**Idea of Animation 1**

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| ***Voice*** | ***Images*** |
| Some hospitals will treat children with more complex medical problems than other hospitals. | Two hospitals, different children…  Perhaps more older, sitting up children in one hospital. More babies in incubators in the other. |
| We would not expect all hospitals to have the same survival rate as each other. | Show survival rates above each hospital of (e.g.) 96% and 98% |
| It does not make sense to simply compare one hospital’s survival rate to another hospital’s | Put survival rates on a balance and draw a big cross through it (?! )\_ |
| Instead, we must compare a hospital’s survival rate to what we would expect for that hospital: its predicted range of survival | Drop 98% survival and keep 96% survival rate and show a predicted range (but above the rate not over it). |
| How can we predict a survival range for a hospital? | Empty screen and draw hospital |
| We look at the children the hospital has treated during the year. | draw arrivals at hospital.  Focus on one child |
| The NHS collects data on all children who have surgery, which includes recording risk factors such as age, weight, difficulty of the proposed surgery, diagnosis and complicating conditions. | data arrives on clipboard.  Still looking at one child only. |
| A statistical formula weighs up these risk factors for each case and calculates a chance of survival.for the child | data drops from the clipboard onto a balance, yielding an individual % number. Would be good if we could see it go through the actual formula?  Again, this is a predicted survival rate for one child. |
| [*Warning here? It isn’t sensible to use this percentage chance to guide individual decisions. A child’s clinical team will always have a much richer understanding for the child than a statistical formula!* | WARNING: Show single individual icon with % and an X on one side and the clinical team around the bedside on the other. |
| Here’s an example. To make the numbers easy, let’s suppose that the hospital does exactly 100 heart operations in the year. We calculate the chances of survival for each child after their operation using the statistical formula. | Now aggregate those individual rates, showing 100 (child) icons and % values. |
|  | Grid of 100 kids with their numbers |
| We cannot predict exactly what will happen to these children, and sadly it is very unlikely that they will ALL survive. A plausible way for things to turn out is that 2 don't survive | [show 2 fading out] |
| giving a 98% survival rate for the hospital. | show dot |
| Given the chances that have been calculated for all these patients, another plausible result for these 100 children is that 3 don't survive | fade different ones |
| giving 97% overall survival. | previous dot fades, new one comes in |
|  | Repeat rapidly showing possible survival rates for the whole group. |
| When we take into account all the chances calculated by the formula, it turns out that in 19 out of 20 of possible future outcomes, the overall survival rate for the hospital lies in the blue interval – we call this the predicted range. | draw on interval, show occasional dot outside |
| In 998 out of 1000 possible outcomes, we expect it to lies in this wider interval. We call this the extended predicted range. | [all dots lie inside] |
| When a hospital does few operations, unforeseeable factors have a bigger influence on the overall survival rate, and so it has a wider predicted range than a hospital that does many operations, | Compare two hospitals that do few and many operations |
| The predicted range depends only the children treated by a hospital that year. Different hospitals will always have different predicted ranges since they treat different children. | Return to the two hospitals from the beginning. |
| If one hospital has a lower predicted range than another, it is only because it treated children with more complex medical problems over that period. | Use the two hospitals from above slide and show their predicted ranges (one lower than the other). |
| In this example, there is no reason to believe that either hospital has higher chances of survival than the other. | Add in the 96% and 98% survivals on top of the predicted ranges in roughly the same place (middle?) |

**Idea of Animation 2**

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| ***Voice*** | ***Images*** |
| Remember that we would expect a hospital’s observed survival rate to be within the dark blue expected range on 19 out of 20 occasions, if the hospital really were performing as predicted by the statistical formula. | review |
| When we actually count up the outcomes after 3 years, we find the *observed* survival rate. | Maybe show the 100 cases, but this time make it clear this is the actual outcome? |
| How do we interpret this? | Produces a very different style of dot than those shown for ‘possible futures’ |
| If the dot representing the observed survival rate lies in the dark blue area, then there is no evidence that the hospital’s survival rate is different from what is predicted. | Dot in blue range, kept still |
| If a hospital’s observed survival rate turns out to lie in the light blue area, this means there is someevidence that the chances of survival in the hospital are different from that predicted by the formula. | Don’t move dot. Use different pretend hospital. |
| If a hospital’s observed survival rate turns out to lie outside either blue area, this means there is strong evidence that the chances of survival in that hospital are different from that predicted by the formula. | New dot outside extended range |
| If a hospital’s observed survival rate is outside its predicted range, then the national audit body and the hospital work together to check the data and take any appropriate actions | *How to illustrate*  *Could use the flow chart from the FAQ.* |
| If you want to read any more detail about the topics covered in these animations, please explore our “Everything else” section | *Slide showing everything else section* |
| Use the ”data” tab to explore a hospital’s recent results. | *Slide showing data section (map)* |