Business Domain Connect
Learn the Business Behind the Technology

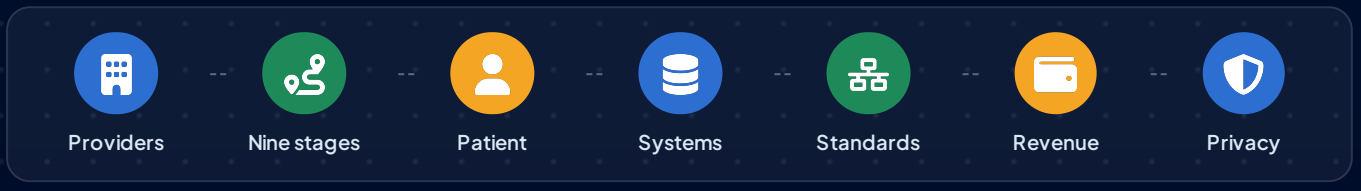
HEALTHCARE TRACK · PROVIDER · SESSION 01 · LAYER 01 — DOMAIN

Healthcare — Provider at a Glance

Summary Notes

How a provider organisation actually works — from the first business decision to patient follow-up. The nine-stage journey, the systems behind it, the standards that move the data, and what QA must test.

D	B	P	S	A	I	X	T	R
Domain 01	Business 02	Process 03	System 04	Data 05	Integration 06	Transaction 07	Testing 08	Real-world 09



Inside these notes

1. What a provider is — and the four types
2. The nine-stage provider journey
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5. The systems behind a provider
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Watch the full session

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01 · THE BASICS

What a healthcare provider is

An organisation that delivers care directly to patients. To survive it has to hold four things together at once — clinical quality, patient experience, secure records and reliable payment. Lose any one and the other three eventually fail too.

Clinical quality
Safe, correct care delivered by licensed, competent clinicians following protocols.

Patient experience
Access, waiting time, communication and dignity — what the patient actually feels.

Secure records
Accurate documentation, protected health information, a legal audit trail.

Reliable payment
Completed care turned into collected revenue from patients, insurers or government.

A The four main types of provider

PROVIDER TYPE	WHAT IT DELIVERS	TYPICAL EXAMPLES
Hospitals	Complex and emergency care, inpatient services, surgery, specialist treatment	General hospital, specialty hospital
Clinics & practices	Outpatient consultation, preventive care and follow-up	Primary care, dental, eye care
Diagnostic providers	Testing that supports clinical decisions	Laboratory, imaging centre
Home & virtual care	Care delivered outside a traditional facility	Home nursing, telehealth

B Care settings you will hear named every day

Outpatient (OP)
Patient comes, is seen and goes home the same day. The highest-volume setting in most providers.

Inpatient (IP)
Patient is admitted and occupies a bed overnight or longer. Highest cost per patient.

Emergency (ED)
Unscheduled and urgent. Triage decides the order of treatment, not arrival time.

Day care / short stay
A procedure needing a few hours of observation — dialysis, chemotherapy, minor surgery.

Diagnostics
Lab and imaging, either a standalone business or a department inside a hospital.

Home & telehealth
Care at the patient's location or over video. Grew enormously after 2020 and is now permanent.

The word that ties it together: the encounter

Every interaction between a patient and a provider is an **encounter** — also called a visit or a case. The encounter is what gets documented, coded, billed and reported. When somebody asks "how many patients did we see?", the system is really counting encounters, not people.

The nine-stage provider journey

From the first business decision through to patient follow-up. Stages 1–4 build the business; stages 5–9 repeat for every single patient. It is a cycle, not a line — what you learn in stage 9 changes stages 1 to 8.

1 **Choose the service**
What care, where, how

2 **Define the patients**
Who, and how they pay

3 **Build the care team**
Clinical and business roles

4 **Set up operations**
Facilities, systems, workflow

5 **Register & schedule**
Identity, consent, slot

6 **Deliver care**
Assess, treat, refer

7 **Document & protect**
Record and safeguard

8 **Bill & collect**
Code, claim, collect

9 **Follow up & improve**
Aftercare and learning

↺ **Back to stage 1**
Findings reshape the service

A What a beginner should hold on to at each stage

#	STAGE	THE ONE THING TO REMEMBER
1	**Choose the service**	Start narrow. A clearly defined service is easier to staff, price, operate and explain to patients.
2	**Define the patients**	The patient group decides opening hours, location, clinician mix, communication and price model.
3	**Build the care team**	Never assume clinical staff can absorb operational work. The experience depends on the whole team.
4	**Set up operations**	Write the standard workflow down before you open. It is how new staff deliver a consistent experience.
5	**Register & schedule**	Good scheduling reduces no-shows, waiting time and avoidable confusion.
6	**Deliver care**	Patient safety and clinical judgement come first. Business pressure must never replace safe care.
7	**Document & protect**	If care is not documented correctly, the next clinician may not have what they need to help safely.
8	**Bill & collect**	Most providers lose revenue through documentation and claim errors — not a shortage of patients.
9	**Follow up & improve**	Small changes to scheduling, communication or handovers noticeably improve patient experience.

Building the provider business

Four decisions made before a single patient is seen — and every one of them shows up later as a system requirement, a staffing rota or a compliance obligation.

1 · Choose the service

- Pick a care category: primary care, diagnostics, dental, home care, specialist care, telehealth
- Check that local demand, clinician availability and regulation support it
- List the licences, equipment, rooms, supplies and clinical skills required

2 · Define the patients

- Describe the population: location, age group, health need, payment method
- Map referral sources — doctors, employers, insurers, community partners
- Plan for access: language support, transport, disability access

3 · Build the care team

- Hire or contract licensed clinicians and verify credentials
- Define nurses, technicians, reception, billing, operations, IT, finance and quality roles
- Write responsibilities, handovers, escalation paths and training plans

4 · Set up operations

- Facilities, equipment, medicines, supplies, emergency and hygiene procedures
- Appointment capacity and patient movement from arrival to discharge
- Systems for records, scheduling, billing, diagnostics and communication

A Who pays — and why it changes everything

PAYMENT MODEL	HOW IT WORKS	WHAT IT REWARDS
Self-pay	The patient pays the provider directly	Clear pricing and a simple payment experience
Insurance (fee-for-service)	The insurer pays per service delivered, after a claim	Volume of services — and accurate claims
Cashless / TPA network	The insurer settles directly with the hospital; the patient pays only the excess	Pre-authorisation discipline and documentation
Government scheme	A public programme funds defined treatments for eligible citizens	Eligibility checks and package compliance
Capitation / value-based	A fixed amount per patient per period, or payment tied to outcomes	Keeping people well, not doing more procedures

Why an IT or QA person should care about the payment model

It decides which systems matter most. Fee-for-service makes the claims engine critical. Cashless makes the pre-authorisation workflow critical. Capitation makes population registries and recall lists critical. Ask “who pays, and how?” before you read a single requirement document.

The patient journey, visit by visit

This is the loop that repeats every day. Each box creates data the next box depends on — and that the billing team will depend on hours later.

1 Book
Appointment or walk-in

2 Register
Identity, consent, insurance

3 Triage
Urgency decides the order

4 Consult
History, examination, plan

5 Orders
Labs, imaging, prescriptions

6 Results
Reported back to the clinician

7 Treat
Procedure, medication, advice

8 Discharge / refer
Summary and instructions

9 Bill
Charge capture and claim

10 Follow up
Review, recall, monitoring

A What each stage must capture

STAGE	INFORMATION CREATED — AND WHO NEEDS IT NEXT
Registration	Patient identity and contact, consent, insurance or scheme details, reason for visit. Everything downstream depends on this being right.
Scheduling	The right clinician, location, service and time slot — plus a reminder telling the patient what to bring or prepare.
Consultation	History, examination findings, assessment and the care plan. This becomes the clinical record and the basis for coding.
Orders & results	Test and imaging orders, specimen or study identifiers, results returned and acknowledged by a clinician.
Treatment	Procedures performed, medicines administered, implants or consumables used — each one a billable item and a safety record.
Discharge	Discharge summary, medication list, follow-up plan, instructions the patient can actually understand.

Document and protect — stage 7

Clinical documentation serves four masters at once: continuity of care, patient safety, billing (you cannot bill what you did not document) and compliance. Protect it with role-based access, secure systems and confidentiality practices — in healthcare, "who viewed this record?" is a question that must always have an answer.

05 · BEHIND THE SCREENS

The systems behind a provider

A hospital runs on a dozen systems that must agree with each other. Learn what each one owns and you can place almost any healthcare requirement in seconds.

SYSTEM	WHAT IT OWNS
EHR / EMR Electronic health record	The clinical record — notes, problems, allergies, medications, orders, results, discharge summaries. The clinician's main screen.
PMS / HIS Hospital information system	Registration, appointments, bed management, charges, patient accounts. The administrative backbone.
LIS Laboratory information system	Lab orders, specimen tracking, analyser interfaces, results and reference ranges.
RIS + PACS Radiology / image archive	Imaging orders and schedules (RIS) and the images themselves (PACS), stored and transmitted as DICOM.
Pharmacy & eRx	Medication catalogue, dispensing, stock, electronic prescriptions, interaction and allergy checks.
RCM / billing Revenue cycle management	Eligibility, pre-authorisation, coding, claims, remittances, denials, patient balances.
Portal & telehealth	Booking, reports, prescriptions, payments, video consultation — the patient's own view of their care.
HIE / integration engine	Moves messages between all of the above and to outside organisations, with mapping and audit.

A How the data moves — and where it breaks

Registration › EHR order › LIS / RIS › Result to EHR › **Charge → RCM → payer**

Message dropped
The order never arrives; nobody notices until the patient asks.

Message duplicated
Two identical orders, two bills, one very unhappy patient.

Mapped to the wrong field
A result attaches to the wrong patient — a safety event, not a bug.

The question that orients you on any provider project

"Which system is the source of truth for the patient record, and which one is the source of truth for the money?" In many hospitals those are two different systems — and the gap between them is where reconciliation problems are born. Most defects live on the arrows, not inside the boxes.

Standards, code sets and identifiers

Healthcare is unusual: the data formats and the vocabularies are standardised across the whole industry. Learn these names and most integration conversations stop being mysterious.

A How systems talk — the message standards

STANDARD	WHAT IT IS USED FOR
HL7 v2	The workhorse of hospital integration for three decades — ADT (admit, discharge, transfer), orders and results messages. Still everywhere.
HL7 FHIR	The modern API standard, built on REST and JSON. R4 is the production version the industry and US regulation rely on; R5 has limited adoption, R6 is in ballot.
CDA / C-CDA	Structured clinical documents — discharge summaries and care records — exchanged as XML.
DICOM	Medical imaging: the image plus its metadata, and the network protocol that moves it.
X12 EDI (US)	Administrative transactions: 270/271 eligibility · 278 prior authorisation · 837 claim · 276/277 status · 835 remittance.
NCPDP	Retail pharmacy claims and electronic prescribing.

B What the data means — the code sets

ICD-10 / ICD-11
Diagnoses. Why was the patient treated? ICD-11 is the newer WHO revision; ICD-10 remains widely used in billing.

CPT / HCPCS
Procedures. What was done for the patient? Used mainly in the United States.

SNOMED CT
Clinical terms. Findings, procedures and conditions inside the record.

LOINC
Lab tests. So "sodium" means the same thing in two different hospitals.

RxNorm / NDC
Medicines. Normalised drug names and specific packaged products.

DRG
Payment groups. Groups inpatient stays by diagnosis, procedure and complexity.

C Identifiers you will see on every screen

MRN / UHID	The patient's id inside **one** provider. Two hospitals give the same person two different MRNs.
Encounter / visit id	One visit or admission. Everything clinical and financial hangs off it.
NPI (US)	National provider identifier for a clinician or an organisation.
Member / policy id	The patient's identity with their insurer — not the same as the MRN.
Claim id	One submitted claim, tracked through adjudication and remittance.
ABHA (India)	A 14-digit Ayushman Bharat Health Account, letting a citizen link and share records with consent.

Real-world scale: India's digital health rails

Under the Ayushman Bharat Digital Mission, more than 90 crore ABHA accounts had been created by May 2026. Know the building blocks by name — HFR (facilities), HPR (professionals), HIE-CM (consent), UHI and the National Health Claims Exchange (NHCX).

07 · WHERE THE MONEY IS WON OR LOST

The revenue cycle, end to end

Stage 8 of the journey deserves its own page, because this is where providers lose money they have already earned. Care was delivered; whether it gets paid depends on these twelve steps.

1 Scheduling
Capture demographics and payer up front

2 Eligibility check
Is the patient covered today, for this service?

3 Pre-authorisation
Insurer approval before certain treatments

4 Registration
Identity, consent, financial responsibility

5 Care delivery
Clinical documentation created

6 Charge capture
Everything done becomes a charge line

7 Coding
Diagnosis and procedure codes assigned

8 Claim scrubbing
Automated checks before submission

9 Claim submission
Sent to payer, often via a clearinghouse

10 Adjudication
The payer decides what it will pay

11 Remittance & denials
Payment, adjustments, rejections to rework

12 Patient balance
Statement, payment plan, collection

The three highlighted steps — pre-authorisation, coding and denials — are where most avoidable revenue loss happens.

A The numbers a revenue cycle manager watches

MEASURE	WHAT IT TELLS YOU
Clean claim rate	Share of claims accepted first time without rework. A low rate means documentation or coding problems — not payer problems.
Denial rate	Share of claims refused. Group denials by reason — eligibility, authorisation, coding, timely filing — and fix the biggest bucket first.
Days in A/R	How long money sits uncollected after care. Rising days almost always means a broken step upstream.
Net collection rate	Of the money you were entitled to, how much you actually collected.
Cost to collect	What it costs to turn care into cash. Rework is the expensive part.

The sentence to remember

Most providers lose revenue through documentation and claim errors, not through a shortage of patients. Every denial started life as a missing field, an unverified eligibility check, or a note that did not support the code.

08 · RULES YOU CANNOT NEGOTIATE

Privacy, consent and compliance

Health data is among the most tightly regulated information in the world. In healthcare projects privacy is not a non-functional requirement — it is the requirement.

United States — HIPAA
Privacy, Security and Breach Notification Rules over protected health information. Role-based access, the minimum-necessary principle, audit trails and business associate agreements.

India — DPDP Act & ABDM
The Digital Personal Data Protection Act, 2023 sets consent and data-fiduciary obligations; ABDM adds consent-managed record sharing through the HIE-CM.

Accreditation
NABH in India, the Joint Commission elsewhere — standards for clinical quality, records, patient rights and safety that auditors actually inspect.

A What this means for an IT or QA team

- **Never test with real patient data.** Use de-identified or synthetic data — and confirm that "de-identified" really is.
- **Access must be role-based and provable.** A doctor, a biller and a receptionist should not see the same fields.
- **Every view and change is auditable.** "Who opened this record, when, and why" must be answerable months later.
- **Consent is data too.** It is captured, versioned, withdrawn — and must be honoured by every downstream system.
- **Retention and disposal are regulated.** Records cannot simply be deleted because a database is getting large.

B The QA view — what to test in a provider system

AREA	WHAT GOES WRONG	WHAT TO TEST
Registration & identity	Duplicate patient records for one person	Duplicate detection, merge and unmerge, MRN rules, demographic matching
Scheduling	Double booking; wrong clinician or room; reminders never sent	Slot rules, cancellations, reschedules, no-show handling, reminder delivery
Interfaces (HL7 / FHIR)	Messages dropped, duplicated or mapped to the wrong field	Message-level reconciliation, negative acknowledgements, retries, field mapping
Orders & results	Result attached to the wrong patient or never acknowledged	Order-to-result traceability, abnormal-flag handling, acknowledgement workflow
Billing & claims	Charges missed; claims rejected for avoidable reasons	Charge capture completeness, scrubbing rules, denial reason coverage, remittance posting
Privacy & access	Over-broad access; PHI in logs, exports or test data	Role matrices, audit logs, masking, break-glass access, data retention rules

A result on the wrong patient is not a bug report
It is a patient safety event. Test identity matching as if lives depend on it, because they do.

Key measures and your next steps

A provider that measures only money will fix the wrong things. Watch five areas together — six if you run beds.

AREA	WHAT TO TRACK	WHY IT MATTERS
Access	Appointment wait time, no-show rate	Whether patients can actually obtain care conveniently
Care quality	Follow-up completion, incidents, outcomes	Identifies safety and clinical improvement needs early
Experience	Patient feedback and complaints	How patients perceive the service and the communication
Financial health	Claim rejection rate, outstanding balances	Whether completed care is becoming collected revenue
People	Staff turnover and workload	Highlights capacity and retention risk before it becomes a crisis
Utilisation (hospitals)	Bed occupancy, average length of stay, theatre use	Whether expensive capacity is being used well

A Practical checklist for beginners

- Define one clear service and target patient group
- Confirm local licensing, privacy, safety and billing requirements
- Map the patient journey from booking through follow-up
- Assign responsibility for care, operations, records and payment
- Choose systems that support the workflow rather than complicate it
- Track access, quality, experience, revenue and workforce from day one
- Learn the standards — HL7, FHIR, DICOM — and the code sets
- Trace one real encounter end to end, from booking to remittance

Your first week on a provider project

Pick one patient encounter and follow it: the appointment, the registration record, the clinical note, the lab order and its result, the charge lines, the claim and the remittance. Write down the identifiers at each step — MRN, encounter id, order id, claim id. One page, one afternoon, and you will understand the landscape better than any handover document can teach you.

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Sources: Ayushman Bharat Digital Mission figures — Press Information Bureau, Government of India (May 2026) · HL7 FHIR version status, 2026 · Digital Personal Data Protection Act, 2023 · HIPAA Privacy, Security and Breach Notification Rules. **Important:** healthcare laws, licensing, privacy obligations and reimbursement rules vary by country — take qualified local legal, clinical and regulatory advice.