NHS Child and Adolescent Service:
Hub and Spoke or point to point?

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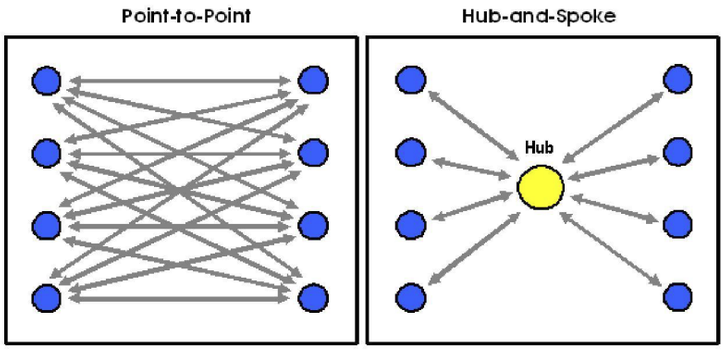
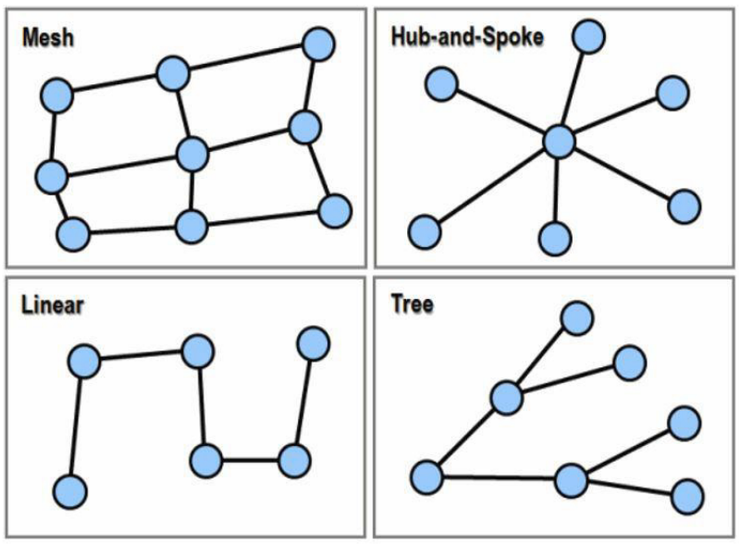


With increasing emphasis on Sustainable Transformation Plans, inevitably some discussions lead to talk of merging services with a view to centralising them into a hub and spoke provision. At many levels and in many industries including the health sector, this should work well. But is the hub and spoke the magic bullet that will resolve all our problems? Can it fail the end user while mathematically making services cost-effective, cheaper and offering the savings we wish for (or are expected to make)?

The organic mesh (mess):

In theory, most services when they originated will have located organically based on demographics, demand, and supply. With time, services can mushroom and step on each other's toes and we can end up with a mesh of point to point provisions (or at its worse perhaps a 'mess'). Just over 12 years ago, I was mistaken by many as someone with an engineering degree



with regularity. This was due to my interest in transportation models and a small piece of research that showed a city in India had a bus transport system that used a point to point mesh to plan the bus routes. Historically as monies became available more routes were added and, in the end, they had 209 routes. The bus fleet (of 800 or so buses) got divided across these routes and as a consequence was spread out thinly rendering such poor frequency of buses on these routes that there effectively was no service from an end users perspective – remember Access is not same as Accessibility. A bus stop five minutes' walk from each person's home equals accessibility but if there are only two buses in the whole day, what does it say about the level or access? In contrast, a hub with linear spokes was evidenced to serve a bigger geographical area, reduce the number of bus routes but provide a high-frequency service on these routes. Since deregulation of the airline industry, most airlines adopted a hub and spoke model and Heathrow airport grew at cost of a near-empty Stanstead airport! But we only need to look at Heathrow closely, it does not take long to comprehend and accept that it is far from being a panacea. A bit of fog and the whole system is in a meltdown. Arriving into Heathrow, many will have experienced the several minutes (to close to an hour at its worst) being held in stacks above London awaiting landing slots! And if hub and spoke was the answer we would not have the airline industry players so consistently in red at the end of the financial year (and that's after substantial fuel subsidies they enjoy at our cost).

There was a time when we could walk into the corner post office, do our business and be out in minutes. Ever been to the centralised WH Smith based facilities, nothing could be more frustrating than a minimum thirty minute wait (usually longer), especially when we bear in mind my cost on postage has not gone down (if anything it went up a short while ago) and unlike a five minute walk to a corner post-office, I now need a much longer commute to get to one located centrally. Hubs reduce the real estate footprint, but it can come at a cost, costs that are usually intangible, often hidden and incomprehensible to those in provider shoes.

What good is an excellent hub if our primary care and spokes (read as alternatives to inpatient care) within the community were dysfunctional or in places missing? This would be akin to an excellent train system in zones 1-2 of central London but no last mile connectivity to zones 3 to 6 on outskirts of the city. In my experience, we do a lip service to service user involvement and while we tick boxes, we do not put ourselves in their shoes. When we do feasibility assessments, how often do we look at opportunity costs? How many of us have done the journey we expect services users to do to get to the hub (and include the cost of tickets, parking and the like)?

The answers lie within the questions posed:

We have an endless spiral of change; we like to call it different things at different times and make the same mistakes again. Not very different to *Lord Beeching* whose sole focus, being an economist, was to cut rail lines decades ago on the simple basis of - which lines made a loss or profit? Did we save the monies, or did we invest it elsewhere poorly? From rail infrastructure, we moved to expanding motorways (possibly egged on by the oil and auto industry that stood to gain hugely) that can often be frustratingly clogged, never mind the pollution added by single occupancy cars that form a huge majority of vehicles on road. As Managers in whatever capacity and irrespective of our training backgrounds - medical, nursing or allied professions, it is important to bear in mind one's own bias and prisms that filter out evidence that does not sit with us neatly. The questions we ask tend to carry the answers we seek and third-person perspectives are vital if we hope to get it right, in my experience, this often needs a diverse set of questions to be posed, aka feasibility assessments and options appraisals rarely seen in healthcare settings. Is point to point provision dead? The purpose of these musings is not to credit or discredit any model. It's more to open a conversation that invites a level of sophistication we are not used to when we decide to do our service re-organisation/s. South West Airlines operate a point to point business model and is reportedly profit-making, something rare in the air industry. Boeing 787 is designed with a view to going longer distances than ever before for much cheaper (thanks to its superior fuel economy) and thus invested in a point-to-point business model. One only needs exceptions to the norm to dent the 'group-think' that hubs are the only way.

Virtual hub-n-spokes:

We are in an ever-evolving world full of wonders delivered by IT technology. Particularly for specialties like Mental Health, how does it matter where a hub exists? Do we care where the Google Drive servers are (very likely it's in multiple places given the security and backup technology at work) when we store our information on clouds? We could have hubs that are virtual, made up of highly skilled, experienced practitioners sat anywhere in the country serving service users hundreds of miles apart. This would essentially offer the advantages of a hub while retaining the feel and benefits of a point-to-point or door to door service the end user will be ever thankful for.

To conclude, we would not use treatments unless they are subject to stringent research and backing of the evidence base. Similarly, we need to progress in the direction of using complex, multi-factorial computer-driven modeling techniques when planning service developments and move beyond the back-of-envelope 'consultation paper/ business case' approach we tend to rely on. Crucially, before embarking on thinking about hub-n-spoke or other models, it is vital to ensure the assessment of the demand capacity equations is detailed and as accurate as can be as described above previously. ❑

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CCT – Child & Adolescent Psychiatry Dr Joglekar is a Consultant Child & Adolescent Psychiatrist in NHS and Independent Sector. The write-up is a chapter from a collection blogs collated as a book - Healthcare Leadership: A perspective from the shop floor. He has also been involved in using technological innovation that adds value to clinical practice.