

Telemedicine & Virtual Care MVP

Comparable to: Telemedicine / Teladoc

A lean telehealth platform for one clinic or provider organization serving its own patients. Supports short-window scheduled virtual consultations, digital intake, secure messaging, and direct card payments.

Estimated MVP cost

\$17,300

Estimated effort

306 hours

Key Features

- Patient account creation, intake forms, and short-window appointment booking.
- Admin-managed provider accounts, availability, scheduling, and video visits.
- Secure patient-provider messaging and direct card payment collection.

Out of Scope for This MVP

- US market with HIPAA-aligned healthcare data safeguards.
- Provider credential verification happens outside the product before admin account creation.
- Prescription fulfillment and insurance claims processing are excluded.
- Consultations use scheduled on-demand style booking windows.
- Simple defaults will be used for non-essential functionality.

Full Cost Breakdown

Item	Hours	Cost
The system shall allow visitors to create patient accounts using required identity, contact, and authentication information.	5	\$280
The system shall authenticate registered patients and provide authorized access to patient functionality.	5	\$280
The system shall allow logged-in patients to complete, save, and submit digital intake forms before a consultation.	9	\$500
The system shall display available short-window consultation times based on provider availability and clinic scheduling rules.	7	\$390
The system shall allow logged-in patients to select and book an available consultation time.	9	\$500
The system shall record booked consultation details and show appointment status to the patient and authorized clinic personnel.	6	\$330
The system shall allow patients to pay for a consultation by card during the booking process.	10	\$550
The system shall associate payment status with the consultation booking and display success or failure outcomes to the patient.	6	\$330
The system shall allow a logged-in patient to securely join the video visit for a scheduled consultation.	11	\$610
	14	\$770

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The system shall allow patients and associated providers to exchange private, secure care-related messages.

The system shall allow patients to view and update their account information.	4	\$220
The system shall allow patients to request deletion of their application account.	7	\$390
The system shall allow authorized platform administrators to create, update, activate, deactivate, and manage provider accounts.	10	\$550
The system shall allow authorized platform administrators to manage provider availability and consultation schedules.	11	\$610
The system shall allow authorized platform administrators to view and oversee patient bookings and associated video visits.	8	\$440
The system shall enforce role-based access for patients, providers, and platform administrators.	8	\$440
Planning	34	\$1,870
Project Management	27	\$1,490
Testing	16	\$880
DevOps	14	\$770
Design & Frontend Build	40	\$2,200
AI Tokens	0	\$430
Security	16	\$880
Risk (10% Contingency)	29	\$1,600
Total	306	\$17,300

Estimate Assumptions

- Estimates cover base feature development only; NFR implementation, shared QA overhead, project management, and formal compliance work are excluded.
- Supabase Auth, PostgreSQL, REST APIs, Vercel, and Stripe are available and used as the stated baseline technologies.
- A third-party video provider supplies core meeting infrastructure and an embeddable or launchable patient experience.
- MVP scheduling uses simple availability rules for one clinic without complex recurring exceptions, time zones, or multi-tenant behavior.
- Intake forms use a defined MVP schema; a configurable form-builder, clinical decision support, and EHR integration are excluded.
- Messaging is asynchronous text messaging without attachments, notifications, presence, typing indicators, or advanced search.
- Account deletion follows configured retention rules and may anonymize or deactivate retained healthcare records rather than physically delete them.
- Provider credential verification, payment settlement, refunds, disputes, and insurance processing occur outside the estimated baseline.

Risks That Could Change This

- HIPAA-aligned implementation may require additional controls, vendor reviews, audit evidence, and remediation beyond feature estimates.
- Video vendor capabilities, healthcare compliance posture, SDK complexity, and meeting access model may materially change the estimate.

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- Payment webhook behavior and booking/payment failure recovery require careful idempotency testing to prevent duplicate or inconsistent transactions.
- Retention obligations may prevent straightforward account deletion and require legal and clinical policy decisions.
- Scheduling edge cases such as time zones, concurrent booking, exceptions, and provider leave could expand scope.

User Stories

US-1 - Visitor

As a visitor, I want to create a patient account so that I can access virtual care services.

US-2 - Logged In Patient

As a logged-in patient, I want to complete digital intake forms so that the provider has relevant information before my consultation.

US-3 - Logged In Patient

As a logged-in patient, I want to view available short-window consultation times so that I can choose a convenient appointment.

US-4 - Logged In Patient

As a logged-in patient, I want to book a virtual consultation so that I can receive care from the clinic remotely.

US-5 - Logged In Patient

As a logged-in patient, I want to pay for my consultation by card so that I can complete my booking directly.

US-6 - Logged In Patient

As a logged-in patient, I want to join my scheduled video visit securely so that I can meet with my provider remotely.

US-7 - Logged In Patient

As a logged-in patient, I want to exchange secure messages with my provider so that I can communicate about my care privately.

US-8 - Logged In Patient

As a logged-in patient, I want to manage my account information so that my profile remains accurate.

US-9 - Logged In Patient

As a logged-in patient, I want to delete my account in the application so that I can control my personal information.

US-10 - Platform Administrator

As a platform administrator, I want to manage provider accounts so that approved clinic providers can deliver virtual care.

US-11 - Platform Administrator

As a platform administrator, I want to manage provider availability and consultation schedules so that patients can book current appointment times.

US-12 - Platform Administrator

As a platform administrator, I want to oversee patient bookings and video visits so that the clinic can coordinate virtual care delivery.

Requirements

FR-1 - Account Registration

The system shall allow visitors to create patient accounts using required identity, contact, and authentication information.

FR-2 - Authentication

The system shall authenticate registered patients and provide authorized access to patient functionality.

FR-3 - Patient Intake

The system shall allow logged-in patients to complete, save, and submit digital intake forms before a consultation.

FR-4 - Scheduling

The system shall display available short-window consultation times based on provider availability and clinic scheduling rules.

FR-5 - Appointment Booking

The system shall allow logged-in patients to select and book an available consultation time.

FR-6 - Appointment Management

The system shall record booked consultation details and show appointment status to the patient and authorized clinic personnel.

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FR-7 - Payments

The system shall allow patients to pay for a consultation by card during the booking process.

FR-8 - Payment Confirmation

The system shall associate payment status with the consultation booking and display success or failure outcomes to the patient.

FR-9 - Video Consultation

The system shall allow a logged-in patient to securely join the video visit for a scheduled consultation.

FR-10 - Secure Messaging

The system shall allow patients and associated providers to exchange private, secure care-related messages.

FR-11 - Patient Profile

The system shall allow patients to view and update their account information.

FR-12 - Account Privacy

The system shall allow patients to request deletion of their application account.

FR-13 - Provider Administration

The system shall allow authorized platform administrators to create, update, activate, deactivate, and manage provider accounts.

FR-14 - Provider Scheduling Administration

The system shall allow authorized platform administrators to manage provider availability and consultation schedules.

FR-15 - Administrative Oversight

The system shall allow authorized platform administrators to view and oversee patient bookings and associated video visits.

FR-16 - Authorization

The system shall enforce role-based access for patients, providers, and platform administrators.

NFR-1 - Security

The system shall protect authentication credentials, patient records, intake data, messages, appointment data, and payment-related information from unauthorized access.

NFR-2 - Privacy and Compliance

The system shall support privacy controls and data handling practices appropriate for sensitive healthcare information and applicable US healthcare obligations.

NFR-3 - Access Control

The system shall apply least-privilege access controls and prevent patients, providers, and administrators from accessing unauthorized healthcare records.

NFR-4 - Data Protection

Sensitive data shall be encrypted in transit and at rest using industry-standard cryptographic controls.

NFR-5 - Performance

The system shall target API response times below 200 milliseconds for normal requests under expected MVP load.

NFR-6 - Scalability

The system shall use a managed database architecture capable of scaling with patient, provider, appointment, message, and intake data growth.

NFR-7 - Availability and Reliability

The system shall preserve booking, payment status, intake submissions, and messages during transient service failures and prevent duplicate transactions.

NFR-8 - Observability

The system shall provide application performance monitoring, error logging, and operational diagnostics for production support.

NFR-9 - Usability and Accessibility

The responsive web application shall provide clear, consistent workflows for account creation, intake, scheduling, payment, video access, messaging, and profile management.

NFR-10 - Compatibility

The system shall support current mainstream desktop and mobile web browsers used by US patients and clinic personnel.

NFR-11 - Auditability

The system shall record auditable events for authentication, access to sensitive records, profile changes, appointment changes, payments, messages, and administrative actions.

NFR-12 - Data Retention

The system shall retain, archive, or delete healthcare and account data according to configured retention rules and applicable obligations.

Requirements Assumptions

- The initial release is an English-only responsive web application for patients and clinic personnel in the United States.
- The platform serves one clinic or provider organization; multi-tenant provider marketplace behavior is out of scope.
- Provider credential verification is performed outside the product before provider accounts are created.
- Patients pay directly by card; insurance claims processing is out of scope.
- A third-party payment gateway may be used, subject to healthcare, security, and applicable payment compliance requirements.
- A third-party or managed video capability may be integrated; vendor selection and recording requirements are not specified.
- No external integrations are included unless explicitly identified; notifications, EHR, identity, and calendar integrations are out of scope for this baseline.
- MVP scheduling uses simple provider availability rules and short-window consultation periods.
- Account deletion must be implemented consistently with healthcare data retention obligations and configured retention policies.
- Exact uptime, recovery objectives, accessibility conformance, browser support matrix, and data retention periods require later definition.
- The application will use managed infrastructure, with Supabase-like managed database services and Firebase Performance Monitoring assumed for estimation.

Technical Specification

TS-1 - Frontend and User Experience

Build an English-only responsive web application for patients and clinic personnel using Next.js, React, TypeScript, Shadcn UI, and Tailwind CSS.

TS-2 - Authentication

Use Supabase Auth with JWT-based sessions for patient, provider, and platform administrator authentication, including secure session handling and account recovery.

TS-3 - Authorization and RBAC

Implement server-enforced role-based access control for patients, providers, and platform administrators, with clinic-association checks for healthcare records and care interactions.

TS-4 - Backend and API

Implement a modular backend using REST APIs over HTTPS with TLS 1.2 or higher, using optional Supabase Edge Functions for controlled server-side workflows.

TS-5 - Data Storage

Use a Supabase-managed PostgreSQL database for users, roles, clinic associations, providers, availability, appointments, intake submissions, messages, payment status, and audit events.

TS-6 - Scheduling and Consultation Workflow

Provide short-window availability management, appointment booking, payment-state association, and restricted access to scheduled video consultations.

TS-7 - Payments and External Services

Integrate Stripe for card payments using tokenization and provider-hosted payment controls where appropriate; keep payment processing outside application storage.

TS-8 - Secure Messaging and Sensitive Data

Implement private patient-provider messaging and digital intake workflows with encrypted transport, protected storage, access controls, and auditable access to sensitive healthcare data.

TS-9 - Administrative Interface

Provide a responsive administrative panel for authorized clinic personnel to manage provider accounts, availability, schedules, patient bookings, and associated video visits.

TS-10 - Hosting and Environments

Host the web application and administrative panel on Vercel, use Supabase-managed backend services, and maintain separate development, staging, and production environments.

TS-11 - CI/CD and Testing

Use GitHub Actions for automated validation and deployment pipelines, with unit, integration, and end-to-end testing for authentication, authorization, scheduling, payments, intake, messaging, and administration.

TS-12 - Security and Compliance

Apply HTTPS, JWT protection, encryption in transit and at rest, secure secret management, tokenized payment handling, least privilege, audit logging, and HIPAA-aligned safeguards.

TS-13 - Observability and Operations

Provide application performance monitoring, structured error logging, operational diagnostics, and alerts for API failures, authentication issues, booking errors, payment failures, and service degradation.

TS-14 - Reliability and Data Protection

Design transactional workflows to prevent duplicate bookings and payments, preserve intake, message, booking, and payment-state data during transient failures, and support configured retention policies.

Technical Assumptions

- The initial release is an English-only responsive web application for patients and clinic personnel in the United States.
- The platform serves one clinic or provider organization; a multi-tenant provider marketplace is out of scope.
- Supabase Auth, Supabase-managed PostgreSQL, REST APIs, and optional Edge Functions are the baseline backend technologies.
- Next.js, React, TypeScript, Shadcn UI, and Tailwind CSS are the baseline web technologies.
- Vercel hosts the web and administrative applications; GitHub Actions manages CI/CD workflows.
- Stripe is the assumed external card-payment provider, subject to final security, healthcare, and payment-compliance validation.
- A third-party video capability may be integrated; vendor selection, recording, and retention requirements are not specified.
- No external EHR, calendar, identity, notification, email, or SMS integrations are included unless added later.
- Provider credential verification is performed outside the product before provider accounts are created.
- Patients pay directly by card; insurance claims processing is out of scope.
- MVP scheduling uses simple provider availability rules and short-window consultation periods.
- US data residency, exact hosting regions, uptime targets, recovery objectives, accessibility conformance, browser matrix, and retention schedules require later definition.