioritize platforms that are easy for bedside staff to use and scalable for future services

> 🔑 **Real-World Example: Treat VPN setup as a pre-implementation task.** At one spoke site, VPN access for remote providers was not established until late in the pre-implementation phase, delaying provider testing and go-live readiness checks. VPN setup typically requires coordination across hub and spoke IT teams, firewall configuration, and security review, which can take several weeks.
> **Action:** Assign an owner and a deadline to the VPN setup during the first 30 days of pre-implementation.

Planning and Preparation

Credentialing

Credentialing is the process for verifying that health care providers are qualified to provide medical services. For tele-specialty services, this ensures that remote providers meet all requirements to practice at a remote site.

- Confirm credentialing and hospital-specific requirements for remote providers
- Submit applications and supporting documents
- Track progress and completion
- Prepare temporary privileges if applicable

> 💡 **Credentialing by Proxy**
> Credentialing by proxy is a process that allows a hospital or health care facility (the “originating site”) to rely on the credentialing and privileging decisions of another organization (the “distant site”), instead of performing a full, independent credentialing review for each telehealth provider.

> *Using credentialing by proxy streamlines telehealth implementation by allowing faster onboarding of remote providers and reducing administrative burdens, making it ideal for multi-site programs.*

Privileging

Privileging is the process that a health care organization uses to verify a physician's qualifications, which may include licenses, board certifications, training, etc. Privileging grants a physician permission to provide specific clinical services, such as telehealth, within that facility.

> 🔑 **Key Tips: Credentialing & Privileging**
> • Engage the Medical Staff Office Director at the very first project meeting.
> • Determine early whether credentialing by proxy is permitted under the site's current bylaws.
> If not, initiate a bylaw amendment immediately *(see Appendix E: Provider Onboarding Workflow).*
> • Maintain a centralized tracker showing credentialing status for each provider at each site.
> • Confirm that malpractice coverage for all providers explicitly includes telehealth services.

> 🔑 **Real-World Example:** In one implementation, a spoke site's bylaws did not permit credentialing by proxy, requiring a full bylaw amendment — adding several weeks to the pre-implementation timeline.

Planning and Preparation

Key Steps in Payor Enrollment

Payor enrollment (also called provider enrollment or payor credentialing) is the process by which health care providers apply to be recognized, contracted, and reimbursed by insurance companies such as Medicare, Medicaid, and commercial payors.

1. Application - Providers submit a detailed application to each payor.
2. Credentialing Review - Payor verifies provider credentials
3. Contracting - Once approved, the payor issues a contract outlining reimbursement rates, billing requirements, and provider obligations.
4. Effective Date Assignment - Payors assign a date for which the providers are eligible to bill for services.

Payor enrollment timelines vary significantly by payor type and region. Contact each payor directly to confirm current processing times, which can range from 30 days to 120+ days. Build these timelines into your project schedule during the pre-implementation phase.

See a detailed Onboarding Workflow in Appendix E

Workflow Design & Customization

Create a standardized, site-specific workflow that clearly outlines the process for both clinical and operational services.

Each workflow should:

- **Define Consult Initiation**: Identify who is authorized to initiate a remote consult, the triggers for initiation, and escalation steps if additional support is needed.
- **Map Communication Protocols:** Establish clear, timely communication channels between bedside teams and remote specialty providers.
- **Outline Handoff Procedures:** Detail expectations for information exchange during consults, including patient status updates, order clarifications, and follow-up steps.
- **Set Consultation Expectations:** Clarify expected response times, documentation requirements, and follow-up responsibilities.
- **Customize EMR Documentation:** Build site-specific EMR templates and notes to include tele-specialty documentation fields, timestamped entries, and provider attestations.

See the Workflow Design in Appendix G / See Workflow Example in Appendix H

Planning and Preparation

Policy & Procedure

Review and update hospital policies and procedures to include telehealth requirements, such as consents, documentation, HIPAA/privacy, and emergency procedures.

- Review existing hospital policies and integrate telehealth considerations.
- Update or create procedures for consent, documentation, patient safety, and privacy/security.
- Ensure workflows are documented, accessible, and staff are trained on their use.

> 🔑 **Real-World Example: Co-develop clinical protocols between hub and spoke.**
> At one spoke site, the hub and spoke teams jointly developed a clinical treatment protocol tailored to the site's formulary, nursing workflow, and EMR order set capabilities. Hub providers contributed evidence-based clinical guidance. The result was a protocol that the site owned and adopted, rather than one imposed by the hub.
>
> **Action:** Build protocol co-development into the workflow design phase. Co-developed protocols strengthen adoption and build durable hub-spoke clinical relationships

5. Staff Education & Training

Train staff and providers on equipment use, EMR documentation, HIPAA privacy, consent, and telepresenting. Use mock drills to reinforce workflows and readiness.

- **Train providers and staff on:**
  - Equipment operation and troubleshooting.
  - EMR documentation standards for telehealth.
  - HIPAA privacy/security requirements.
  - Consent procedures.
  - Telepresenter skills for bedside staff.
- Provide mock consult drills to test workflows and technology.

🔑**Key Tips: EMR Access**

- Engage IT and HIM leadership at each site separately — each spoke site may use a different EMR (Epic, Meditech, Soarian, Cerner, MedHost).
- Coordinate with HIM and IT Directors to set up role-based access for remote providers.
- Build standard documentation templates in the EMR before go-live.
- Designate an EMR superuser at each site to support providers during the first weeks.
- Build buffer time into go-live if the site has a planned EMR migration or upgrade.

Planning and Preparation

6. Patient & Community Engagement

Develop an educational plan that helps patients access the service regardless of device, broadband, or digital literacy barriers. Identify and address barriers patients face before go-live.

- Explore solutions to common access barriers (device access, broadband, digital literacy, private space)
- Provide patient education and digital literacy support
- Establish a plan for patient consent and ensure it is documented in the medical record

7. Financial & Sustainability Planning

Define provider payment models and hospital billing processes. Review reimbursement options (Medicare, Medicaid, commercial payors). Build a plan for long-term funding and scalability.

- Define payment structures for providers and hospitals.
- Review reimbursement pathways (Medicare, Medicaid, commercial).
- Incorporate originating site fees into financial models.
- Develop long-term sustainability strategies (vendor costs, staffing, ongoing training).

See Metrics in Appendix I

8. Key Performance Indicators (KPIs)

Continuous performance measurement should inform decisions about program scaling and long-term sustainability.

- During the planning and preparation phase, explicitly define the method for measuring patient retention attributable to the TCC service. This measure will require clinician input and is unlikely to be directly or reliably derived from existing patient records.

A centralized performance dashboard should be established to support ongoing monitoring and decision-making.

- During planning and preparation, clearly define the key metrics, data sources, and update cadence to be displayed. Dashboard development should involve clinical, operational, and analytics leads, as several high-value indicators may require manual validation or contextual interpretation rather than automated extraction from existing systems.

Planning and Preparation

9. Mock Testing

The final step in planning and preparation is to validate all systems, equipment, and workflows. Ensuring all teams are ready before go-live.

- Mock Consult Drills: Simulate real or hypothetical patient cases to test technology, communication, and documentation skills.
- Provider & Staff Training: Deliver hands-on training for equipment, EMR documentation, and consult protocols.
- Issue Resolution: Address any gaps identified during testing.
- Final Readiness Sign-Off: Secure approval from the site and hub teams to proceed with live service.

Implementation

Deployment & Adoption

The implementation phase focuses on deploying equipment, adoption among clinical teams, monitoring performance, and ensuring sustainability.

Deployment and Adoption

Before launching a service, all foundational objectives must be met. The following should be completed and verified prior to a scheduled go-live.

Technology Deployment

- Install and test equipment (tele-carts, cameras, and audio)
- Validate connection (VPN if required, firewall, and bandwidth stability)
- Finalize EMR access, test logins, and training
- Ensure telehealth platform integrations into the workflow as intended.

Staff Training and Education

- Conduct live or recorded training for:
  - clinical staff, administrative staff, and IT support
- Distribute quick-reference guides, tip sheets, and FAQ documents.
- Conduct a mock testing debrief, allowing for questions and support.

Compliance & Billing

- Ensure documentation supports CPT codes and specialty billing requirements.
- Educate providers on MDM/time-based billing.
- Confirm coding, compliance, and audit readiness.

Data Collection

- Identify metrics to track: number of consults, reduction in transfers, length of stay, satisfaction, and other specialty-specific outcomes.
- Develop tools or forms to capture pre- and post-implementation data.
- Assign data entry or reporting roles.

Communication Plan

- Announce go-live to all internal departments.
- Provide updates to leadership and site teams.
- Develop internal newsletters, flyers, or dashboard announcements.

Readiness Checkpoint

Before proceeding to go-live, confirm that all technology (telemedicine cart, camera, and audio) is functional, that staff have completed training, that workflows are documented and accessible, and that leadership has approved the go-live date. Once these elements are verified, the service is ready to go live.

Deployment and Adoption

Go-Live Protocol

Go-live marks the official launch of tele-specialty services at the facility. A structured approach to launch day ensures that all teams are aligned, technology is functional, and support is immediately available to address any issues.

Go-Live Day Checklist

- Confirm all equipment is powered on and tested before the first shift
- Verify remote provider connectivity and EMR access
- Conduct a brief huddle with nursing staff to review the workflow and answer last-minute questions
- Identify the on-site point person responsible for troubleshooting during the first 12 hours
- Establish scheduled check-in calls with telehealth support at designated intervals throughout the day
- Document any issues in a shared log for real-time tracking and resolution

Go-Live Day Roles

Role	Responsibility
Site Champion	Leads staff huddle, serves as primary on-site contact, escalates issues
IT Support	Monitors connectivity, responds to technical issues, documents system performance
Telehealth Clinical Lead	Available by phone for workflow questions, coordinates with remote providers
Bedside Nurse	Initiates consults per workflow, provides feedback on process
Remote Specialty Provider	Responds to consults, documents encounters, communicates recommendations

Deployment and Adoption

72 Hours Support Structure

The first 72 hours after go-live are critical for building staff confidence, identifying process gaps, and ensuring the service gains early momentum. Intensive support during this period increases the likelihood of sustained adoption.

Timeframe	Activity
Day 1	**Dedicated telehealth support on-call for immediate response. Debrief after each consult. End-of-day huddle with site champion to review issues.**
Day 2	**Continue on-call support. Proactively round on units to check staff comfort. Address any recurring questions or hesitation.**
Day 3	**Conduct a formal 72-hour review with clinical leadership. Compile a "lessons learned" summary. Transition from intensive support to standard support model.**

Five Huddle Questions to Ask Your Team

During the first 72 hours, telehealth support or the site champion should round on clinical units and ask:

1. Have you had a chance to use the service yet?
2. Do you feel comfortable initiating a consult if needed?
3. Is anything about the workflow unclear?
4. Have you experienced any technical issues with the cart or connectivity?
5. What would make you more confident using the service?

Feedback and Troubleshooting

- Create a structured process for daily/weekly feedback during the first weeks.
- Conduct a post-go-live huddle/check-in.
- Maintain a running list of challenges and solutions.

Post 72 Hours - Ongoing Operations

After the initial 72-hour stabilization period, the service transitions from intensive launch support to routine operations. The focus shifts to utilization monitoring, continuous quality improvement, and long-term sustainability.

Post-Implementation

Sustainability & Scalability

The post-implementation phase shifts focus from deployment to durability. Ensuring the service delivers consistent value to patients, providers, and the organization over time.

Sustainability & Scalability

Consistent monitoring during the post-implementation phase allows teams to identify trends, address issues early, and demonstrate program value to leadership. The activities below should be conducted on an ongoing basis, with formal reviews occurring monthly or quarterly, depending on organizational needs.

Utilization Monitoring

- Track consult volume daily, weekly, and monthly.
- Compare the usage against previous projections and goals.
- Review and identify utilization trends such as time of day and the type of consults.
- Flag periods of low utilization for follow-up with site champions

Site and Provider Feedback

Gather input from:

- On-site staff (nurses, ED, hospitalists)
- Remote telehealth providers
- Patients/families (if applicable)
- Create surveys or informal check-ins to gauge feedback

> ***In practice**, low consult volume does not always signal a workflow problem. At one spoke site, a period of lower volume reflected decreased patient acuity. Fewer critically ill patients were presenting at the facility, rather than underutilization of the service. Check in with site champions to contextualize trends before acting on volume data alone.*

Workflow & Documentation

- Review and confirm that all workflows are working as intended.
- Review clinical documentation to ensure that CPT codes and specialty billing components are accurately captured.
- Review clinical templates to ensure consistent clinical documentation.
- Update resources such as reference guides and workflows, if needed.

Financial Evaluation

- Review billing accuracy and reimbursement data.
- Validate facility and provider charge capture workflows.
- Confirm compliance with payor requirements.
- Monitor ROI and alignment with sustainability goals.
- Use data to explore future opportunities

Monitoring and evaluation activities provide the data and insights needed to sustain the program. The following page outlines the broader pillars of sustainability that ensure services remain a valued, permanent part of hospital operations.

Sustainability & Scalability

Continuous Quality Improvement (CQI)

Compare outcomes to baseline data:

- Transfer reduction
- Specialty-specific quality outcomes (e.g., mortality, complications, time-to-intervention, readmission)
- Average length of stay (LOS)
- Consult volume and acuity trends

- Establish a regular review cadence or quarterly reviews
- Designate a CQI lead or small committee to convene reviews, document findings, and assign follow-up actions.
- Use trends to identify opportunities to streamline workflows, refine documentation, or expand the service.
- Share findings with site champions, clinical leadership, and hospital decision-makers to inform program decisions.

Troubleshooting

- Document recurring issues across three categories: technical (connectivity, EMR, audio/video), workflow (consult initiation, handoffs, documentation), and clinical (protocol questions, scope of service).
- Assign clear ownership for each category.
  - IT for technical issues
  - Site champions for workflow gaps
  - Clinical leadership for protocol or scope questions.
- Establish escalation pathways so issues are routed to the right person quickly and hub-and-spoke teams know whom to contact.
- Maintain accessible support channels for both sides of the consult, including a backup consultation line for use during system outages or downtime.
- Reassess workflows after major changes such as EMR transitions, staffing turnover, new service lines, or facility-level system upgrades.
- Schedule periodic reviews of the issue log to surface patterns rather than treating each problem in isolation.

🔑 **Real-World Example: Refining Documentation for Clinical Reasoning**
In one implementation, the program added provider comment fields to capture the clinical reasoning behind transfer-versus-retain decisions. This change strengthened the program's value to leadership, supported financial analysis, and enriched the CQI dataset.
Action: Let documentation standards evolve as the program matures.

🔑 **Real-World Example: Revisiting Workflows After System Changes**
When a spoke site transitions to a new EMR or completes a major system upgrade, established workflows often need to be rebuilt rather than migrated. Plan for a stabilization period, and budget time for documentation updates and provider re-training.
Action: Build major system changes into the CQI review cycle.

Sustainability & Future Directions

Building on the monitoring activities from the previous page, a program must demonstrate ongoing value across multiple domains to move from a successful launch to a permanent, integrated part of hospital operations. The pillars below represent the durable conditions that enable a program to thrive for years to come.

Clinical Sustainability

- Ongoing use of remote specialty-relevant consults across clinical areas (ED, Inpatient units, ICU, or specialty floors).
- **Quality Outcomes:** continued improvement in specialty-relevant outcomes - reduced unnecessary transfers, shortened LOS, timely interventions.
- **Provider Engagement:** strong relationships and communication between onsite and remote specialty providers.

Financial Sustainability

- **Reimbursement & Billing:** proper billing workflows in place (MDM/time-based CPT codes, facility fees).
- **Return on Investment (ROI):** cost savings from reduced transfers, shorter LOS, and fewer readmissions.
- **Budget Allocation:** program costs (equipment, staffing, vendor fees) integrated into the hospital's long-term financial planning.

Operational Sustainability

- **Stable Workflows:** routine, documented processes that are easy to follow and train on.
- **Minimal Technical Issues:** reliable hardware, EMR access, and telehealth platforms.
- **Training & Onboarding**: standardized orientation for new staff and rotating providers.

Data-Driven Evaluation

- **Ongoing Metrics Tracking:** Regular monitoring of consult volume, outcomes, satisfaction, and financial indicators.
- **Reporting Loop**: Sharing data with leadership, clinical staff, and external audiences to demonstrate value.

Sustainability & Future Directions

Leadership Support

- **Local Champions:** Continued buy-in from hospitalist/ED leads and nurse managers.
- **Executive Alignment:** The program aligns with the hospital's strategic priorities (e.g., rural access, care quality, patient retention).

Program Adaptability

- Ability to expand to nights/weekends or new clinical areas.
- Flexibility to evolve workflows based on lessons learned.
- Capacity to adjust staffing and coverage based on demand.
- Openness to incorporating new technology or service lines

🔑 Sustainability results from consistent attention across all these pillars. Programs that monitor performance, respond to feedback, maintain leadership engagement, and adapt to changing circumstances are positioned for long-term success and growth.

Program Barriers and Mitigations

Operational & Technical Barriers

Credentialing & Compliance

BARRIER

Credentialing remote providers can take months to complete, especially when delegated credentialing or proxying options are unavailable.

MITIGATION

Determine the credential workflow early. Pursue bylaw amendments to allow delegated credentialing where feasible.

Technical Issues

BARRIER

Hospitals and facilities may have unreliable internet or limited bandwidth, which can compromise video and audio quality

MITIGATION

Conduct daily equipment checks. Maintain a backup cart or device. Keep open IT support lines on both hub and spoke sides.

EMR & Documentation

BARRIER

Multiple electronic health record systems create navigation challenges. Provider notes may also be missing key elements for billing and quality reporting.

MITIGATION

Build standardized documentation templates. Designate an EMR superuser at each site. Train remote providers on EMR-specific workflows.

Billing & Reimbursement

BARRIER

Confusion over billing responsibility, CPT coding, or compliance can delay reimbursement and create audit risk.

MITIGATION

Provide CPT coding tip-sheets. Assign champions to monitor charge capture. Schedule regular documentation and coding audits.

Addressing these barriers requires clear strategy, strong security measures, seamless integrations, provider training, and a compelling business case. The next page outlines additional people-focused barriers and mitigations.

Program Barriers and Mitigations

People and Outcome Barriers

Clinical Engagement & Adoption

BARRIER

Onsite staff may resist remote care services, fear loss of patient ownership, or struggle to adapt to new workflows.

MITIGATION

Frame the service as collaboration, not replacement. Involve staff in workflow design. Share success stories and peer-to-peer discussions.

Under-Utilization

BARRIER

The service may not be used consistently across shifts, units, or clinical scenarios — limiting impact and ROI.

MITIGATION

Monitor utilization regularly. Provide refresher training. Check in with site champions before assuming a workflow problem (see page 22).

Workforce Continuity

BARRIER

Turnover among champions, leadership, or bedside staff can disrupt momentum and leave new team members untrained.

MITIGATION

Build cross-functional support across clinical, IT, and administrative leaders. Create a standardized onboarding process for new staff and providers.

Measurable Outcomes

BARRIER

Inability to demonstrate ROI or clinical value weakens the case for long-term funding and expansion.

MITIGATION

Define KPIs upfront. Track pre- and post-implementation data. Partner with analysts to interpret and translate findings for leadership.

Addressing these barriers requires a clear strategy, including robust security measures, seamless integrations, provider training, and a compelling business case

Appendix A: Project Team Roles

Hub-side roles for building the implementation team

Building a project team involves identifying individuals with the necessary skills and clearly defining their responsibilities. The roles below describe the core hub-side team that delivers the program. Site-level roles are covered in Appendix B.

Project Manager

- Oversees overall planning and execution
- Coordinates between teams
- Develops timelines and deliverables
- Manages risks and escalations

Clinical Lead

- Provides clinical expertise and protocol guidance
- Leads workflow development with sites
- Ensures provider readiness
- Trains bedside clinicians

Contract Manager

- Manages agreements with hospitals and vendors
- Oversees the contract execution and renewal
- Coordinates the transition of vendor services

Billing & Revenue Manager

- Provides billing education to hub and spoke teams
- Ensures documentation supports coding and reimbursement
- Liaises with hospital billing teams

Vendor Liaison

- Coordinates logistics, training, and service continuity for third-party vendors
- Manages escalations with vendor support teams

Program Director

- Oversees project/program implementation
- Approves decisions, escalates challenges
- Supports policy development and sustainability planning

IT Specialist

- Coordinates technical assessments
- Manages EMR access and VPN setup
- Oversees cart installation and platform integration.
- Provides ongoing technical support

Compliance & Privacy Officer

- Ensures adherence to HIPAA, telehealth policies, and consent requirements
- Advises on regulatory risks
- Reviews data storage and BAA arrangements

Data & Research Analyst

- Tracks utilization and outcomes data
- Supports KPI reporting for quality improvement and research
- Builds and maintains the program dashboard

Communication Lead

- Develops go-live announcements and internal updates
- Coordinates outreach to leadership and site teams
- Maintains program-facing materials and FAQs

Appendix B: Site Engagement

Part 1 — Leadership & Clinical Roles

Role analysis identifies individuals affected by the program, their influence, and how to engage them effectively. The leaders and clinical staff below drive site-level decision making, adoption, and day-to-day workflow execution.

Position	Responsibilities	Engagement Cadence	Engagement Strategy
Hospital CEO	Signs contract, oversees implementation, allocates resources	Episodic	Briefing, milestone reporting
Hospital CMO	Aligns medical staff, approves clinical workflows	Recurring	Leadership meetings, Workflow design sessions
Hospital CNO	Leads nursing engagement, training, and readiness	Recurring	Nursing onboarding, readiness assessment
Site Champion	Advocates for staff buy-in, facilitates training, supports adoption	Continuous	Weekly touchpoints, feedback loops
Bedside Clinical Staff (via Site Champion)	Initiates consults, executes bedside workflows	Continuous	Laminated workflows, training feedback loops

Operational and support roles (IT, credentialing, billing, legal, vendor) are covered on the next page.

Appendix B: Site Engagement

Part 2 — Operational & Support Roles

These roles enable the program's technical, regulatory, and financial infrastructure. Engagement is most intensive during planning and build phases, then transitions to ongoing monitoring and support.

Position	Responsibilities	Engagement Cadence	Engagement Strategy
IT Director	Coordinates VPN, EMR Access, cart setup, network reliability	Recurring	Weekly check-ins during build, monthly thereafter
Medical Staff Office	Manages credentialing and privileging for remote providers	Recurring	Status meetings, centralized tracker
HIM Director	Oversees medical records, EMR templates, documentation standards	Recurring	Template build sessions, audit review
Hospital Billing Department	Processes provider enrollment, supports revenue cycle	Recurring	Billing workgroup meetings, CPT tipsheets
Legal & Compliance Officer	Reviews contracts, ensures HIPAA & credentialing compliance	Episodic	Contract review meetings, compliance sign-off
Vendor Support	Provides platform enablement and technical support	As needed	Access setup, troubleshooting escalation

Cadence definitions: Continuous = ongoing daily/weekly contact; Recurring = scheduled meetings during a program phase; Episodic = at defined milestones; As needed = triggered by events.

Appendix C: Interest Meeting

Agenda and attendees for the initial site visit

The interest meeting is an on-site visit to the prospective partner facility to confirm interest, review service details, and ensure all key decision-makers agree to move forward. Strong engagement during this meeting is essential to setting the program up for success.

Format	Duration	Hub Attendees
On-site, in person	90-120 minutes	Program Director, Project Manager, Clinical Lead

Pre-Meeting topics to discuss

1. **Service Payment & Billing Model** - Payment structure for providers and the billing arrangement with the facility.
2. **Provider Compensation & Payment Process** - Compensation structure and payment process for contracted providers.
3. **Resource Allocation & Funding** - Allocation of provider time and funding sources, including grants where applicable.

Required spoke site attendees

CEO — Signs contracts and oversees daily operations

CFO — Oversees facility finances

IT Director — Leads technology infrastructure and IT team

HIM Director — Manages patient health information and medical records

Medical Surgical Director — Oversees the medical-surgical unit

CNO — Oversees nursing and develops policies/procedures

CMO — Oversees medical operations and clinical care

Pharmacy Director — Oversees pharmacy operations and medication policies

Medical Staff Office Director — Oversees credentialing and privileging

ER Director — Oversees emergency department operations and staff

✓Expected outcomes of the meeting

- Clear alignment on service scope and value proposition
- Confirmed leadership commitment to move forward
- Identified the site point-of-contact and project owner
- Agreement on next steps and timeline for contracting

Appendix D: Contracting

Process for submitting and approving contracts

Once a partner facility has agreed to move forward and site leadership is aligned, the next step is to prepare contracts. If a third-party vendor provides any portion of the service, a separate contract must be executed with the vendor in addition to the contract with the partner facility. Every health care organization manages contracting differently — the steps below offer a general framework.

Where to Start

1 Confirm procurement strategy

Consult with your organization's Supply Chain or Procurement team to confirm the appropriate method (RFP, GPO, Sole Source, or other approved method).

2 Identify contract roles

Determine who is authorized to be the Approver (authorizes the need) and Initiator (officially submits for review and signature)

3 Assemble contract packet

Assemble the contract packet (see "What you need" below). Approvers and Initiators are typically responsible for these steps

4 Determine review path

Work with your contracting office to identify reviewers, typically Legal, Compliance, IT Security, and Finance.

What you need

Standard contract packet

- Contract in Microsoft Word (or other editable format)
- Documentation of the procurement method
- Standard Terms & Conditions Addendum (STCA), vendor-signed or redlined
- Business Associate Agreement (BAA) if PHI is involved
- Vendor representative contact information

Additional items, when applicable

- New vendor: W-9, vendor application, vendor introduction form
- Above approval threshold: board/committee summary, financial justification (pro forma), ownership disclosure, budget/finance checklist

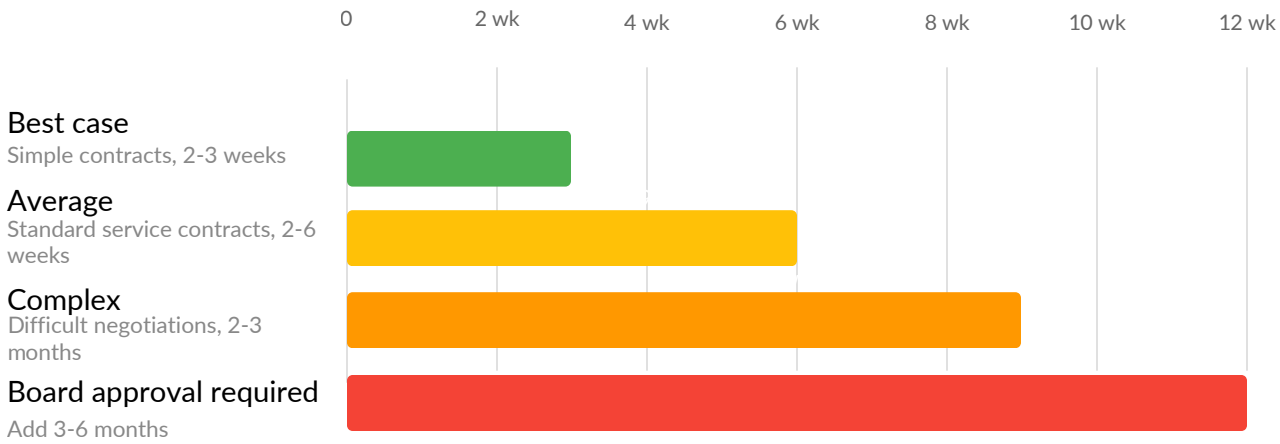
💡 *Tip: Engage your Compliance and Privacy Officer at the first project meeting (see page 10). BAA and data storage questions often surface issues that affect contract language and can delay execution if not raised early*

Appendix D: Contracting

Timelines and approval factors

Contracting is consistently one of the longest activities in pre-implementation planning. The timelines below help set realistic expectations and identify factors that can accelerate or delay approval.

Typical approval timelines



Factors that affect approval timelines

📄**Document completeness**
Missing forms or signatures restart approval cycles

⚙️**Contract complexity**
More clauses, exhibits, and addenda mean a longer legal review.

🔄 **Vendor responsiveness**
Delays in redline turnaround directly extend the timeline.

🏛️**External approvals**
Board, committee, or governing body reviews add weeks to months.

> 📌 Planning tip: Begin credentialing and EMR access workflows in parallel with contract negotiation rather than after execution. Treating these as parallel workstreams is the single most effective way to compress your time-to-go-live (see page 9).

Appendix E: Provider Onboarding Workflow

Sequence, ownership, and typical timeline

Provider onboarding involves five workstreams. Several can run in parallel to compress the overall timeline. Credentialing is typically the longest critical-path activity.

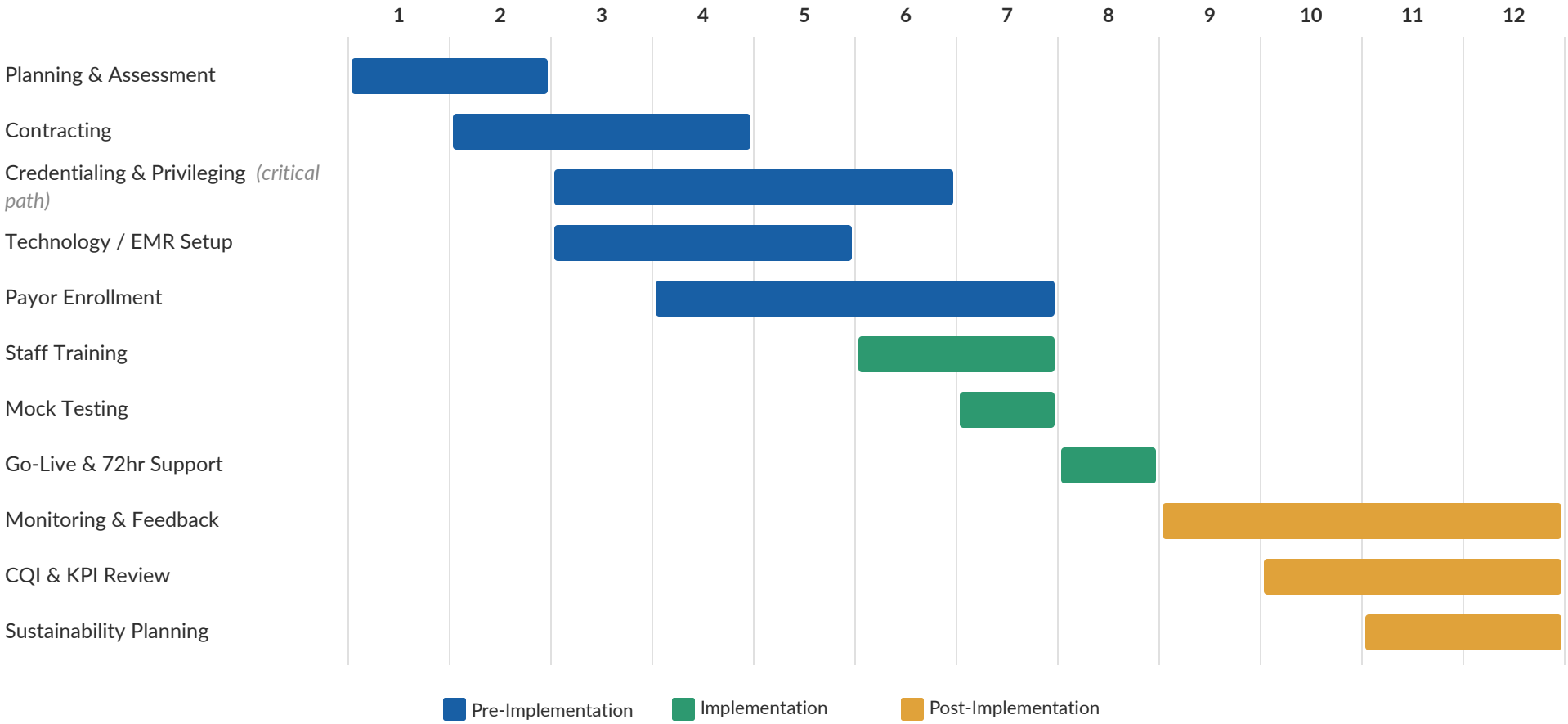
● Provider-owned ● Facility-owned ● Hub team / Payor-owned

1	**Licensure** Provider-owned	Provider holds an active state medical or professional license in the state where the patient is located.	Typical **Varies by state**
2	**Credentialing** Facility-owned	Facility verifies provider qualifications, including training, licenses, board certifications, and work history.	Typical **60-120+ days**
	Steps 4 and 5 can begin in parallel with Step 2		
3	**Privileging** Facility-owned	Facility grants the provider permission to deliver specific clinical services, including telehealth.	Typical **30-60 days**
4	**Payor Enrollment** Hub team / Payor-owned	Provider applies to insurers (Medicare, Medicaid, commercial) to be recognized and eligible to bill for services.	Typical **30-90+ days**
5	**Contracting with Payors** Hub team / Payor-owned	Provider or organization signs payor agreements that define reimbursement rates and billing policies.	Typical **30-90+ days**

Accelerator — credentialing by proxy: *Where permitted by facility bylaws, credentialing by proxy allows the spoke site to rely on the hub's credentialing decisions instead of conducting a full independent review. This can significantly shorten Step 2 timelines.* *See page 12 for details.*

Appendix F: Project Timeline

A realistic 12-month implementation with parallel workstreams



Note: Credentialing and payor enrollment often determine the critical path. Begin both as soon as contracting is in progress.

Appendix G: Workflow Design

A well-designed workflow ensures clinical, technical, and billing considerations are addressed before go-live. Follow these six steps to structure your site workflow design process.

See Appendix H for a visual workflow example.

1 Define Clinical Conditions

Owner: Clinical Lead

- Identify patient conditions that prompt a remote consult
- Define inclusion and exclusion criteria

2 Consult Initiation

Owner: Site Champion + Hub Clinical Lead

- Who initiates: RN, NP, physician
- Initiation method: phone, EMR order, cart activation
- Documentation: capture initiation in EMR

3 Communication Protocols

Owner: Clinical Lead + Nursing Leadership

- Define handoff procedures
- Identify who places orders
- Establish response time expectations

4 Documentation Workflow

Owner: HIM + Billing

- Bedside team records initiation
- Remote provider completes notes and orders
- Billing team captures charges

5 Downtime Procedures

Owner: IT + Clinical Lead

- Define backup workflow when technology fails
- Provide backup consultation phone line
- Identify who authorizes use of downtime procedures

6 Pilot and Refine

Owner: Project Manager

- Test workflows during mock drills
- Document gaps and refine based on debrief feedback

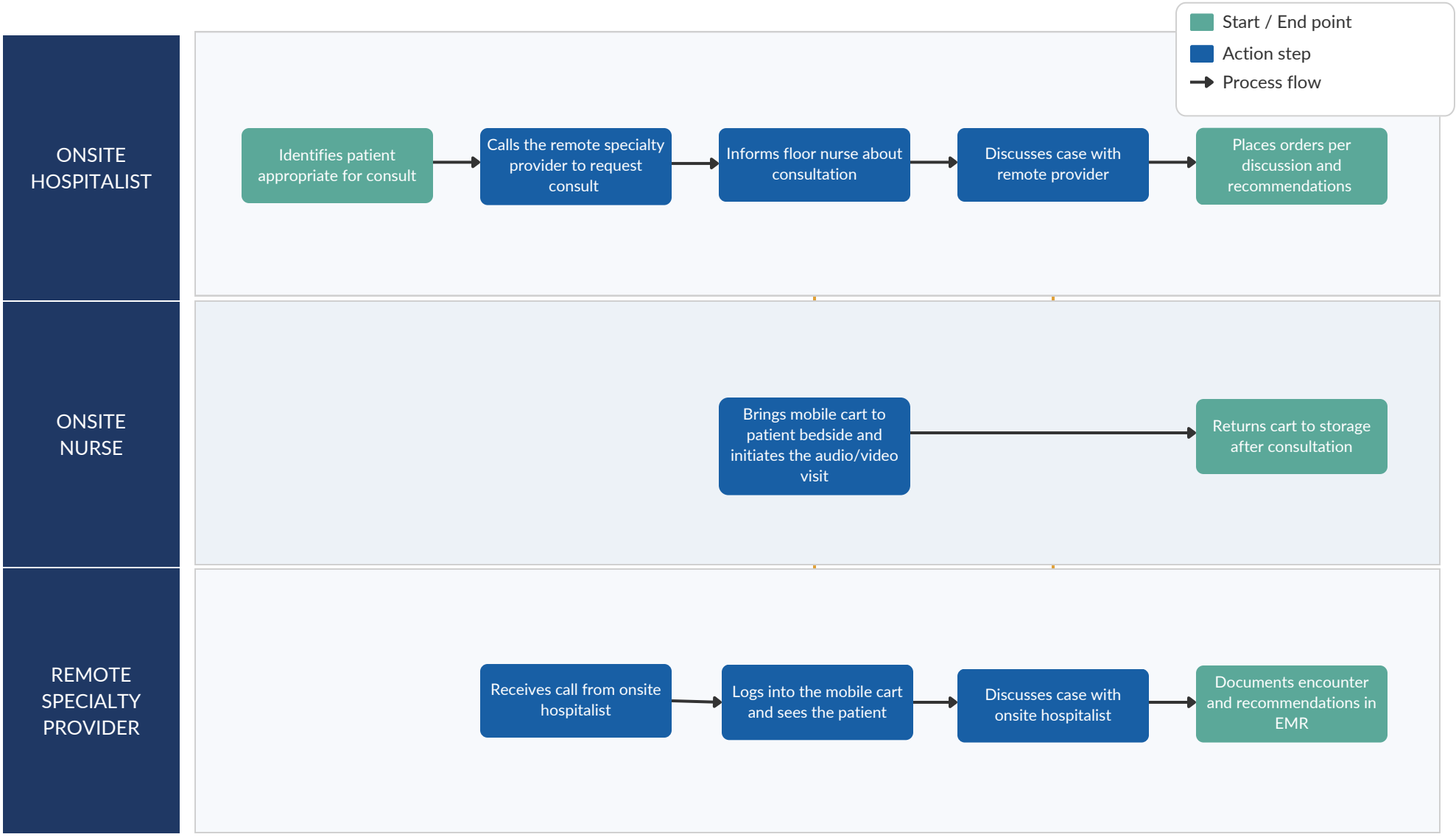
✅ A workflow design is complete when:

- All six steps have a documented decision and named owner
- Tested in mock drills across all relevant shifts
- Documentation accessible at point of care
- Signed off by site champion and clinical leadership

Appendix H: Workflow Example

A standardized consult workflow across three roles.

The swim lane diagram below illustrates a standard tele-specialty consult workflow. Roles are organized in horizontal lanes, with the process flowing left to right. This example shows a new inpatient consult — adapt to your service line as needed.



Onsite Medical Unit: [phone number]	Onsite IT Help Desk: [phone number]	Hub Telehealth Support: [phone number]

Appendix I: Metrics

Key Performance Indicators (KPIs), ROI & Sustainability — Part 1

This appendix defines the key performance indicators used to measure clinical outcomes, operational efficiency, financial performance, and patient and provider experience across the tele-specialty program.

1

Clinical Outcomes

- Mortality rates (in-hospital, 30-day)
- Length of stay (LOS)
- Time-to-specialist intervention
- Specialty-specific quality outcomes (e.g., ventilator days, door-to-balloon)

2

Access & Utilization

- Number of remote consults completed
- Percentage of patients receiving timely specialty input
- Avoided transfers to higher levels of care
- Rural or medically underserved patient coverage

3

Operational Efficiency

- Bed occupancy and turnover rates in relevant clinical areas
- ED boarding times for patients awaiting specialty input
- Staffing ratios and clinician burnout indicators

4

Financial Performance

- Cost savings from reduced transfers and LOS
- Net revenue from retained patients
- Avoided penalties (readmissions, quality metrics)
- Program operating costs vs. value generated

5

Patient & Provider Experience

- Patient and family satisfaction scores
- Provider satisfaction and retention
- Qualitative feedback on access, communication, and trust

Appendix I: Metrics

Data Collection, Reporting & Continuous Improvement — Part 2

Data Collection Strategy

Data Sources:	EMR, claims data, financial reports, telehealth platform logs, survey instruments
Frequency:	Monthly for operational and financial KPIs; quarterly for outcomes and experience
Ownership:	Assign data stewards from clinical, IT, finance, and quality teams
Validation:	Ensure data accuracy through regular audits and cross-checks

A note on surveys and human subjects protection
Surveys may benefit from Institutional Review Board (IRB) review for protection of human subjects. If your institution doesn't have an IRB, consult with your Compliance Office, Legal Department, Quality Office, Risk Management, or Research Administration team.

Reporting and Communication

Dashboard:	Build a real-time, visual KPI dashboard accessible to leadership
Narrative Reports:	Combine quantitative metrics with patient and provider stories to humanize impact
Audience Alignment:	Tailor reports for executive, clinical, and external partner audiences

Continuous Improvement

- Review KPI trends quarterly with the CQI lead
- Identify opportunities for workflow optimization, technology upgrades, and training
- Use findings to support program expansion, grant applications, or reimbursement negotiations

The bottom line:
Consistent tracking of outcomes, efficiency, financials, and experience demonstrates measurable ROI and strengthens the case for long-term sustainability of tele-specialty services.

Appendix J: Contacts & Key Resources

Connect with our team and explore additional resources.

Connect with the UMMC Center for Telehealth and Emerging Technologies

University of Mississippi Medical Center
Center for Telehealth and Emerging Technologies
2500 North State Street, Jackson, MS 39216
601.815.2020
telehealth@umc.edu

Scan the code or visit our contact page: https://telehealthcoe.org/about-telehealth-centers-of-excellence/ummc-coe/contact-ummc/

Support resources by category

Federal & Regulatory

- HRSA Office for the Advancement of Telehealth
- CMS Telehealth Services Guidance
- HIPAA Telehealth Resources (HHS.gov)

Professional Associations

- American Telemedicine Association (ATA)
- National Rural Health Association (NRHA)
- American Hospital Association (AHA)
- AHA Rural Health Services

Policy & Credentialing

- Center for Connected Health Policy (CCHP)
- The Joint Commission Telehealth Standards
- Interstate Medical Licensure Compact (physicians)
- Nurse Licensure Compact (nurses)

Academic Literature

- Telemedicine and e-Health (journal)
- Journal of Telemedicine and Telecare
- New England Journal of Medicine (NEJM) Catalyst Innovations in Care Delivery

Share your experience

If you've used this playbook to plan or launch a tele-specialty service, we'd love to hear about your experience. Email telehealth@umc.edu with your feedback, lessons learned, or suggestions for future editions.

Suggested citation: University of Mississippi Medical Center, Center for Telehealth and Emerging Technologies. (2026). Implementation Playbook for Inpatient Tele-Specialty Services. Jackson, MS.

Frequently Asked Questions

Common questions about tele-specialty service implementation.

ABOUT THE SERVICE

Q1 What are inpatient tele-specialty services?

Tele-specialty services use secure real-time video, audio, and data sharing to connect on-site clinical teams with off-site specialty providers. They deliver specialty-level expertise to facilities that may not have specialists available on-site, day or night.

Q2 How does it work?

The bedside team initiates a consult through a phone call, EMR order, or cart activation. The remote specialty provider appears on screen, reviews patient information, and collaborates with the bedside team to provide real-time guidance.

Q3 Will it replace onsite providers?

No. Tele-specialty services support and collaborate with on-site teams, providing consultation and clinical mentorship while bedside providers retain primary responsibility for patient care and order execution.

CLINICAL USE

Q4 Who can initiate a consult?

Consults can be initiated by the on-site hospitalist, nurse practitioner, ED physician, or floor nurse, depending on the site-specific workflow. Each site has a defined protocol for who is authorized to request a consultation (see Appendix G).

Q5 What types of patients benefit?

Tele-specialty consults are appropriate for patients who would benefit from specialty expertise unavailable on-site. Indications vary by service line.

Q6 What are the benefits at our facility?

Tele-specialty services help reduce unnecessary patient transfers, provide real-time specialty support for complex cases, shorten length of stay, and offer clinical mentorship for on-site staff.

OPERATIONS & COMPLIANCE

Q7 How are providers credentialed at each hospital?

Where permitted, providers are credentialed through credentialing by proxy. The facility relies on the consulting organization's credentialing decisions. The medical staff office grants telehealth privileges based on primary source verification (see Appendix E).

Q8 How is the service billed?

Consultations are billed by the distant site using appropriate CPT codes based on medical decision-making or time. The facility may also bill an originating site facility fee. Proper EMR documentation is essential.

Q9 Is this service safe and HIPAA compliant?

Yes. Tele-specialty services adhere to the same security and privacy standards as in-person care. All platforms used must be HIPAA compliant with appropriate Business Associate Agreements in place.

Q10 What happens if the internet goes down?

Sites maintain a pre-defined downtime workflow with backup phone numbers and escalation contacts, ensuring continued access to the specialty team if technology fails (see Appendix G, Step 5).

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UNDER JOURNAL REVIEW

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