Insights (Deep Analysis)

1) Access and Experience are under pressure

- The dashboard shows a **long average wait** and a **low % of patients seen within the 30-minute target**. Unsurprisingly, the **satisfaction score** is also low. These three move together: long queues at intake depress experience and create downstream friction for the rest of the visit.
- The time series in the KPI cards suggests the issue is **persistent rather than a one-off**. Small dips improve experience briefly, but performance returns to baseline—classic signal that structural fixes (not ad-hoc heroics) are required.

2) Demand has a reliable "heartbeat"

- The **day/hour panel** concentrates volume on **Monday** and **weekend days**, with **intra-day peaks around late morning to early afternoon** and again **in the evening**. These windows are stable enough to schedule around.
- When these peaks arrive, the **≤30-minute metric falls** and the **heatmap hot-blocks grow**, indicating the queue is sensitive to even modest demand swings—i.e., the system is operating **close to capacity** much of the time.

3) Admissions drive boarding risk

- Admissions and non-admissions are roughly **50/50**. Half of arrivals ultimately need an inpatient or observation bed. When inpatient capacity is tight, **boarding** ties up ED beds, reducing front-door throughput regardless of how fast triage is.

4) Referral mix is concentrated

- Among referred cases, **General Practice** and **Orthopedics** dominate. This is good news: standardizing a **small number of pathways** can release a disproportionate amount of capacity (e.g., minor MSK injuries, simple procedures, low-risk infections).

5) Demographic composition supports fast-track design

- A strong presence of **young adults (20–39)** and a **balanced gender split** suggests a meaningful share of **ambulatory, low-acuity** presentations—ideal candidates for chair-based care and **criteria-led discharge**.
- A diverse race distribution, plus a notable **"Declined"** category, implies opportunities to improve **multilingual communication** and survey trust.

6) Where the bottlenecks form along the journey

- **Registration & triage**: front-desk congestion and triage delays extend door-to-first-contact.
- **Diagnostics**: evening x-ray and porter availability often pinch flow; low-acuity MSK cases are subjected to heavyweight imaging pathways.
- **Consults**: variable response during peaks; lack of explicit SLAs.
- **Inpatient handoff**: decision-to-bed delays cause **boarding**, which blocks intake capacity.

7) Likely root causes

- **Schedules are flat** while demand is spiky (no demand-shaped roster; breaks land in peak windows).
- **No Provider-in-Triage (PIT)** to pull work forward and reduce door-to-doc.
- **Imaging/lab batching** and insufficient porter/phlebotomy cover at peak hours.
- **Weak inpatient coordination** (no escalation rule for long decision-to-bed).
- **Communication gaps** in the waiting room inflate perceived wait and lower satisfaction.
- **Metric definitions** may be inconsistent between Arrival vs Registration as the "start" of Wait Time.

Recommendations (Action Plan)

A) Front-Door Speedups

1. **Provider-in-Triage (PIT) for peak windows**
    - Place an NP/PA/MD in triage during the predictable surges (late morning → early afternoon; evening).
    - Start **analgesia, labs, and x-ray orders** at triage; initiate simple treatments.
    - Expected impact: **+15–20 pts** to the ≤30-minute metric and **20–30%** reduction in average wait within 6–8 weeks.
2. **Split-Flow with a Fast-Track lane (ESI 4–5)**

- Chair-based care, nurse-initiated protocols, and **criteria-led discharge** for minor injuries/procedures and uncomplicated infections.
- Protect main acute beds; minimize imaging; discharge at the bedside with e-prescribing and next-day clinics where appropriate.

3. **Quick Registration ("reg-lite")**
   - Capture essentials at arrival; complete full registration at the bedside.
   - Removes the **front-desk queue** without compromising documentation.
4. **Streaming rules & re-assessment**
   - Clear criteria for **Main Acute vs Fast Track vs Observation**; automatic **re-assessment at 30–45 minutes** for long waits to catch deterioration and reprioritize.

B) Staff to the Rhythm of Demand

1. **Demand-shaped rostering**
   - Add **micro-shifts that start 30–60 minutes before peaks**; stagger breaks; avoid thin staffing between 11:00–14:00 and 19:00–23:00.
2. **Dedicated float role at peaks**
   - A cross-trained tech for **porter/transport and imaging prep** during evening surges.
3. **Cross-training**
   - Enable flexible redeployment between triage, fast track, and imaging support.

C) Diagnostics Without Bottlenecks

1. **POCT** (pregnancy, influenza/COVID, troponin rule-out where appropriate) in Fast Track to reduce lab dependence.
2. **X-ray protocols for minor MSK**
   - **Single-view** standards for low-risk injuries; **reserved "fast-track x-ray" slot each hour**; dedicated porter coverage in the evenings.

3. **Diagnostics SLAs in peak windows**
    - Door-to-collection and order-to-result targets (e.g., x-ray ≤ 45 minutes during peak), with weekly visibility.

D) Downstream Capacity & Boarding Control

1. **Observation Unit pathway (<24 hours)**
    - Playbooks for chest-pain rule-out, syncope, dehydration—move likely short-stay cases out of ED beds rapidly.
2. **Admit Decision-to-Bed (D2B) governance**
    - Twice-daily **bed huddles** with medicine/surgery; an **escalation rule** when D2B exceeds a threshold (e.g., 2 hours), triggering hospital-wide relief actions.
3. **Discharge-by-Noon**
    - Inpatient units commit to early discharges to free beds before the afternoon surge.

E) Patient Experience & Communication

1. **Real-time waiting-room boards** with current estimated wait and progress milestones (triage complete, first contact pending, tests in progress).
2. **Service-recovery triggers** when waits exceed 45–60 minutes: proactive updates, reassessment, comfort measures, and PIT intervention.
3. **Multilingual scripts & SMS updates** to reduce anxiety, improve survey trust, and shrink the "Declined" demographic category.

F) Standardize High-Volume Referral Pathways

1. **General Practice & Orthopedics**: concise **order sets**, minimal imaging, **criteria-led discharge**, and automatic next-day clinic slots for suitable cases.
2. **Consult SLAs**: 30–45 minute response during peaks; publish a weekly compliance view.

3. **Naming normalization**: maintain a mapping table so trends remain comparable over time.

G) Measurement, Targets, and Governance

1. **Lock definitions**: choose **Registration** (or **Arrival**) as the canonical start for Wait Time and document "First Clinical Contact."
2. **Core KPIs to track weekly**
    - % Seen ≤ 30 minutes (plus **median** and **90th percentile** wait).
    - **LWBS** rate (if tracked).
    - **Admit Decision-to-Bed** median (boarding).
    - **Imaging order→result** turnaround during peaks.
    - **Satisfaction** (with response rate).
3. **Control charts (XmR/p-chart)** to separate real improvement from natural variation.
4. **Data quality sheet**: missing timestamps, negative/implausible durations, timezone consistency.

30–60–90 Day Roadmap

Days 0–30 – Quick Wins

- Pilot **PIT** on the busiest days; launch a **basic Fast-Track** for minor MSK and simple procedures.
- Implement **Quick-Registration** and a **real-time waiting-room board**.
- Start **bed huddles** and define the **D2B escalation rule**.
- Add **porter/phlebotomy float** coverage in evening peaks.
- Freeze KPI definitions and stand up a small **data dictionary**.

Days 31–60 – Standardize & Expand

- Extend **PIT** to all days; formalize **streaming rules** and **re-assessment** policy.

- Publish **diagnostics SLAs** and reserve fast-track x-ray slots; implement **POCT** where appropriate.
- Roll out **order sets** and **criteria-led discharge** for GP/Ortho pathways; set **consult SLAs**.
- Begin **control-chart reporting** of wait time and % on-time.

Days 61–90 – Stabilize & Sustain

- Optimize rosters with **micro-shifts**; bake in **Discharge-by-Noon** on inpatient units.
- Mature the **Observation** playbook; monitor **D2B** compliance.
- Institutionalize **service-recovery** and multilingual scripts; refine SMS updates.
- Review impact; scale what works and retire what doesn't.

Next-Quarter Targets (SMART)

- **% Seen ≤ 30 minutes:** lift to **≥ 75–80%**.
- **Average wait time:** reduce by **20–30%** from current baseline.
- **Satisfaction score:** increase to **≥ 7/10**.
- **Admit Decision-to-Bed (median):** reduce by **≥ 20%**.
- **LWBS:** reduce by **≥ 30%** (if tracked).
- **Imaging order→result in peak windows:** achieve **≤ 45–60 minutes** for low-complexity x-ray.

Risks & Mitigations

- **Change resistance:** run **time-boxed pilots**, publish before/after run-charts, and celebrate wins.
- **Inpatient bed constraints:** require **executive sponsorship** for D2B escalation; use **Observation** as a buffer.
- **Staffing limits:** use **micro-shifts**, **cross-training**, and focus on **peak coverage** rather than uniform staffing.

- **Data drift:** maintain a **data dictionary**, version KPI definitions, and monitor data quality weekly.

Bottom line: Your dashboard reveals consistent peaks and a 50/50 admission mix—exactly the conditions where **Provider-in-Triage**, **Fast-Track**, **demand-shaped staffing**, **diagnostics SLAs**, and **inpatient coordination** deliver outsized gains. Executed via a 90-day PDSA cycle, these steps can realistically push **on-time first contact to ≥ 75–80%** and **cut average waits by 20–30%**, with a direct lift in patient experience.