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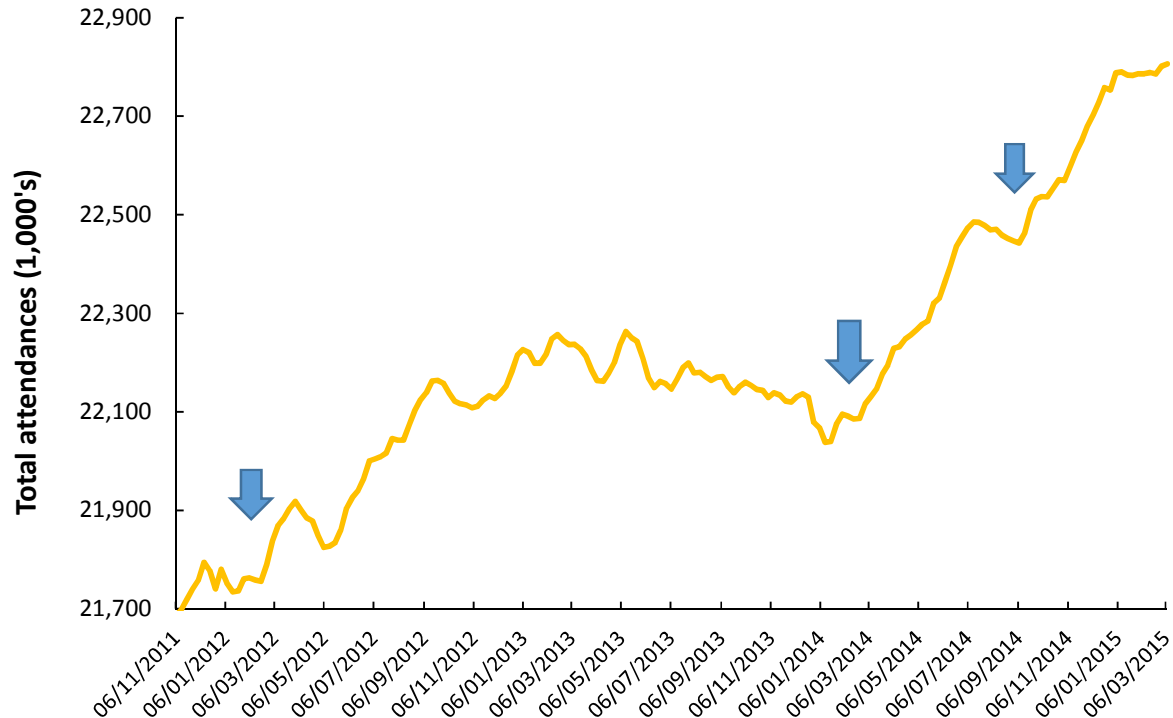
A&E tipping points

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As all will be aware there has been a huge amount of concern regarding deteriorating A&E performance and its potential causes. Figure 1 presents a running 52 week total of A&E attendances at all types of A&E units. A running total is a very useful way of picking up points of sudden step-like changes in activity. In a running total a step-increase in activity generates a ramp with the foot of the ramp marking the point of the step-increase in activity. Such large step-changes in activity are likely to create tipping points in performance. Three clear tipping points can be seen.

Figure 1: Running 52 week total A&E attendances (all types of A&E)

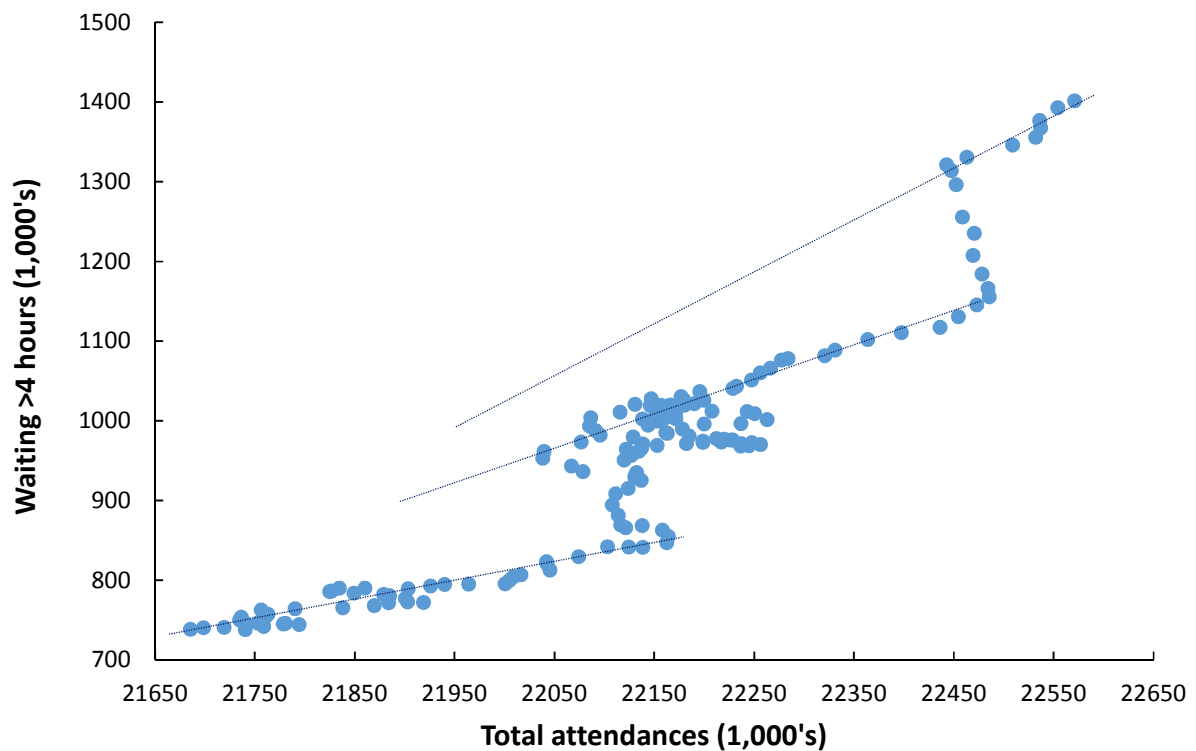


Footnote: SITREPS data is from <http://www.england.nhs.uk/statistics/statistical-work-areas/ae-waiting-times-and-activity/weekly-ae-sitreps-2014-15/>

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Figure 2 clearly shows the impact of the last two of these tipping points on A&E performance. The relationship between the numbers waiting longer than four hours is more complex than first appears and there is a 20 week lag behind total attendances, and this lag has been incorporated into Figure 2. Adding the lag into the analysis reveals the tipping points more clearly and these occur at the points marked by the two right hand side arrows in Figure 1.

Figure 2: Tipping points in A&E performance

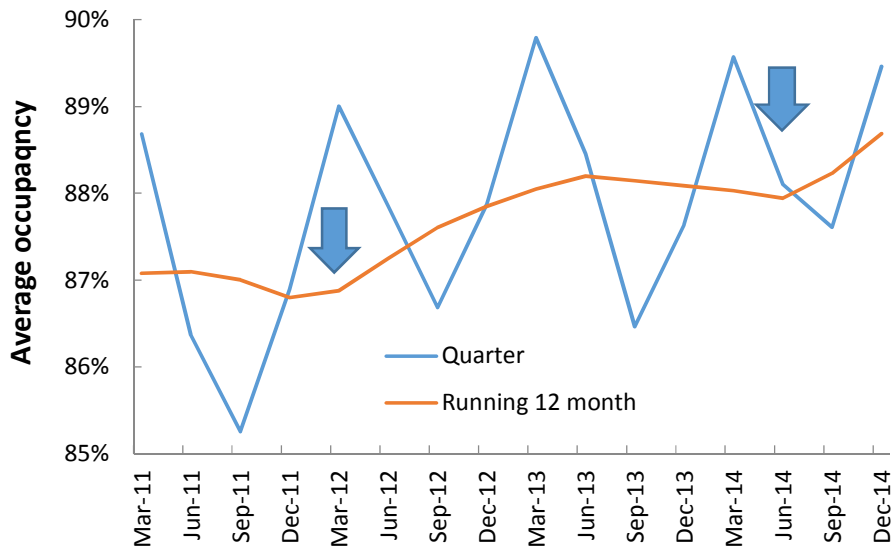


Finally Figure 3 attempts to demonstrate that one of the contributing factors to deteriorating A&E performance arises from changes in bed occupancy. Once again there is a slight lag between A&E attendances and bed occupancy, however, the left hand side arrow in Figure 1 corresponds with the first arrow in Figure 3, while the second arrow in Figure 1 corresponds with the second arrow in Figure 3. Due to the time lag in the collection of quarterly occupancy data there is currently insufficient occupancy data to demonstrate the third tipping point.

As has been amply demonstrated in this journal and elsewhere (Jones 2011, 2013), no sane health care administration would ever expect to run hospitals at the level of occupancy common in the UK – but sanity appears to be sadly lacking in this case, and the consequences are entirely predictable.

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Figure 3: General and acute bed occupancy



Footnote: Bed occupancy data is from: <http://www.england.nhs.uk/statistics/statistical-work-areas/bed-availability-and-occupancy/bed-data-overnight/>

As to the reasons for the sudden jumps in A&E attendances and bed occupancy these have been clearly explained elsewhere (Jones 2015a-c, Jones & Beauchant 2015) – although politicians appear determined to avoid any discussion of the real issues for fear of jeopardizing their own pet policies.

There will be no progress in resolving these issues until all concerned are prepared to face uncomfortable reality.

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