Motivation
Given that users of social services have heterogeneous needs, can information design help to target the service to those with high need?

In this work:
- stylized queueing model serving users with heterogeneous needs.
- welfare under info. design against simple benchmarks (full-info and no-info) and the first-best (i.e., centralized admission policies).

Criteria: (ex ante) Pareto dominance.

**Take-away:** With sufficient heterogeneity in need, information design can be powerful in improving overall welfare outcomes.

Model

Social service provider:
- **unobservable** FCFS queue
- single server, rate $\mu$

Heterogeneous need for service:
- high-need ($H$): must use the service
- low-need ($L$): have an outside option

No abandonment

$u_i(k)$: utility from joining, if $k$ users ahead
(zero utility for outside option)

Low-need users are **Bayesians**, and maximize expected utility.

SSP’s goal: share queue-size information to reduce congestion.
Results

Information design provides Pareto improvement in welfare of all types over the simple mechanisms \textit{no-info} and \textit{full-info}

1. If $\lambda_H < \bar{\lambda}$, then \textit{no-info} is Pareto dominated.
2. With enough demand, \textit{full-info} is Pareto dominated.

Under sufficient heterogeneity, information design can coordinate users’ actions to achieve the \textbf{first-best}:

- same welfare outcomes as centralized admission policies
\[ u_i(n) = 1 - c(n + 1) \text{ for each } i \in \{L, H\}. \]