Pet Research Approval is based on Confidence than on Proof of Scientific Rigour

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the preclinical e periments' results held true hen the ere repeated b the Cambridge-based ALS erap De elopment Institute. Poor reproducibilit , ho e er, comes ith major ethical issues in addition to being a loss of time and resources for fruitless stud . While in basic and preclinical animal research, it ma result in unjusti ed injur to e perimental animals, irreproducibilit of preclinical research ma e pose patients to un arranted risks in clinical research. e internal and e ternal alidit of e perimental results are both accounted [1-5] for b the e perimental design and conduct, hich are signi cantl dependent on reproducibilit . E ternal alidit is the e tent to hich ndings are transferable to di erent en ironments, e perimenters, stud populations, and e en di erent animal strains or species (including humans). As a result, it also establishes if the ndings are repeatable among replication in estigations (i.e., across arious labs, e perimenters, stud populations, etc.). Internal alidit relates to ho much a causal relationship bet een an e perimental treatment and outcome is justi ed, and it itall depends on scienti c rigour, or ho much s stematic bias is minimised in the e perimental design and conduct. Poor internal alidit resulting from a lack of scienti c rigour has been proposed as another important factor in the lo repeatabilit of animal studies. ere are man di erent t pes of bias (such as selection bias, performance bias, and detection bias), and there are speci c a s to reduce them (such as randomi ation, blinding, and sample-si e calculation). Publications must include adequate material on e perimental design and conduct, including steps taken against bias risks, to enable replication of ndings and to assess the internal alidit of studies, for e ample, in the peer re ie process. S stematic e aluations, ho e er, o en disco ered a lo pre alence of reporting of safeguards against bias ha ards (sometimes referred to as reporting) in papers including animal [6-8] research. As a result, reporting for allocation concealment ranged from 8% to 55.6%, for blinded outcome to o

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for clinical trial protocols for meta-research has historicall been challenging for reasons of secrec . Access to the application forms as accessible ithout breaching con dentialit , as stated in the Materials and Methods.

A nal sample of 1,277 applications for animal e periments that ere accepted b S iss cantonal authorities in the ears 2008, 2010, and 2012 ere included in our database. A statistical anal sis strateg , inclusion and e clusion criteria, allocation concealment, blinded outcome assessment, sample si e calculation, inclusion and e clusion criteria, primar outcome, and blinded outcome assessment ere used to e aluate the scienti c rigour of the stud . e internal alidit score, hich as the main outcome ariable for the statistical anal sis of the impacts of di erent stud descriptors on reporting rates, as produced in addition to indi iduall e amining each item.

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