

## **Appendix 2**

### **Technical Paper on the Timeliness Model 2007-2008**

#### **Summary**

The model that has been created to assist in setting of timeliness targets for the period 1 April 2007 to 31 March 2008 is rooted in the field of queueing theory, and utilises the commercially available Simul8® software package. The approach has been validated by and the software package Simul8® recommended by Warwick Business School. Using this software, it is possible to create a visual representation of the business of complaints handling at the Law Society as a sequence of interconnected 'work centres'. These are those locations where complaints are progressed, such as the Contact Centre. Each complaint that is in the model requires the availability of a resource before it can enter active work. The means to progress complaints are provided predominantly by caseworkers, with each member of staff providing a number of 'service channels' reflecting their level of case holding.

When a resource is available in the model to work on a complaint, that case moves from a waiting area (or unallocated stock) into the work centre. At this point, a service time is randomly generated to determine for how long the case will receive that service. More detail about the group of probability distributions used in the model can be found later in this paper.

Information has been provided and validated by the Law Society in order to populate the model, not only with volumes of complaints and staffing levels, but also staffing short-falls and information that determines the 'route' a complaint takes to resolution.

A document containing the OLSCC's interpretation of data supplied by the Law Society accompanied a letter from OLSCC to the CCS Chief Executive dated 25<sup>th</sup> October 2006. This and other subsequent documents contained all the information used in order to initialise the timeliness model. In addition to this, this paper (under the heading "Service Time Distributions") contains details of how incorporated actual changes to the Law Society's business that it has made to meet the timeliness targets for the reporting year 2006-2007.

Running this data through the model, from 1<sup>st</sup> April 2006, gives us a position at the end of the current reporting year. Extending the running time of the model enables a prediction of complaints handling across the next reporting year, 2007-2008. By using the results of this longer run, it has been possible to formulate the proposed timeliness targets.

#### **Service Time Distributions**

As detailed in the previously sent document, the model uses Beta Probability Density Functions to represent the amount of time a complaint spends

receiving a particular service. This distribution is defined by two shape parameters and two location parameters (the minimum and maximum values that the distribution can take). There are, in the model, eight work centres where the Beta distribution is used, and in each of these locations, one of either two or four variants is used, depending on certain characteristics of the complaint. The eight work centres are:

- Contact Centre;
- Complaints Centre In House and Outsource (two locations);
- Conduct Assessment and Investigation In House and Outsource (two locations);
- Specialist Teams In House and Outsource (two locations);
- Local Conciliation Officers.

The determination of whether each area requires two or four variants depends upon whether the 'base' distribution is sufficiently short to fit within the 15-months timeliness target for 2006-2007. If it is, only two variants are required.

#### 1. 'Base' Distribution Variant – New Cases and those Existing in Unallocated at 1 April 2006 and aged under 3 months

Each of the eight work centres uses a base distribution. This has been created using historic data, both collected during the OLSCC Annual Case File Audit 2006 and supplied by the Law Society. This distribution therefore reflects the natural closure time of cases in each area.

#### 2. Cases Existing in Unallocated at 1 April 2006 and aged 3 months or more

A variant is required here to accommodate the fact that if these cases were allotted service times from the 'base' distribution, they would run the risk of being still in service and over 15 months old at the end of the reporting year. In order to reflect the timeliness targets for 2006-2007, the base distribution is compressed at the upper end to fit within the 15-month target. Note that this amendment only has an effect on the upper end of the distribution, and can be conceptualised as an intervention after a period of 'natural' progression of the case, to bring about swifter resolution.

#### 3. Cases Existing in Service at 1 April 2006 and aged under 3 months

The variant here is designed to take into account the fact that these cases will have already received a portion of their service in this area at the start of a model run. The distribution was constructed by firstly generating a random population of 10,000 cases based on the age profile. This was then converted into a relative date of receipt, and a random service time was generated from the 'base' distribution. That portion of the service time that equivalently falls after a reference point (the start of the model run) was separated, and the Beta distribution fitted to these remaining service times.

#### 4. Cases Existing in Service at 1 April 2006 and aged 3 months or more

As with those cases in unallocated and aged 3 months or more, the variant has to account for the fact that if these cases were not intervened into, then they would run the risk of being still live and over 15 months of age at the end of the 2006-2007. The distribution has been constructed by taking the Cases Existing in Service distribution (3) and compressing the upper end to fit within the 15-months target (in the same way that the distribution at 2 was created from the 'base').

There is a further amendment made to the 'base' distribution (in certain locations) during the running of the model. At the start of a model run, the maximum value that the base distribution can take in the Complaints Centre In House, Conduct In House and Specialist Teams In House work centres are 721 days, 906 days and 834 days respectively. In order to reflect a move towards 15 months (456 days) being the maximum service time at the end of 2006-2007, these maxima are progressively and linearly diminished throughout this time. In essence, this corresponds to a situation wherein a case received on 31st March 2007 will definitely be closed within 15 months as part of 'business as usual'. Note that this compression also has an effect at the lower end of the distribution, but it is not as large.