

Accomplishing ABSL-2+ in Different Facilities

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INTRODUCTION

- Emory University chose to conduct Zika research at BSL-2+/ABSL-2+ due to reproductive hazard concerns.
- At the Yerkes National Research Primate Center research with Zika included using non-human primates (NHP).
- The requirements for the different studies varied and so projects could not be done in same location. (See Fig. 1)

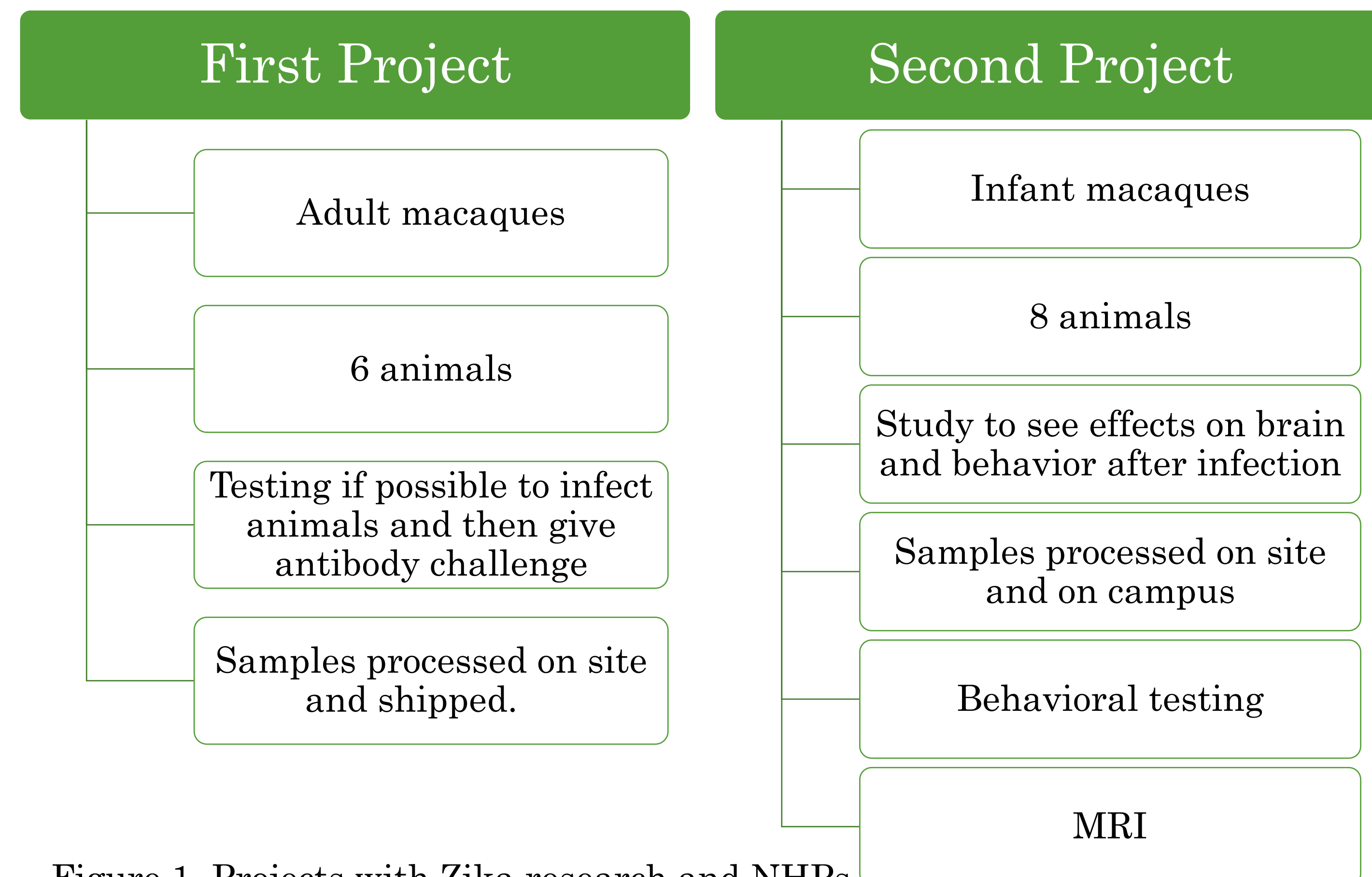


Figure 1. Projects with Zika research and NHPs



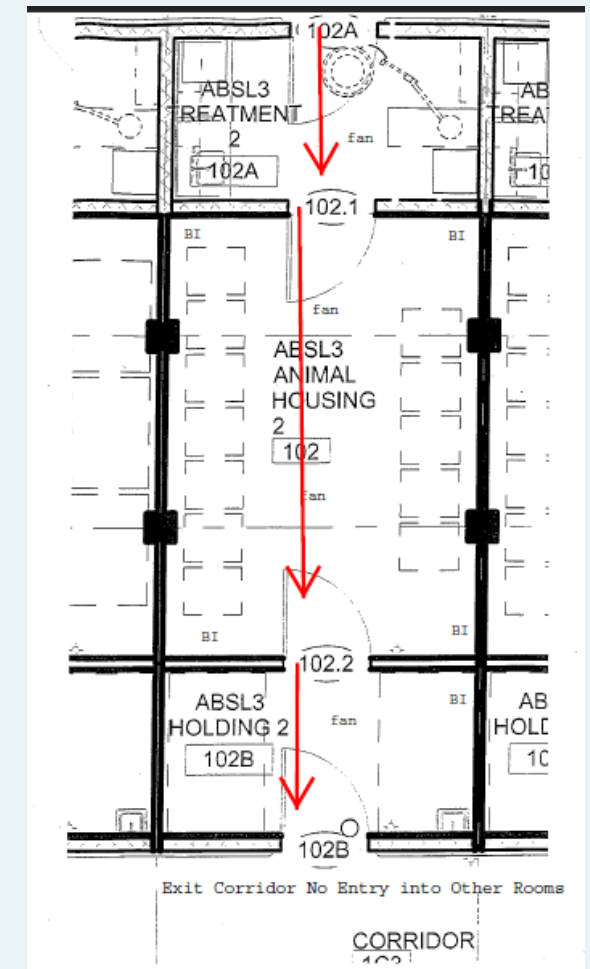
- Risk assessments were done for each project and required different components that had to be addressed.
- An ABSL-3 facility and an ABSL-2 room were available.
- Challenges had to be addressed for animal housing. (See Table 1 and Table 2)

Table 1. Project challenges with research studies

First Project	Second Project
Number of animals to be housed	Need for access to kitchen
Restricted access	Restricted access
Cage washing	Cage washing
Waste	Waste
Clinical Testing	Clinical testing
	Behavioral testing/MRI
	Laundry Requirements
	Bottles

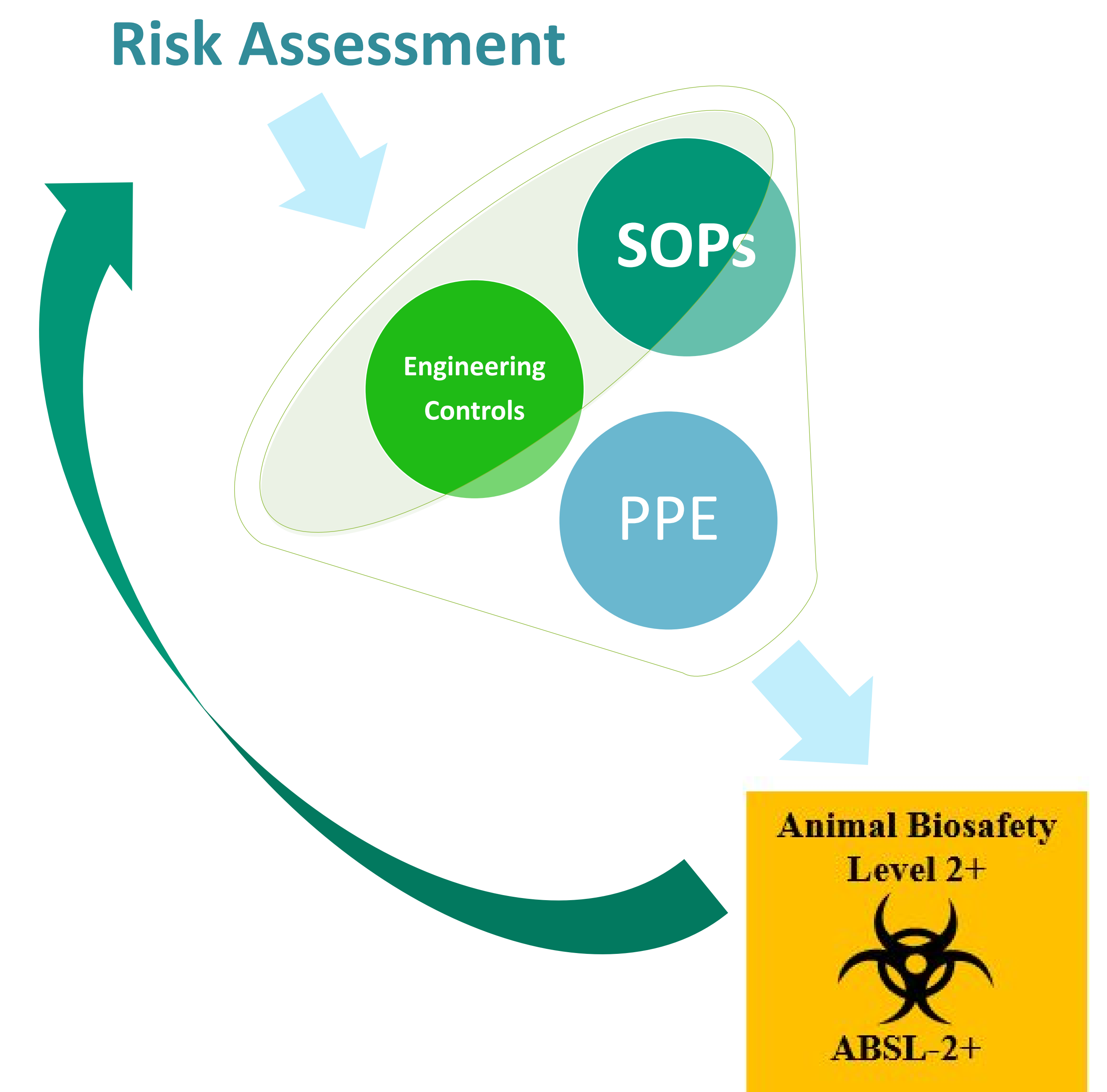
- All personnel accessing Zika areas completed a consult with the occupational health physician to discuss any concerns.
- SOPs were developed.
- Facilities were modified.
- Multitude of groups (facilities, animal care, veterinary medicine, etc.) were trained for both facilities.

METHODS

Table 2. HOW ABSL-2+ WAS ACCOMPLISHED		
	1 st Project ABSL-3 (facility 1)	2 nd Project ABSL-2 (facility 2)
Engineering changes		
Restricted Access	Activating access pads	Installing & activating access pads
Air Curtains	Installing air curtains on outer doors	Installing air curtain on outside door
Sealing Outer Doors	Not required	Gaps sealed
Cap Floor Drains	Not required	Capped floor drain
Waste		
	Autoclaved out Disposed via outside vendor Pathological waste tissue digester	Sealed bags Disinfected outer surface Put into biohazardous waste bin outside of room. Disposed via outside contractor Pathological waste transported to facility 1
Cage Washing	All cages rinsed Autoclaved out of the facility Biological indicator cleared before cages could be sent to cage wash	Cages sprayed with disinfectant Cages sent to cage wash. Isolettes surface decontamination
Laundry	All Kevlar was autoclaved out, before being washed.	Cloth items double bagged Disinfectant bag surface Transported bag to autoclave After autoclaving, items were washed
Clinical Testing	Clinical laboratory space located inside the facility	Clinical samples transported to facility 1 clinical lab
Necropsy	Necropsy located inside the facility	Animals transported to facility 1 for necropsy
PPE		
	Locker rooms available for PPE station. Uniform, double gloves, Kevlar, Tyvek suit, shoe/boot covers, head covers, facemask, face shield, N95 and goggles if spraying	PPE station added in animal housing hallway Uniform, double gloves, Kevlar, Tyvek suit, shoe/boot covers, head covers, facemask, face shield, N95 and goggles if spraying
Feeding	Normal feeding procedures	Formula prepared in adjacent kitchen Bottles disinfected in room before going to dishwasher
Work Flow		

RESULTS/CONCLUSIONS

- ABSL-2+ can be accomplished in different facilities when risk assessments are done for each facility. Changes in engineering controls, standard operating procedures and personal protective equipment are determined via risk assessment.
- Even though we had the same PPE in both locations we had to modify the doffing process for the ABSL-2+ in the facility 2 due to space constraints.



- Additional changes were made when individuals pointed out difficulties that were not anticipated (i.e. doffing and waste handling).
- Frequent changes in personnel and delays in research start dates required ongoing training throughout the project.
- Success was a result of a dedicated team.

ACKNOWLEDGMENTS

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