

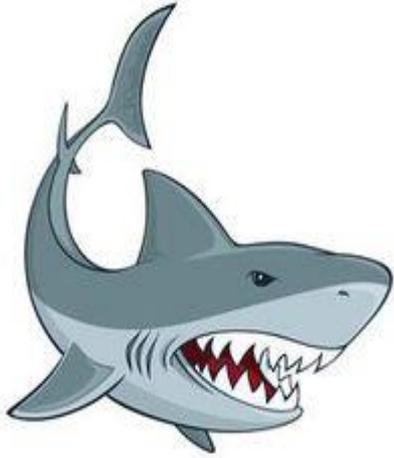


# MoST

Ajit Karna, DVM, MPH, PhD

5<sup>th</sup> meeting of the Legislative Health and Human Services Committee  
September 27, 2018, Las Cruces, NM

# THINK SHARKS ARE BAD?



**10 Deaths/Year**



**725,000 Deaths/Year**

Gates Notes, 2016



 **Open Lab**

# MOSQUITOES CARRYING ZIKA VIRUS, WEST NILE VIRUS

*Ae. aegypti*



*Ae. albopictus*



*Cx. pipiens*



*Cx. quinquefasciatus*



*Cx. tarsalis*



Evans et al., 2017. eLife



# THE PROBLEM



**14 Days**



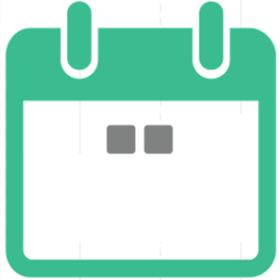
**\$28,400+ per study**

 **Open Lab**

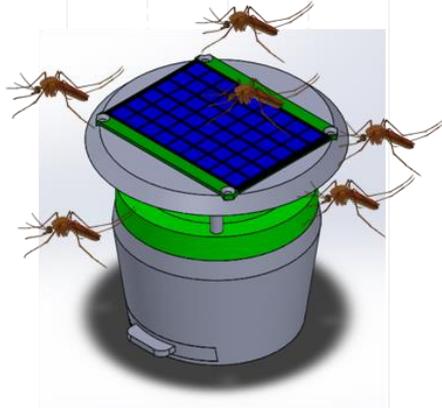
# “MoST” AWESOME SOLUTION

TRAP

SALIVA



2 Days



**\$2840 one-time**  
**\$284 per study**

 **Open Lab**

# NO DIRECT COMPETITION

		Direct Competitors	Indirect Competitors	Substitute Competitors
Saliva Collection		N/A		
Processing Time	2 days	N/A	14 days	14 days
Mosquitoes Collected	1000	N/A	100	10
Cost	\$2,840 One-Time \$284/Study	N/A	\$28,400/Study	\$28,400/Study

# MARKET OPPORTUNITY

**TAM:** \$38,624,000

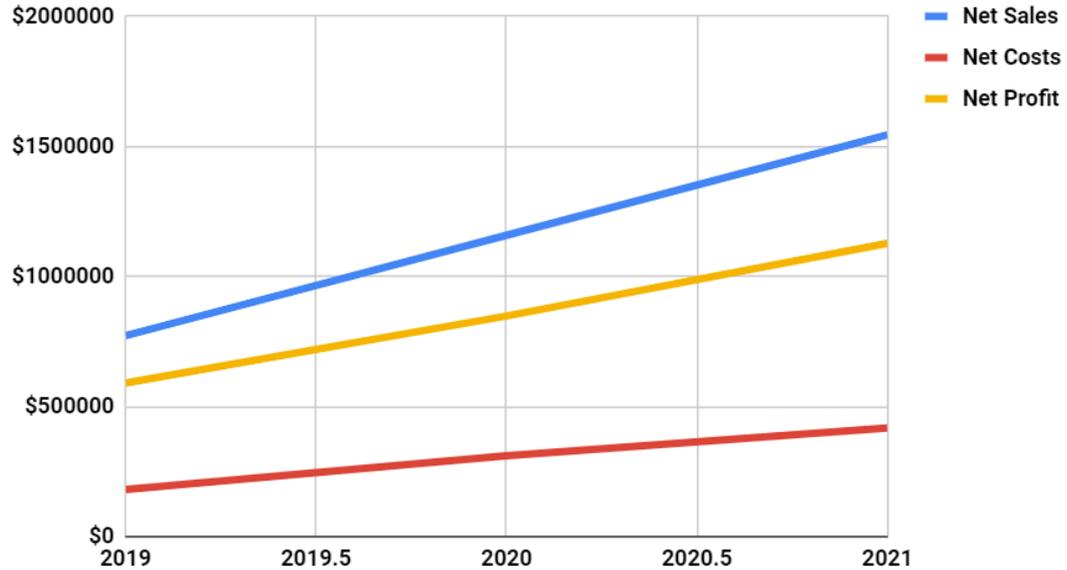
**SAM:** \$19,312,000

**SOM:** \$3,476,160 over 3 years; 83% of 2019 sales already secured

# FINANCIAL PROJECTIONS

**Price:**  
\$2,840 One-Time  
(\$284)  
\$284/Study  
(\$28.40)

### Serviceable Obtainable Market



83% of 2019 Sales (\$772,480) Secured



# INVESTMENT

2018

Prototype Design

- ✓ Completion

Validation

- ✓ 3<sup>rd</sup> party

Provisional Patent

- ✓ Patent Pending

2019

Initial Manufacturing

- ✓ \$4,600

First Year Sales

- 83% Secured

Scaled Manufacturing

- \$20,000 seeking

Utility Patent

- \$5,000 seeking

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# POTENTIAL BENEFITS OF “MoST”

Right  
Sample

Early  
Sample

Large  
Sample

Continuous  
Sample

Early  
Testing

Early  
Detection

Early  
Reporting

Early  
Warning



- Prevention from mosquito-bites
- Control of disease transmission
- Strategic focus on vector control
- Vaccination



# ARROWHEAD CENTER®



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# 7 persons died during my presentation



[www.openlabnm.com](http://www.openlabnm.com)  
[openlabnm@gmail.com](mailto:openlabnm@gmail.com)

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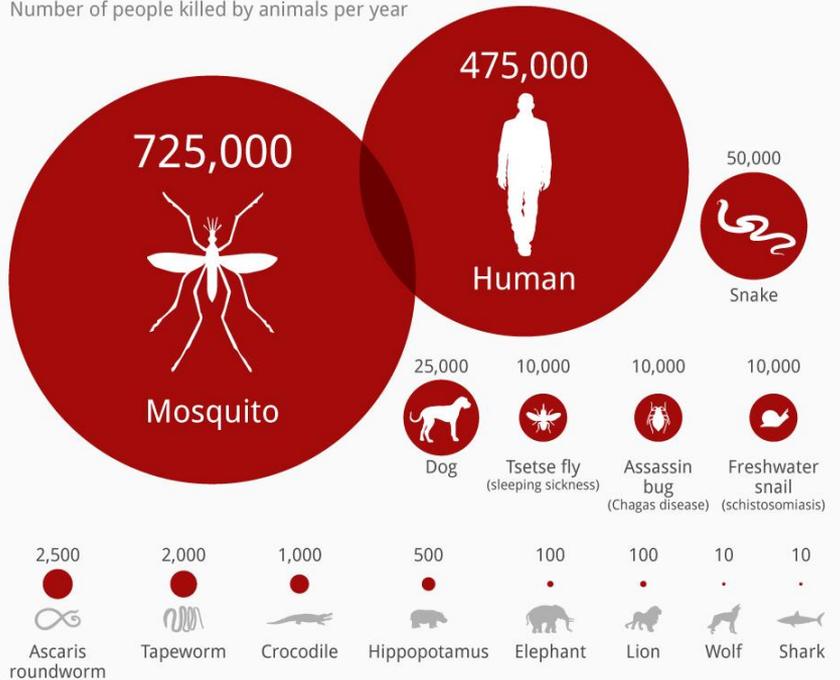
# Appendix



# SMALLEST BUT DEADLIEST ANIMAL

## The World's Deadliest Animals

Number of people killed by animals per year



© StatistaCharts

Source: Gatesnotes

statista

Open Lab

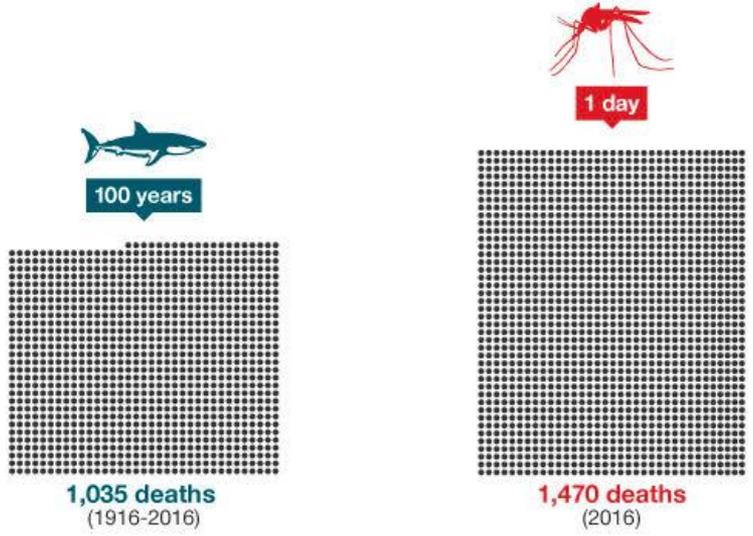
# WHY “MoST” IS UNIQUE?

- Storing virus
- Chilling platform
- Easy to-go sample tray
- GPS and weather logger
- Battery operated
- Early warning
- Reduced biohazard



# PROBLEM

**Mosquitoes kill more people in one day than sharks killed over the last 100 years.**



Source: WHO, Global Shark Attack File (GSAF)



# MARKET OPPORTUNITY

Above \$10 million, mosquito-surveillance and testing industry



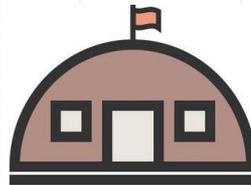
Researchers  
at universities



Department  
of Health



CDC



Military Bases



Vector Control

 Open Lab

# FINANCIAL PROJECTIONS

<b>SOM</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Total</b>
<b>Net Sales</b>	\$772,480	\$1,158,720	\$1,544,960	\$3,476,160
<b>Net Units</b>	272	408	544	1,224
<b>Fixed Costs</b>	\$127,144	\$290,000	\$390,000	\$807,144
<b>Variable Costs</b>	\$54,400	\$20,400	\$27,200	\$102,000
<b>Net Costs</b>	\$181,544	\$310,400	\$417,200	\$909,144
<b>Net Profit</b>	\$590,936	\$848,320	\$1,127,760	\$2,567,016

\* 225 sales have been secured for 2019

# COMPETITORS



**Biogents**  
Mosquito Control

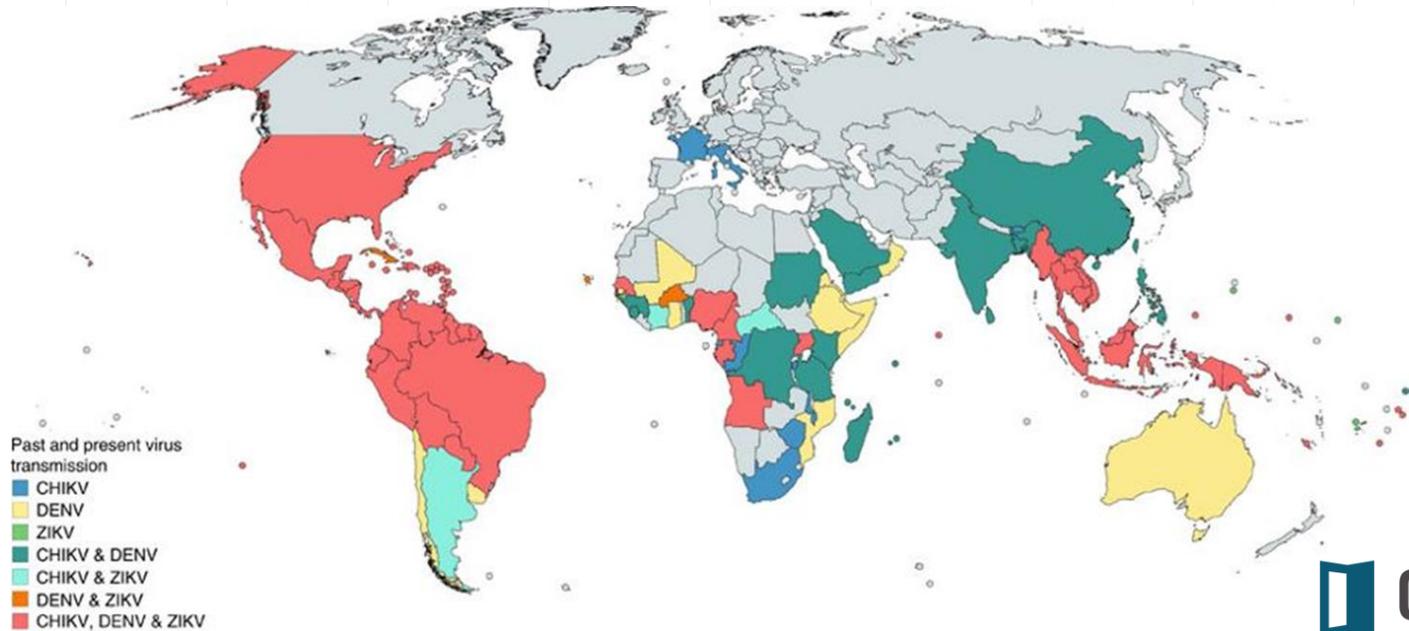
**BioQuip**<sup>®</sup>  
PRODUCTS SINCE 1947



 **clarke**<sup>®</sup>

**John W. Hock**  
C O M P A N Y

# GLOBAL DISTRIBUTION OF MOSQUITO-BORNE VIRUSES



# CUSTOMER WAIT TIMES

- Average waiting time for delivery of MoST:
  - 7 days with order size of 100, with 2 people working 40 hours a week
  - 2 days with order size more than 100, with 5 people working 40 hours a week

# MOLD QUOTES FROM MANUFACTURERS

Price per unit	Tooling	Shipping	Rollup price	Subtotal
\$20	\$14,233	\$120	\$164	\$14,537



# Open Lab

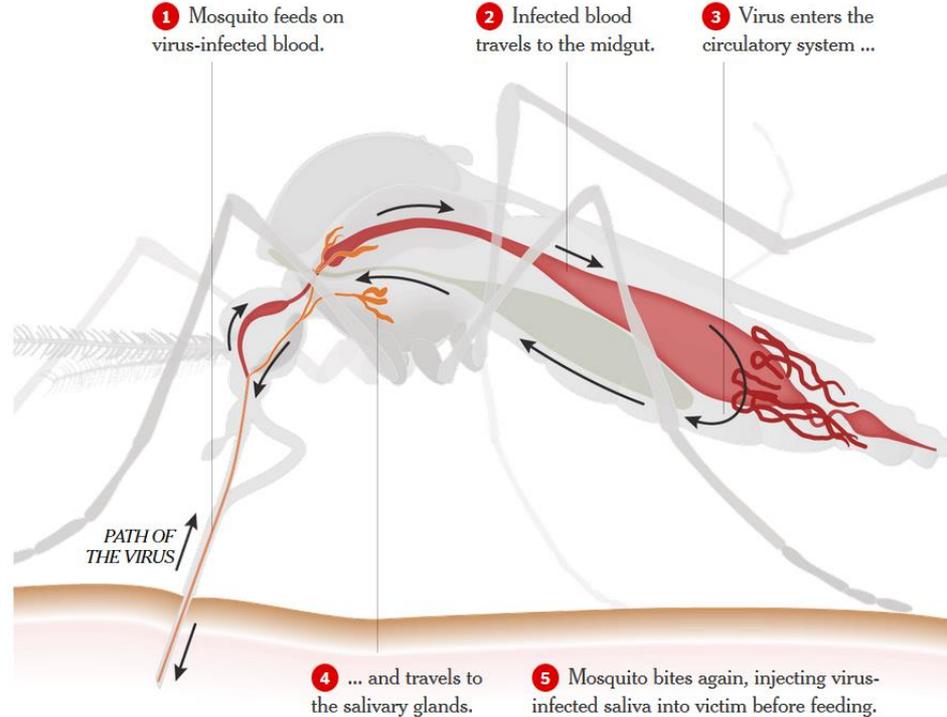
innovation | research | development

- Registered in June, 2018 as Open Lab LLC
- New Mexico based company
- Obtained EIN
- Bank account set up
- Website launched ([www.openlabnm.com](http://www.openlabnm.com))
- Facebook (Open Lab LLC)

# HOW DOES MOSQUITO TRANSMIT VIRUSES?

## How Mosquitoes Spread Zika

The *Aedes aegypti* mosquito is thought to be responsible for most of the spread of Zika. The virus is carried by female mosquitoes (males do not bite) that have fed on infected blood.



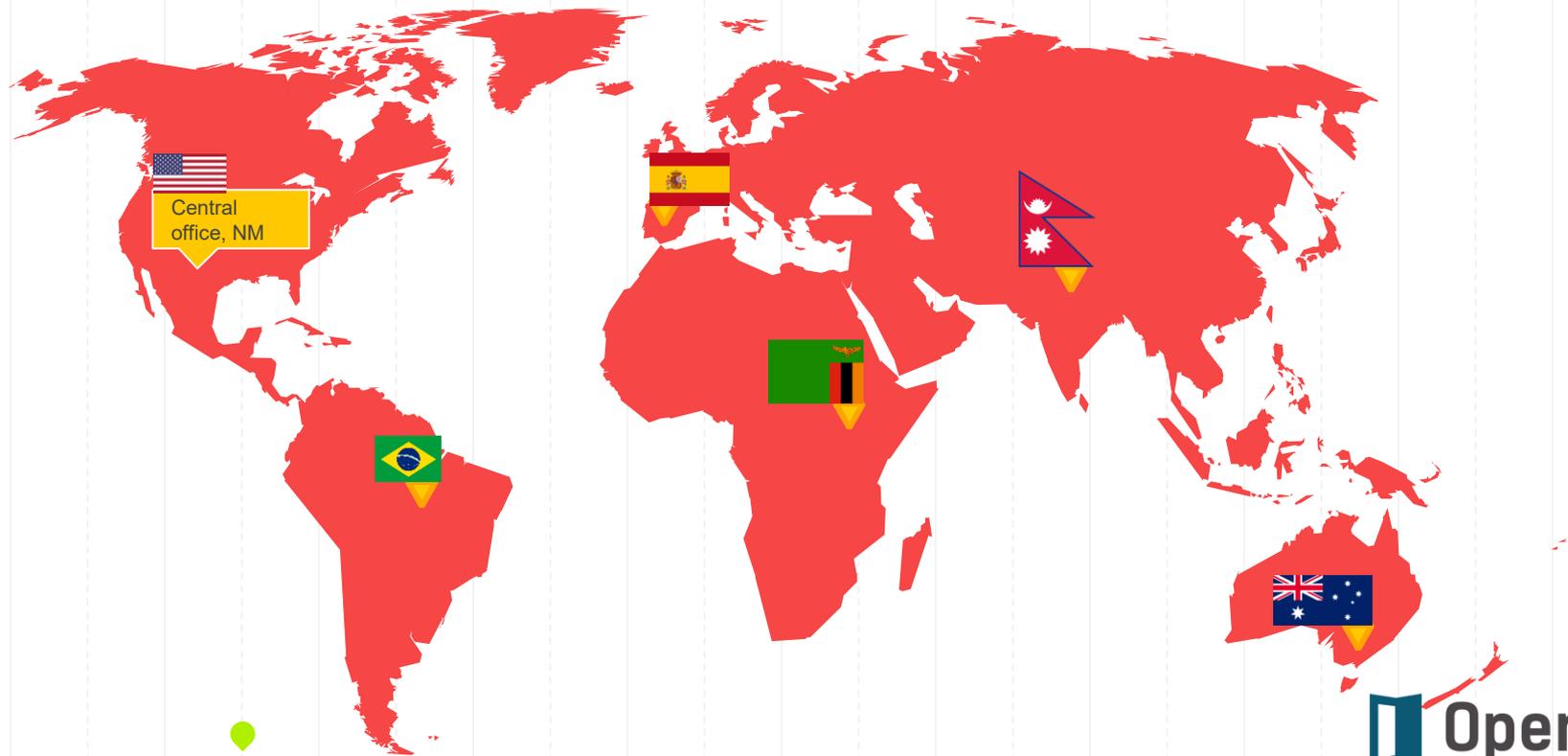
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# US GOVERNMENT SPENDING

- ❑ \$184 million in funding to states, territories, local jurisdictions, and universities to support efforts to protect Americans from Zika virus infection
- ❑ \$350 million in funding provided to CDC under the Zika Response and Preparedness Appropriations Act of 2016.

# OPEN LAB PROJECTED LOCATIONS



 Open Lab