



Animal Tissue Sharing in New Zealand

John D Grew, Innovation Dynamics Pty Ltd

Dr Kate Littin, MAFBNZ

INTEGRATE



ENABLE



LEAD



ADVOCATE



Overview

- What is Tissue Sharing?
- The Regulatory Context for Tissue Sharing
- How Tissue Sharing is Practiced
- Tissue Sharing Model Features
- NZ Survey and Results
- Survey Implications



What is Animal Tissue Sharing?

- A voluntary practice whereby an animal sacrificed for research, testing or teaching may provide multiple tissues, or use, for multiple investigators,
- The practice also captures re-use of animals such as positive controls from AEC approved experiments, which are destined for cull,
- The primary investigator / tissue user must obtain AEC approval however the secondary tissue users do not require AEC approval.



Tissue Sharing Stakeholders



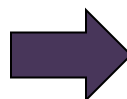
AEC



ANIMAL SUPPLY



PRIMARY TISSUE USER



SECONDARY TISSUE USERS



Regulatory Context

- Animal welfare in New Zealand is governed by legislation through MAF
- Animal modification and culling for research, testing and teaching purposes are subject to approval by institutional Animal Ethics Committees (AECs) with annual data reported to MAF
- Demonstrated implementation of 3Rs



Regulatory Context contd.

- 3Rs – reduce, refine, replace
- Global initiative adopted by most governments and animal welfare stakeholders; including NZ.
- Animal Tissue Sharing is a 3R reduction initiative in that using existing secondary tissue reduces the sacrifice of further animals.

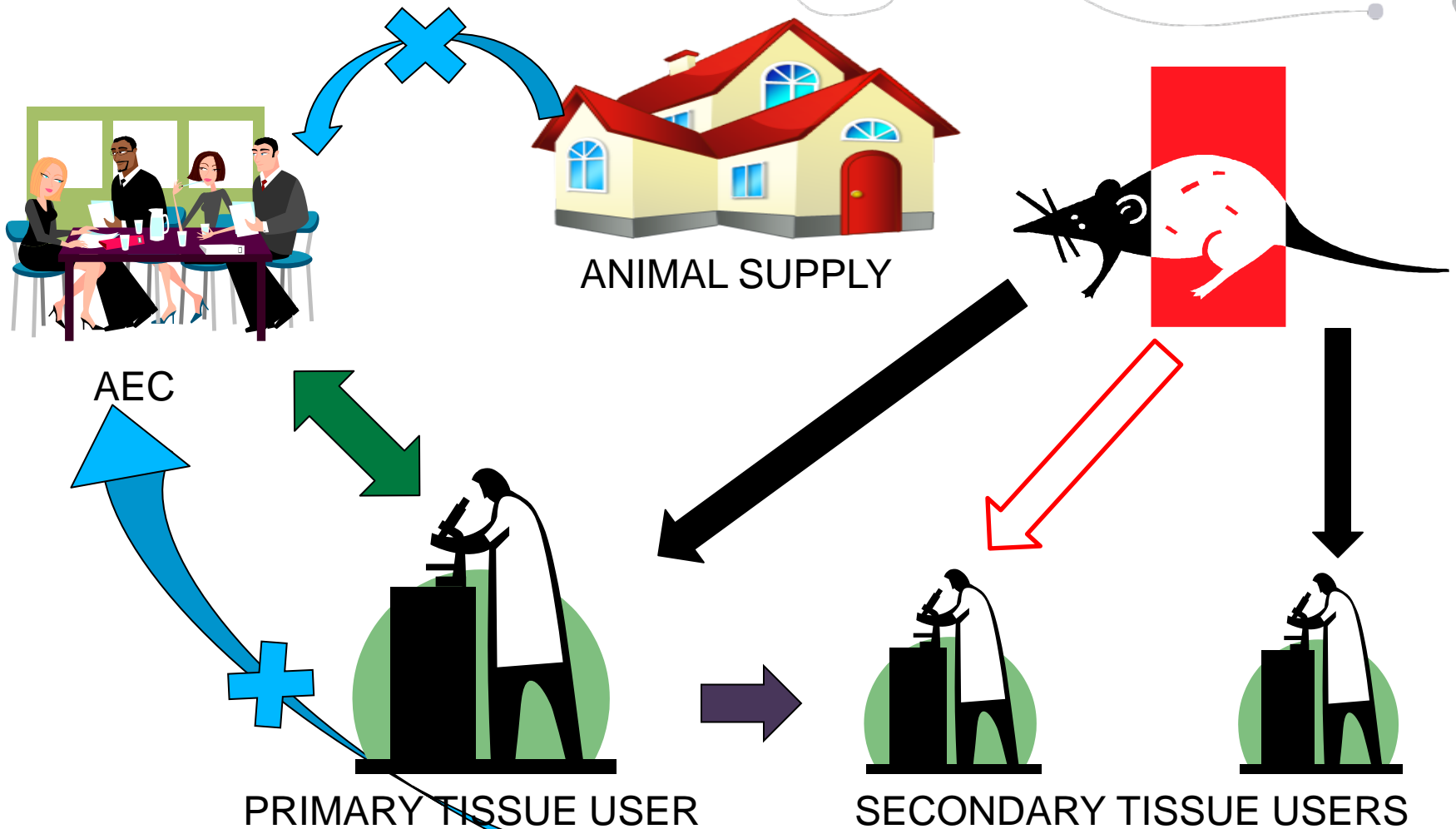


How is Tissue Sharing practiced?

- There are two models in the ANZ region; an “ad-hoc” and an “on-line subscription database,”
- There is no reporting of Animal Tissue sharing from AECs to MAF in New Zealand.



Tissue Sharing Stakeholders



Model Features

Ad-hoc Model	Online subscription Model
<ul style="list-style-type: none"> •Relies on personal networks 	<ul style="list-style-type: none"> •Captures broad network suppliers / users, or simply local institute
<ul style="list-style-type: none"> •Local department / inst. focus 	<ul style="list-style-type: none"> •Cost model introduces discipline
<ul style="list-style-type: none"> •Direct communication re tissue provenance 	<ul style="list-style-type: none"> •Overt demonstration to regulators of 3R commitment; documentation
<ul style="list-style-type: none"> •Ability to collect fresh tissue for secondary users 	<ul style="list-style-type: none"> •Ability to collect fresh tissue locally, logistic responsibilities if not local
<ul style="list-style-type: none"> •Not seen as admin / cost burden 	<ul style="list-style-type: none"> •Suitable to dispose of unusual tissue
<ul style="list-style-type: none"> •Limited reach to dispose of tissue 	<ul style="list-style-type: none"> •Annual license fee, admin concern
<ul style="list-style-type: none"> •No formal documentation 	<ul style="list-style-type: none"> •Reliant on supporting systems such as AEC, tissue sharing awareness
<ul style="list-style-type: none"> •Relies on networks; “if we can policy” 	<ul style="list-style-type: none"> •Ethitex model limited data



NZ Survey of Tissue Sharing Practice

- Commissioned by MAF Biosecurity New Zealand to determine potential of national adoption,
- Surveyed all NZ AECs and Regional Key Opinion Leaders to identify tissue sharing,
 - Level of awareness
 - Extent of practice
 - System attributes
 - Barriers to implementation



Survey Results - context

- 100% of NZ uses the ad-hoc model,
- Most users sourced animal tissue specifically from sacrificed animals for the purpose,
- Some respondents use both fresh and frozen tissue with ~30% using fresh only,
- Most respondents were aware of tissue sharing, however none had ever received formal training,



Survey Results – Awareness & Practice

- Very few were aware of specific tissue share schemes or models,
- Almost all tissue share within own research group / department,
- Most respondents do not measure and report the effectiveness of their tissue sharing model and the remainder were unsure of reporting practices.



Survey Results – Desirable Model Attributes

- Evidence of 3R compliance,
- Broader network of supply / disposal of tissue and tissue type,
- Low admin time investment,
- Low set up and ongoing costs,
- Ability to opt in/out of system fn technical issues,
- Organised system allowing timely interrogation and supply query.



Survey -Perceived Barriers to Implementation

- A lack of awareness of tissue sharing practice and operating models,
- Perceptions leading to a lack of confidence in commercial models (eg tissue provenance, biosecurity, confidentiality),
- Concern over cost of implementation and maintenance, admin. and system responsibility,
- Resistance to change, without foundation.



Tissue Sharing Survey Implications

- Raise awareness of tissue sharing within institutions,
 - AEC induction for new, transferred staff,
 - Undergraduate ethics lectures,
- AEC request form modification,
- Demonstration pilot trial of tissue sharing models; confirm metrics,
- Consideration as MAF 3R reporting parameter.



Acknowledgement & Contact

- KOL & Survey participants
- Dr Hazel Johnston, MAFBNZ
- Ms Erin Brady, Innovation Dynamics (formerly)

~~~~~

- John D Grew [jgrew@innovationdynamics.com.au](mailto:jgrew@innovationdynamics.com.au)  
[johngrew@thebioadvisorygroup.com](mailto:johngrew@thebioadvisorygroup.com)  
m +61 (0) 424 208 611
- Dr Hazel Johnston [hazel.johnston@maf.govt.nz](mailto:hazel.johnston@maf.govt.nz)  
m +64 (0) 4 894 0423

