

© 2015 Universities Federation for Animal Welfare  
The Old School, Brewhouse Hill, Wheathampstead,  
Hertfordshire AL4 8AN, UK  
www.ufaw.org.uk

*Animal Welfare* 2015, 24: 139-149  
ISSN 0962-7286  
doi: 10.7120/09627286.24.2.139

## **Refinement of welfare through development of a quantitative system for assessment of lifetime experience**

S Wolfensohn<sup>\*†</sup>, S Sharpe<sup>‡</sup>, I Hall<sup>‡</sup>, S Lawrence<sup>‡</sup>, S Kitchen<sup>‡</sup> and M Dennis<sup>‡</sup>

<sup>†</sup> University of Surrey, Faculty of Health and Medical Sciences, School of Veterinary Medicine, Duke of Kent Building, Guildford, Surrey GU2 7XH, UK

<sup>‡</sup> Public Health England, Porton Down, Salisbury SP4 0JG, UK

\* Contact for correspondence and requests for reprints: s.wolfensohn@surrey.ac.uk

### **Abstract**

*This paper proposes a system that uses intrinsic study data to provide a clear visualisation of the stresses involved during the animal's life history that can be applied to all types of studies, even those not requiring invasive techniques. Thus, it provides an opportunity for researchers to identify and refine key events which impact on the welfare of an animal, and to explain clearly the totality of any necessary harms when justifying the research. Assessment of animal welfare depends on measurement of a number of parameters which will vary according to species, the animal's environment and the scientific procedure, all of which are inter-related. Currently, there are few tools to assess the effects of lifetime events on welfare or even, in some cases, to recognise that they have an impact on the level of suffering. A matrix to assess the combined effects of environment, experimental and contingent events on welfare has been applied, retrospectively, to programmes of work involving macaques (*Macaca mulatta* and *M. fascicularis*). Lifetime records, available for animals from their birth in the breeding colony through to experimental use in vaccine efficacy evaluation studies, were analysed as a robust validation test for the assessment matrix and refinement of the way in which information on these events is captured. A meaningful assessment method is required prospectively for project licence applications and retrospectively for licence review or decisions on re-use. The analysis will provide information that would support the application of refinements that would optimally enhance the lives of experimental animals.*

**Keywords:** animal welfare, lifetime experience, macaque models of infectious disease, refinement of procedures, retrospective assessment, TB vaccine assessment