**The reports on the new Star Online are different from the legacy version. This document explains why they don't include average (mean) start and end points and change.**

In the nearly 15 years since we published the first version of the Outcomes Star, we have learnt a lot about what is most useful and reliable in reporting and using Outcomes Star data. Developing a new version of the Star Online gave us the opportunity to put this learning into practice in the standard reports generated, as well as allowing for more flexibility in reporting. This document explains why we no longer use some of the report formats that were in the legacy version, specifically in relation to averages (means[1]).

We can provide separate written guidance and talk you through the reports that are in the new Star Online. There is also information in the Star Online help Centre – or just get in touch.

**Means are a simple approach but not always helpful**
The legacy version of the Star Online included reports presenting the mean start and end points and mean change in each Star area, both as a table and plotted onto a Star chart. However, although this was a simple and intuitive way of summarising a lot of data and popular with many people, there were a number of limitations in using the mean:

1. Means can lead people to incorrect conclusions because the mean start and end points in a Star area do not indicate where *most people* start and end. For example, a mean start point of 3 (on a 1-5 scale) might lead someone to say that '*people generally entered and left the service at 3*', but actually it may be the case that no service users started at 3 (all actually started 1-2 or 4-5). This is shown in the table overleaf
2. The mean doesn't tell you anything about the variation in start and end points and change – it effectively 'flattens' the data.  A mean change of 1 can result from most people making a change of around 1, or it might be because some people made a very large amount of progress and others stayed the same or moved back significantly – positive and negative change will balance each other out to look as if a small amount of change is made when that is not the case
3. The mean doesn't highlight how maintaining – rather than making positive progress - can be really positive too, particularly at the higher end of a scale. If someone has managed to maintain at 'Learning what works' (stage 4) in one area whilst they work on other areas of their life and the Star, then this is positive but won't be apparent in the mean. This is emphasised by the new Star Online reports
4. People who start higher up the scale can't make as much progress as people who start lower down.  People who start at 10 (or 5 on a 5-point scale) can't make any progress at all. The consequence of this is that if a lot of people are starting at 9 or 10 on a scale, the mean change across the service or for a cohort of service users will be small – possibly masking high levels of change in those that started with a significant need in an area
5. It is not meaningful to link the mean start or end points to the Journey of Change. In the Stars, each number is attributed to a stage such as 'Stuck' or 'Accepting help' and has scale descriptions (usually both brief and detailed). These are meaningful for describing where an individual is but using means can lead people to mistakenly apply these stages to mean mean start and end readings. So, they may say most people start at 'trying' and end 'at learning what works', when that is not the case at all (as above).

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[1] There are three types of average – mean, mode (most frequent) and median (the middle). SOL v1 used the mean – averages created by a sum of the Star readings for a particular Star area divided by the number of Star readings. Therefore, the term mean is used (for average) in this document.

**We recommend using the Star visual showing change for individual people**

Some people liked having the mean start and end points displayed visually on the Star in the legacy Star Online system, as an easy visual for their reports. Instead, we recommend using one or more Stars with start and end readings for an individual, which also opens the opportunity to provide a mini case study, perhaps explaining the change shown in each of the Star areas and the work done with that person. This could helpfully complement and bring to life the improved data and reports in the new Star Online.

**Table (to illustrate point 1 above)**

| Physical health (5-point scale) | *Star 1* | *Star 2* | *Change* |
|---|---|---|---|
| Service user 1 | 1 | 2 | 1 |
| Service user 2 | 1 | 2 | 1 |
| Service user 3 | 2 | 2 | 0 |
| Service user 4 | 2 | 1 | -1 |
| Service user 5 | 2 | 1 | -1 |
| Service user 6 | 4 | 5 | 1 |
| Service user 7 | 4 | 4 | 0 |
| Service user 8 | 4 | 5 | 1 |
| Service user 9 | 5 | 5 | 0 |
| Service user 10 | 5 | 5 | 0 |
| **Mean** | **3.00** | **3.20** | **0.20** |