



Simplifying hospital flow measures – distilling a complex concept for an operational audience

Improving system flow and reducing waste

What do we mean by 'acute hospital flow'?

We were asked, as part of a wider performance review, to summarise acute provider flow in a format that regional leadership could easily digest (read: in two slides or fewer).

In this context, hospital flow refers to the way that patients arrive, move through, and leave the acute hospital system. There are many opportunities within a hospital system for bottlenecks to occur and cause upstream flow and capacity issues. To understand overall 'flow' we need to understand what is happening at each of these stages and not just look at a single measure. For example, a low bed occupancy may indicate excellent patient management, low demand, a crowded emergency department struggling to admit patients, or be a symptom of another positive, negative, or neutral situation.

Challenges:

- "Flow" is not easy to measure
- There was no precedent for reporting these metrics – no defined "good" and no established methodology
- Tight turnaround times (10 days to scope, generate methodology, produce analytics, and QA)

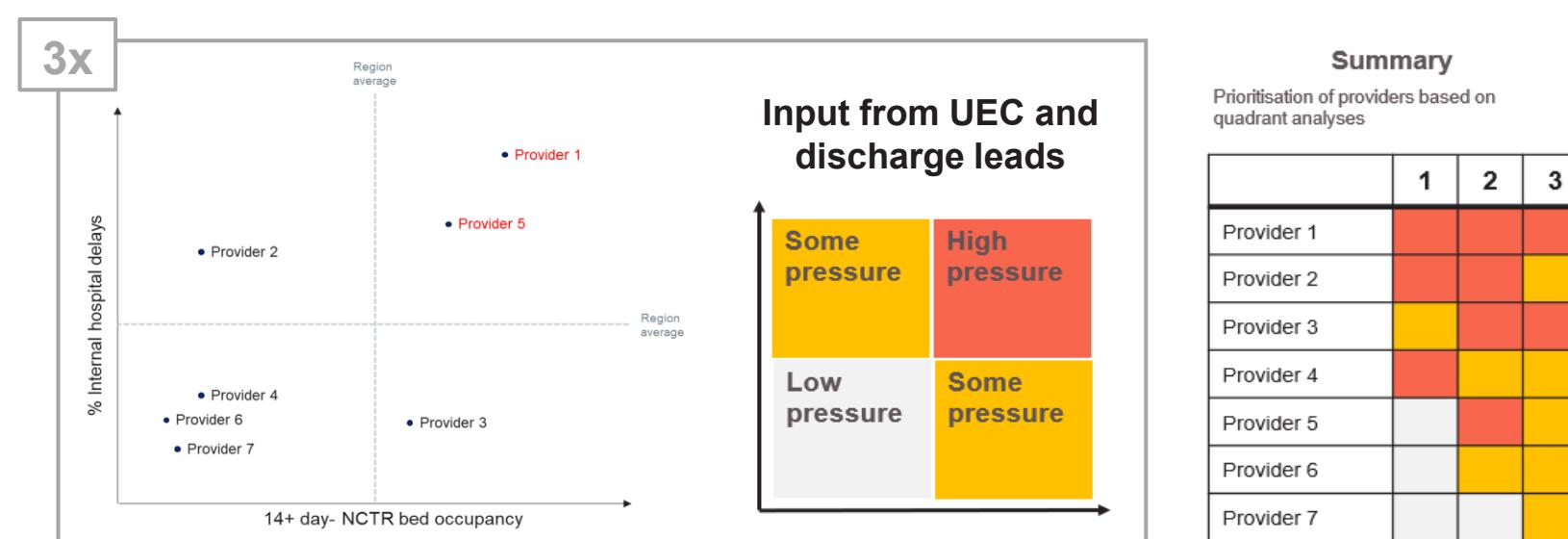


How do we measure it?

We conceptualised flow as the way that pressure manifests in a healthcare system, summarised into three domains:

Pressure:	Volume The overall capacity	Build The way pressure increases	Release The way pressure is reduced
Metrics:	Open beds (core + escalation), occupancy, plans	LoS, SDEC utilisation, long stayers	NCTR, additional days, delay reasons, discharge pathways

In collaboration with programme leads, we selected pairs of metrics to best quantify pressure against each domain, benchmarking each provider against the region and visualising these combinations. We could quickly focus on providers with universal 'high pressure' flags or, alternatively, focus on the potentially bigger opportunities presented by bottle necks i.e. providers with high pressure upstream of low pressure.



What were the key successes?

- Distilling complex messages** - key results were delivered on a single slide that was easy to interpret by high profile stakeholders who have less familiarity with individual performance metrics. This minimised barriers to interpretation, freeing up more time for focused discussion.
- Early socialisation** – early review of the approach and visuals not only helped facilitate understanding upon presentation but also gave us insight into how our stakeholders think about data – allowing us to make easy changes throughout to improve accessibility.
- Rapid and reproducible analysis** – a reproducible approach, with automated slide production, allowed for easy quality assurance, managing existing priorities, and has enabled us to refresh this analysis quickly during times of high pressure in a robust and efficient way.