

2027-02-09 · 80 minutes

ER inefficiency brief

Your goal: Write a brief that identifies a specific ER inefficiency and frames it as a design problem.

One product: ER inefficiency brief: specific bottleneck observation, stakeholder harm linked to the map, and a one-sentence design problem statement.

Question: Where does waiting build in this model, whose needs does that delay challenge, and how can one sentence frame the problem?

Start the work

The flow model connects waiting times to route rules; the stakeholder map connects groups to needs and relationships.

1. Read E1 to E3 and the model. Open your earlier workflow and stakeholder map if available; the supplied versions contain the inputs needed to work independently.
2. Choose one likely bottleneck and describe observable detail from the records. Check a wait from the end of the prior step.
3. Use the map to explain which stakeholder need the delay challenges and how a relationship connects that group to the step. Label possible harm as possible.
4. Write one design-problem sentence. Check the three features below and revise the same brief.
5. Save the brief as one readable PDF. Use the teacher-confirmed weekly summative assignment; keep the file if the route is unavailable.
6. Rate the same brief's specificity and evidence quality as ready or needs revision, and point to the part supporting your rating.

If the linked assignment will not open, keep the completed PDF and ask your teacher for access help. A saved file is completed work; it is not yet a confirmed submission.

Words you will use

ER

Emergency room, also called an emergency department.

Workflow

The sequence of steps through a process.

Queue

People or work waiting for a step to begin.

Bottleneck

A step that limits how quickly work moves through the route.

Wait time

Time from the end of the prior step to the start of the next; time receiving care is excluded.

Inefficiency

A process difficulty that uses time or other resources without meeting the intended need effectively.

Observation

A detail directly present in a record or seen in a process. Here the records are simulated.

Inference

An explanation drawn from observations and rules; its certainty cannot exceed its evidence.

Stakeholder / primary need

A group affected by a choice; its primary need is what it most needs to receive or do.

Harm

An adverse effect on a person or group. A challenged need or possible consequence does not establish an observed medical injury.

Design problem / brief

A specific difficulty to address; a brief is a short document defining that difficulty and its evidence.

Relationship arrow

A connection pointing to the receiver of care, information or support, not a room corridor.

Triage / physician / clinician

Triage sorts patients by urgency; a physician is a doctor; a clinician is a health professional providing clinical care.

EMS / handoff

Emergency medical services; a handoff transfers care and information to the next care team.

Budget / staffing / constraint

Available money; available workers; a limit on a design or process.

Equity

Fair attention to differing needs. These records lack urgency and group characteristics, so they cannot establish equitable outcomes.

Specificity / evidence quality

How precisely a claim names its situation; how well the available source supports that claim.

From a delay to a problem

A brief selects one difficulty, explains its evidence, and names whose need is affected. It guides later design work. It does not require a finished redesign or a claim that a solution is already safe.

Read E1's rules and E2's records together. A longer care step alone does not prove a bottleneck. The waiting pattern and the one-person-at-a-time rules let you explain why a queue may build. Your earlier workflow can organize the same evidence.

Read E3 as a map of groups, needs and relationships. Explain the connection between your chosen delay and a stakeholder's need. The model can show waiting; it cannot show that someone's illness worsened. Use "could" for an unmeasured consequence and state what is unknown.

Work independently or return after an absence

Use E1 and E2 as the supplied workflow equivalent and E3 as the supplied map equivalent if your notebook or group is unavailable. Begin with one sentence naming a step, an observable detail and an affected stakeholder. Then expand it into all three brief parts. A new diagram or new map submission is not required today.

For a partner check, ask whether each claim points to a record, rule or map relationship. Working alone, consider this supplied counterpoint. Four fictional records do not show that the sickest patients are delayed. They do not prove that extra staff would solve the problem. Revise the same brief in response.

Optional extension: write a speed-framed and an equity-framed version of your problem sentence and explain which would better guide later design. A speed framing targets waiting; an equity framing asks whether needs are served fairly. Identify the missing urgency or group information before claiming inequity. The extension is not an extra required submission.

E1: F0 route and capacity rules

F0: Four fictional patients use a simplified emergency-department route on the same day. Trained staff have already decided that each can use this route. You do not decide treatment or urgency.

Route: arrive; nurse review; clinician review; leave.

One nurse reviews one person at a time for 4 minutes. The nurse is available at 9:02 a.m.

One clinician sees one person at a time for 10 minutes. The clinician is available at 9:10 a.m.

Leaving takes 10 more minutes for instructions and release. There is enough staff and space, with no queue.

After their initial availability, staff work without breaks in this short model. Each person starts a step as soon as both the person and staff are ready. Nobody skips ahead.

The model leaves out tests, admissions, urgent cases and many other processes. Real patients can follow different routes.

E2: F1 to F4 fictional time records

F1 to F4: Original fictional records. All times are a.m. on the same day.

F1: arrival 9:00; nurse start 9:02, end 9:06; clinician start 9:10, end 9:20; leave 9:30.

F2: arrival 9:04; nurse start 9:06, end 9:10; clinician start 9:20, end 9:30; leave 9:40.

F3: arrival 9:08; nurse start 9:10, end 9:14; clinician start 9:30, end 9:40; leave 9:50.

F4: arrival 9:12; nurse start 9:14, end 9:18; clinician start 9:40, end 9:50; leave 10:00.

Worked F1: nurse wait = 9:02 minus 9:00 = 2 minutes. Clinician wait = 9:10 minus 9:06 = 4 minutes.

Wait = next step start minus prior step end. Care time is not waiting time.

E3: Stakeholder role reference and worked map

Original worked stakeholder map, supplied again for recovery.

Patients are people receiving care. They need prompt attention and safe treatment.

Triage nurses assess urgency. They need clear information to sort patients by seriousness.

ER physicians are doctors treating patients. They need time and space to treat the sickest first.

Families support their patient. They need updates and a place to wait nearby.

EMS crews bring patients to the ER. They need a quick handoff to return to service.

Administrators manage staff and money. They need safe care within budget and staffing limits.

Connection: EMS crews to triage nurses, patient handoff.

Connection: triage nurses to ER physicians, route patients for treatment.

Connection: triage nurses to families, updates.

Connection: families to and from patients, connection.

Connection: administrators to triage nurses, staffing and budget limits.

Connection: administrators to ER physicians, staffing and budget limits.

An arrow points to the receiver of care, information or support. A two-way arrow connects both directions.

Possible conflict: administrators' staffing-cost limits can reduce staff available for physicians to treat the sickest promptly.

These relationships are a classroom model, not observed harm. F0's nurse and clinician review stages are simplified. Do not infer that its records contain measured triage, urgency or family-update data.

Worked claim check using F1

Observation: F1's nurse review ends at 9:06 and clinician review starts at 9:10, a 4-minute wait before clinician review. That statement is supported by E2.

Interpretation: the wait means prompt attention, a patient need in E3, is not immediate at that step. It does not establish that F1 was urgent, injured or treated unsafely. One record alone is too little to establish the route's likely bottleneck.

Revision move: compare the other records and E1's staffing rules before choosing your bottleneck. Name the model in your sentence, identify the affected step and need, and leave a proposed fix for later. This worked check shows how to limit a claim; your brief completes the route-wide comparison.

Try the decision

You are choosing the scope of the same brief using E1 to E3. Discuss or think through the options; no separate decision response is due.

- Write a narrow, model-limited sentence naming the delay, the step and the stakeholder need it challenges.
- State that the ER is inefficient and the sickest people are harmed, because the broad claim sounds important.
- Wait for real hospital records before writing any brief from the supplied classroom model.

Explain your choice using the reading. Discuss it or say it to yourself. This practice does not add another submission.

Your 80-minute flow

0–10 minutes	Identify the three product parts; rehearse one concrete observation.
10–25 minutes	Read E1–E2, choose the bottleneck and draft the observation.
25–45 minutes	Draft stakeholder harm analysis and distinguish possible consequences from recorded facts.
45–60 minutes	Draft the one-sentence problem and revise the same brief; use optional extension only if ready.
60–75 minutes	Review all three parts, save one PDF and submit if the destination is confirmed.
75–80 minutes	Rate specificity and evidence quality as ready or needs revision, pointing to the same brief.

Your response record

Use these labels on paper or in your document. The space below also works when this page is printed.

Bottleneck observation

Name one likely bottleneck from your workflow or E1–E2. Describe the specific observable delay, citing the supporting records and route rule. Use record IDs and minutes when stating a wait.

Compare waiting, not just care duration. The supplied F1 calculation shows which times to subtract. Use enough records to support a pattern; you do not need a new wait-table submission.

Use this space or the same labeled section in your existing document. Add paper when your table, graph or drawing needs more room.

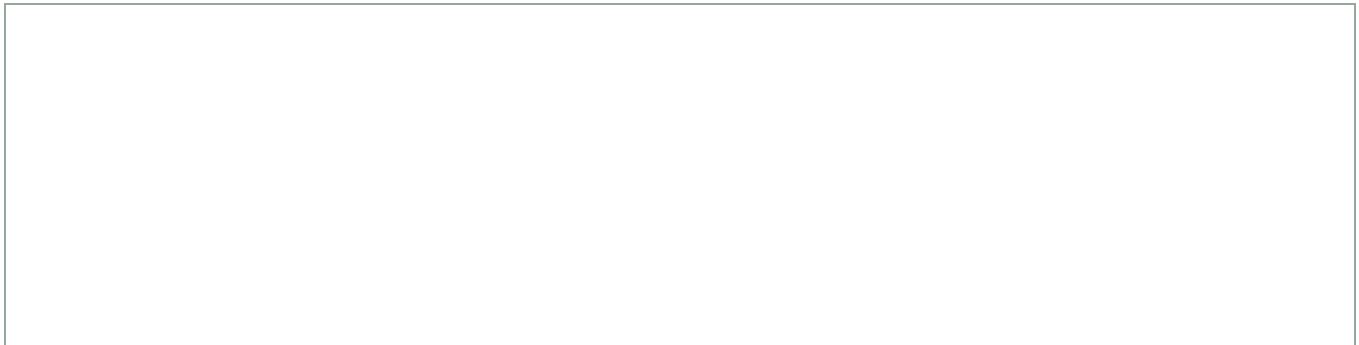


Stakeholder harm linked to the map

Name the affected stakeholder need and explain the relevant map connection. Describe how the delay challenges that need. Distinguish what the model shows from a possible consequence it does not measure.

E3 supplies the role needs and arrows. Do not claim that the sickest patients waited, a family was uninformed or health worsened; the records do not contain that information.

Use this space or the same labeled section in your existing document. Add paper when your table, graph or drawing needs more room.



One-sentence design problem

Compress your supported difficulty into one sentence naming the model, the affected step, the observable problem and whose need is challenged.

Avoid a broad label such as “the ER is inefficient.” The sentence frames what needs attention; it need not prescribe a purchase or staffing change.

Use this space or the same labeled section in your existing document. Add paper when your table, graph or drawing needs more room.



Check your product

- The brief identifies one step and describes a specific delay using the supplied records or your checked workflow, with record IDs and units for numeric claims.
- The harm analysis names affected stakeholder needs and a map relationship, separating model-supported delay from possible consequences.
- One sentence frames a bounded design problem that could guide a later solution; it does not claim a fix has worked.

Keep the limit: F0 to F4 are fictional classroom records, not measured hospital data. They support a likely bottleneck within this simplified model. The stakeholder map supplies needs and relationships, not observed clinical harm. Neither source establishes who is sickest, clinical outcomes, a safe redesign, or performance across a real hospital day. It cannot support conclusions beyond these stated limits.

Turn in your work

Save the three-part brief together as one PDF. Use the linked ER inefficiency brief assignment, follow its posted deadline, upload the file and check the preview. Check that Schoology shows Submitted.

If the linked assignment will not open, keep the completed PDF and ask your teacher for access help. A saved file is completed work; it is not yet a confirmed submission.

[Open this assignment in Schoology.](#)

Carry forward

A useful design problem names the step, the observable difficulty and the affected need, while keeping the evidence limit visible.

Keep this brief as the design problem for your next source-entry work. No extra response is due. What kind of source could address the bottleneck named in your brief?

Sources and resources

[Open today's page](#)

FLOW · Original patient-flow practice: F0 rules and F1 to F4

John Hay Biomedical; original fictional classroom model

<https://mendozabiomed.org/handouts/bi-patient-flow-practice.html>

MAP · ER stakeholder map: original role reference and worked model

John Hay Biomedical; original classroom model

<https://mendozabiomed.org/learn/pltw-bfh/stakeholder-map>