

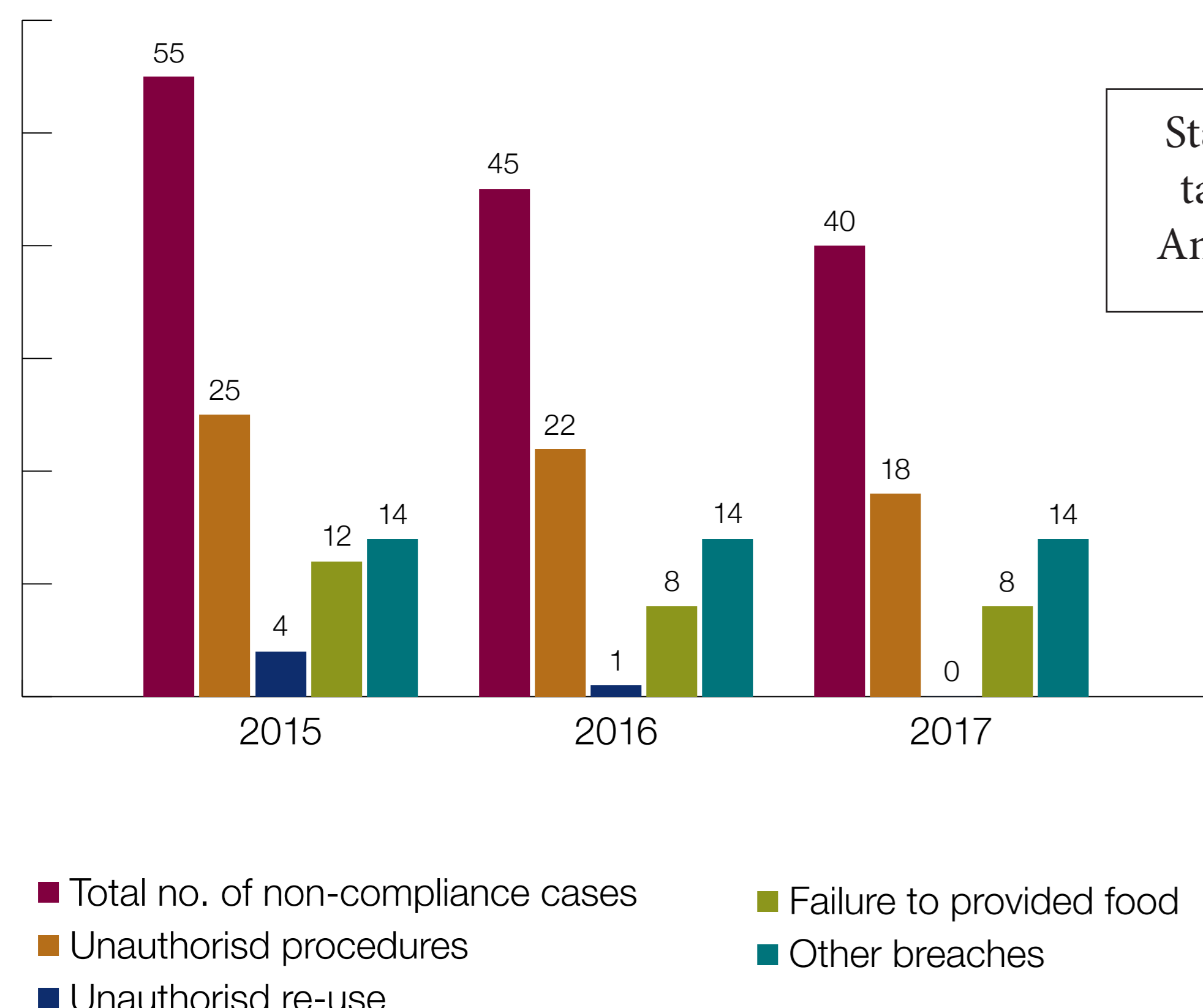
# PRACTICAL STRATEGIES TO ENSURE THE PROVISION OF FOOD AND WATER IN MICE & RATS

Louis Kitchenham - Sian Murphy - Tina O'Mahony - Eleni Amaniti

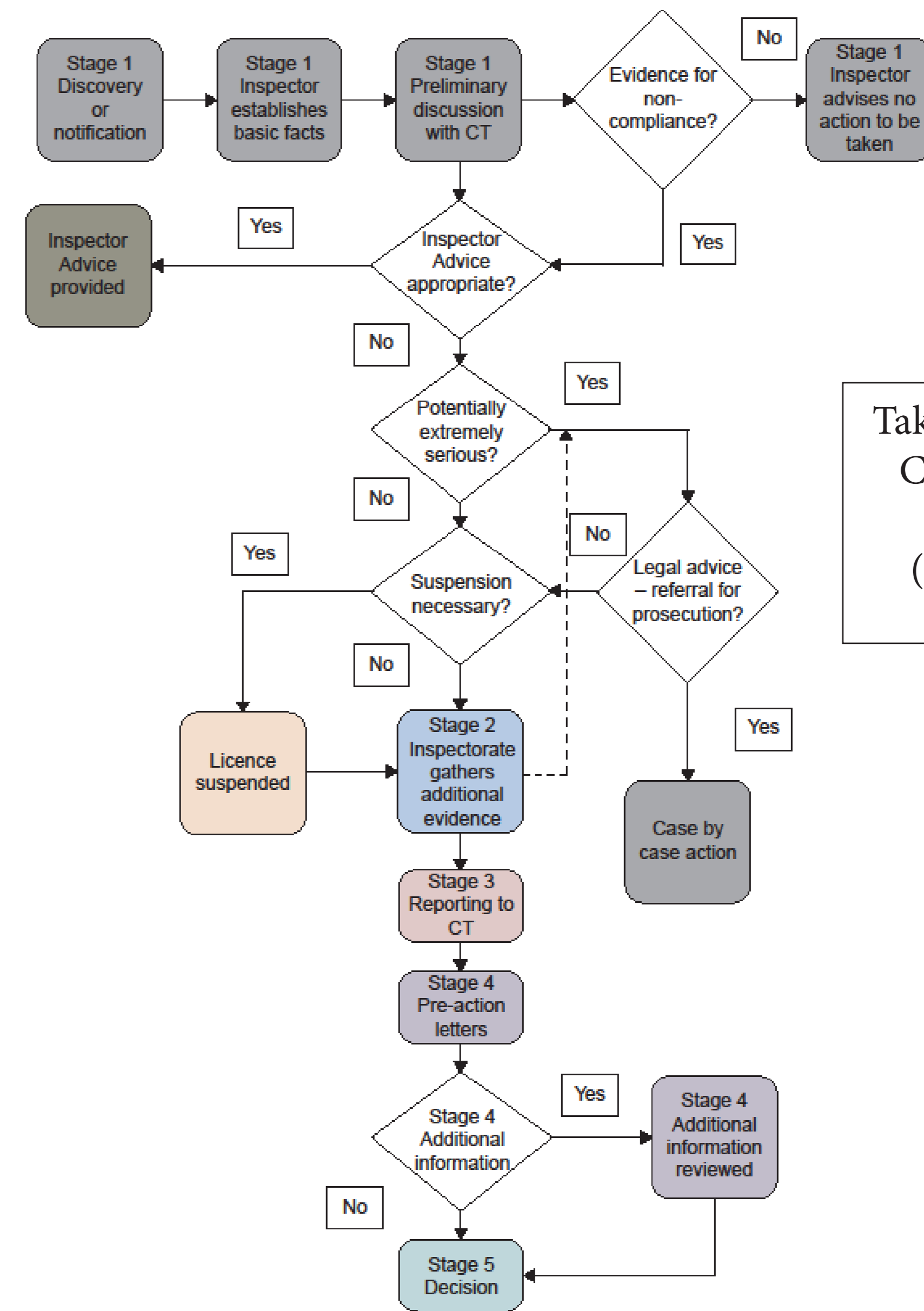
Sainsbury Wellcome Centre (SWC) - 25 Howland Street, Fitzrovia, London, W1T 4JG

The provision of food and water for laboratory animals, while being arguably the simplest aspect of animal husbandry, is still a major cause of non-compliance issues within UK based research establishments. According to the Animals in Science Regulation Unit (ASRU) 2017 report, a failure to provide food and water accounted for 20% of all non-compliance cases, a rather sizeable proportion considering the necessity of the task. This problem is then further exacerbated with the introduction of restrictions.

Figure 1. Categories of non-compliance, by type, 2015 to 2017



Statistics and graph taken from ASRU Annual Report 2017



Taken from the ASRU Compliance Policy webpage (December 2017)

The restriction of food and water is an essential method to ensure the animals are motivated to perform complex behavioural tasks, rendering it an unavoidable risk. A further risk comes with the introduction of the larger implants attached to the heads of the animals. These implants do not allow the use of traditional food hoppers, meaning food must be placed on the floor, further enhancing the possibility of missed provisions in the cage. At the SWC, 180 experimental animals on average would be on a restriction at any one time; including bank holidays and weekends. As such, it became apparent that practical strategies must be employed to ensure provision of food and water, for both restricted and stock animals, without compromising the welfare or the science.

To achieve this, we introduced a three-tiered system of checking, beginning with a Google spreadsheet containing all information concerning provision restriction. From this page, each individual mouse is viewed in the context of its restriction history; the times of feeding, the weight of food given, its current weight, and the weight at which it falls below the project licence limit. Following this, a restriction label was added to each cage card, containing a daily tick-off box to sign each time the animal is fed or watered, alongside thorough afternoon checks which were designated as part of the daily responsibilities of the animal care staff. Finally, we found that simple changes, such as an updated telephone list or an email chain concerning weekend restriction work, would help to negate the chances of a non-compliance within the SWC.

WATER RESTRICTION	Mon	Fri	FOOD RESTRICTION	Mon	Fri
<p>RESTRICTION RECORDS ON GOOGLEDOCS</p>	Tues	Sat	<p>RESTRICTION RECORDS ON GOOGLEDOCS</p>	Tues	Sat
	Wed	Sun		Wed	Sun
	Thurs	W/C		Thurs	W/C

Cage	262438																
ID	888977	Fed	16:00	15:00	14:00	17:00	17:00										
Name	IO_090-L (C#4)	Food Given (g)	2.7	2.8	3	2.8	2.8										
Start Weight	27.7																
85% Weight	23.5	Weight (%)	26.4	95	27.0	97	27.9	101	27.0	97	27.0	97					

Mouse ID	983827	Water on	11:48/16:00	13:00	10:50
Mouse Name	ET1 ( R )	Water off	11:49:00/16:01	13:02	10:53
Cage Number	288468	Weight	14.3	14.3	15.2
Initial Weight	16.8	%	85.12%	85.12%	90.48%

Each establishment will struggle to find the balance between rigorous scientific experimentation, and ensuring the safety and welfare of all animals involved with the research, specifically those with restricted provisions. Communication between the researchers and animal care staff is paramount, as this will allow for a greater cycle of information between the two groups of people responsible for the welfare of animals within the facility.