

Integrated Bite Case Management and the React App

John Michembo

IBCM Manager, Malawi

AJ Beron

Director, International Rabies Taskforce



World Organisation
for Animal Health



INTERNATIONAL
RABIES TASKFORCE



WVS



MISSION
RABIES

What is Integrated Bite Case Management



One Health response to animal bites:

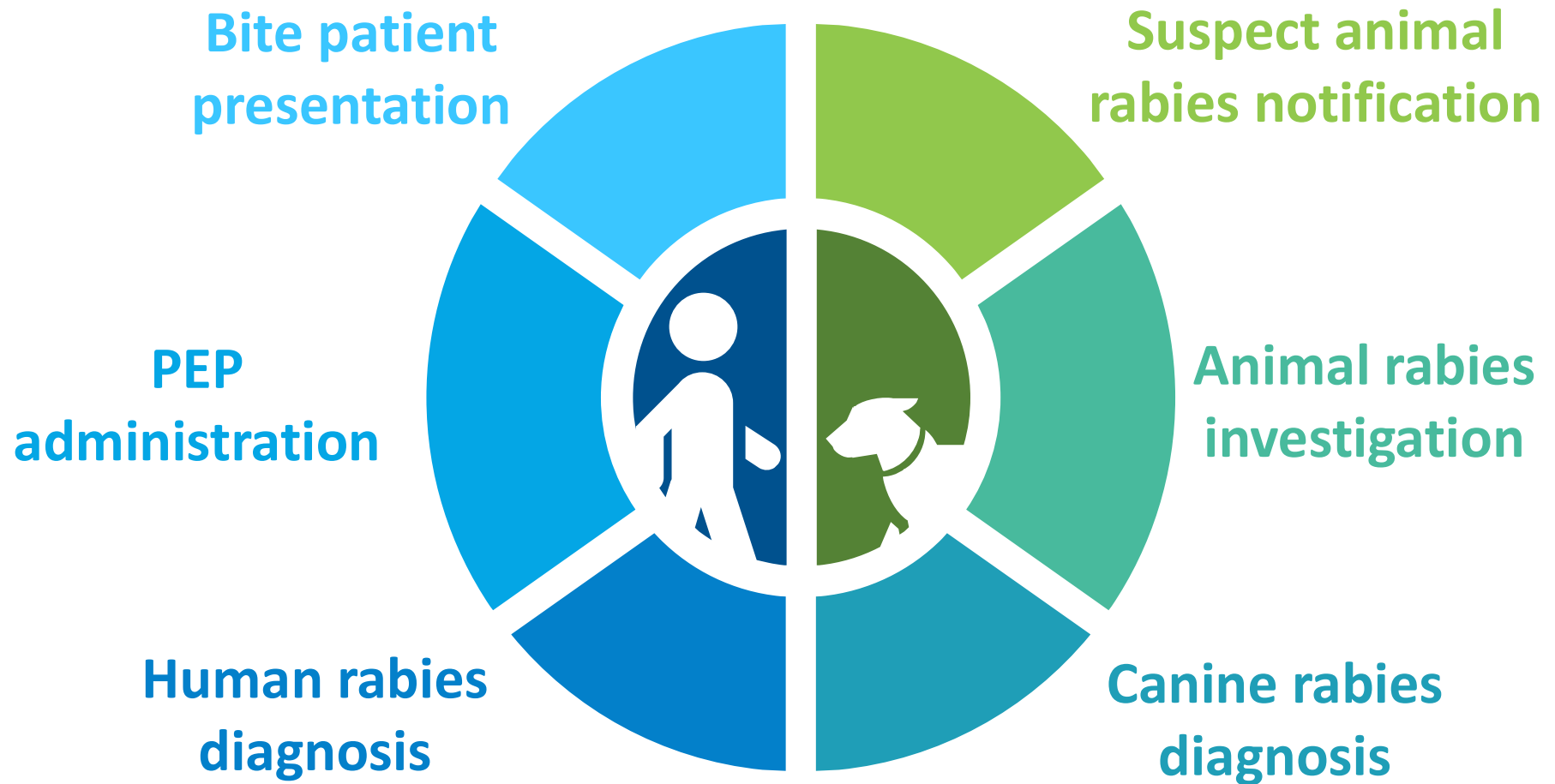
- Integration of data collection and reporting at the community level
- Collaboration between animal and human health sectors

Overall goals of IBCM:

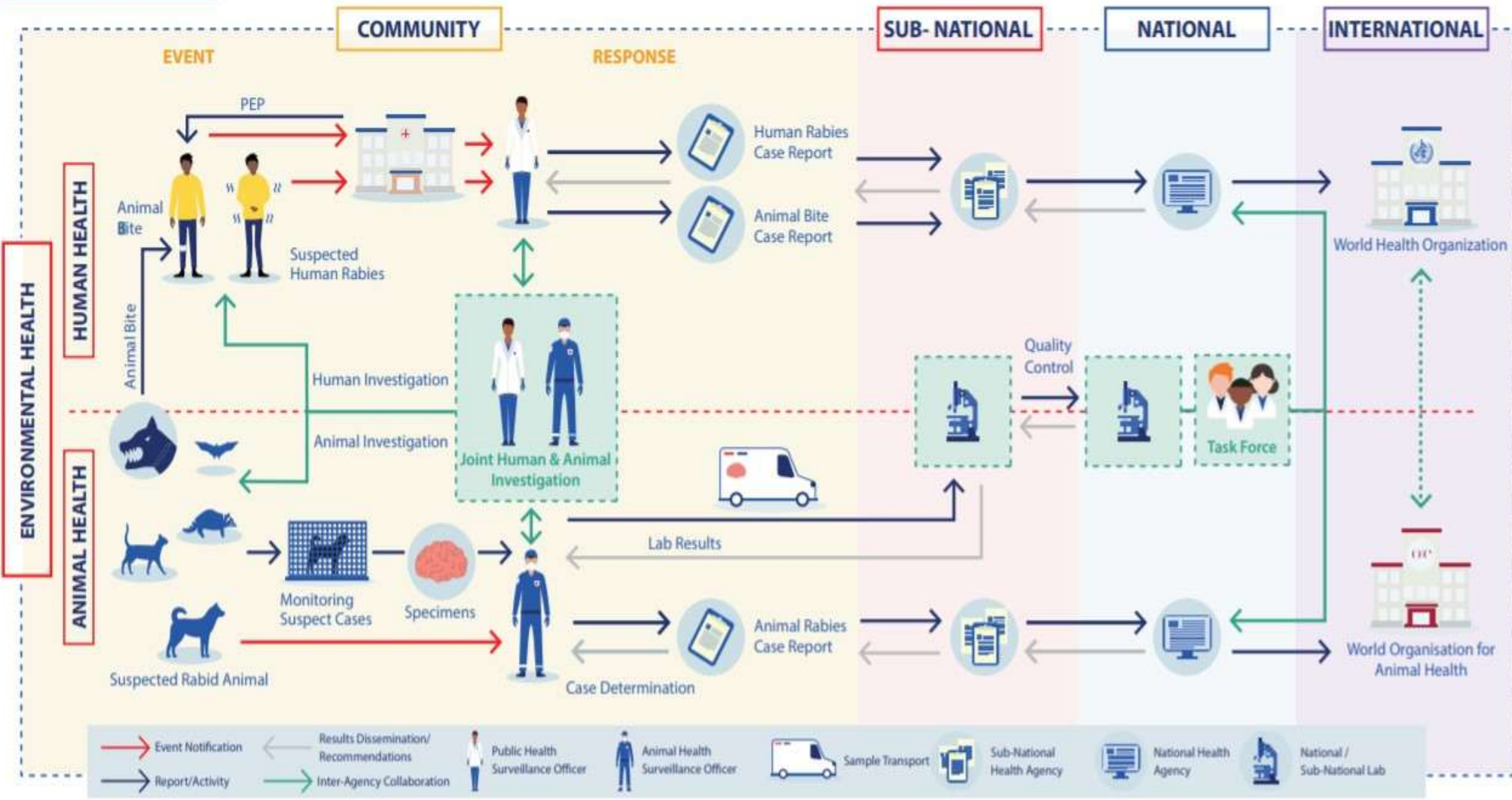
1. Reduce rabies burden and human lives lost
2. Effective and efficient use of human and dog vaccines



Integrated Bite Case Management



RABIES



IBCM case flow



**EVENT
NOTIFICATION**



**RABIES
ASSESSMENT**



**QUARANTINE
UPDATES**



**LABORATORY
RESULTS**



REPORTING



IBCM case flow



EVENT NOTIFICATION

General public



RABIES ASSESSMENT

Private veterinarians

Government veterinary officers



QUARANTINE UPDATES

Animal welfare organisations



LABORATORY RESULTS

Hospitals / clinics



REPORTING

Local authorities



IBCM case flow



**EVENT
NOTIFICATION**



**RABIES
ASSESSMENT**



**QUARANTINE
UPDATES**



**LABORATORY
RESULTS**



REPORTING



IBCM case flow



**Aggressive
(excitable/unusual)**



Lethargy



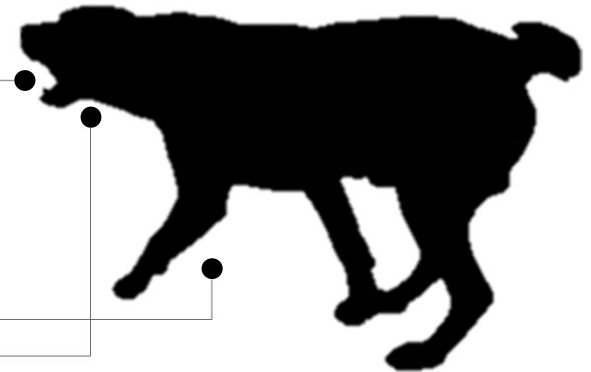
Paralysis



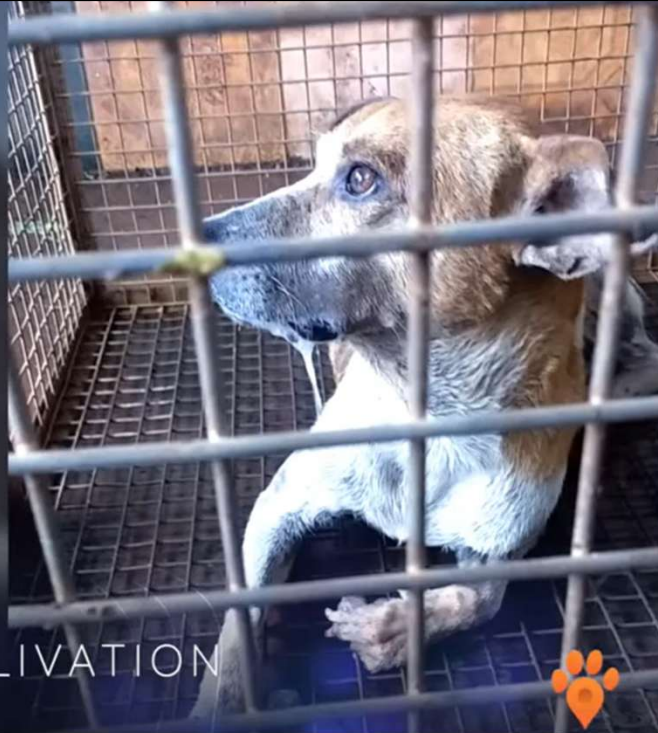
Hypersalivation



Abnormal vocalization



IBCM case flow



HYPERSALIVATION

In this dog you can also see the neurological signs of the dog twitching.



IBCM case flow



EVENT
NOTIFICATION



RABIES
ASSESSMENT



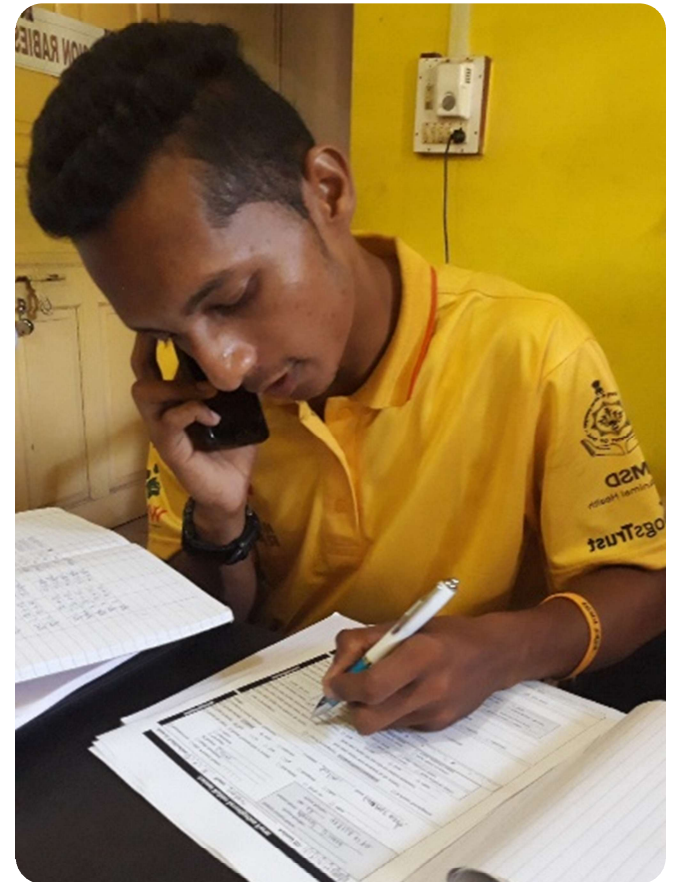
QUARANTINE
UPDATES



LABORATORY
RESULTS



REPORTING



IBCM case flow



**EVENT
NOTIFICATION**



**RABIES
ASSESSMENT**



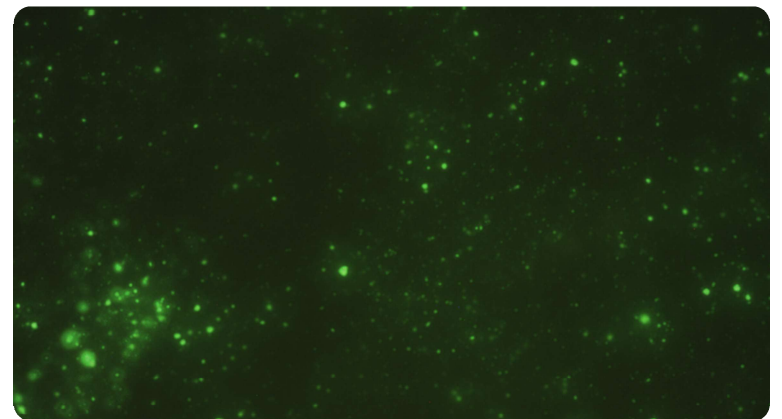
**QUARANTINE
UPDATES**



**LABORATORY
RESULTS**



REPORTING



IBCM case flow



**EVENT
NOTIFICATION**



**RABIES
ASSESSMENT**



**QUARANTINE
UPDATES**



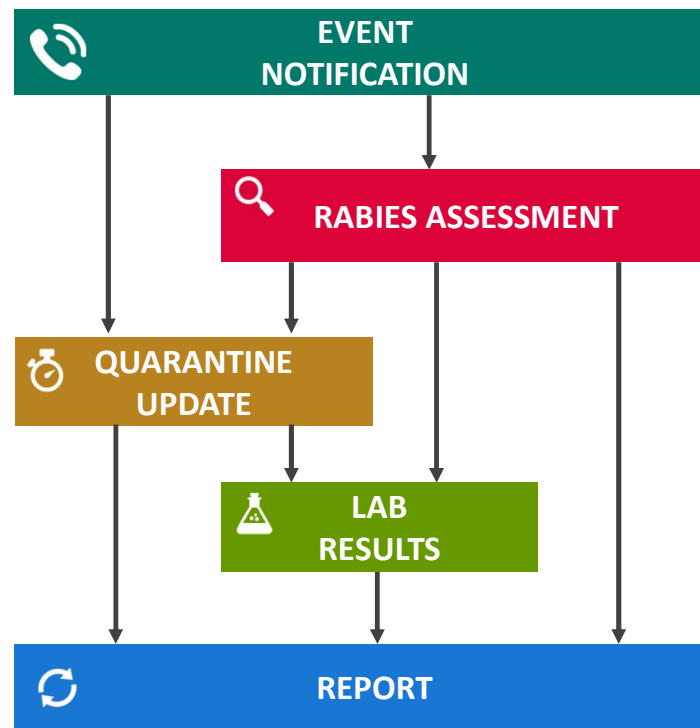
**LABORATORY
RESULTS**



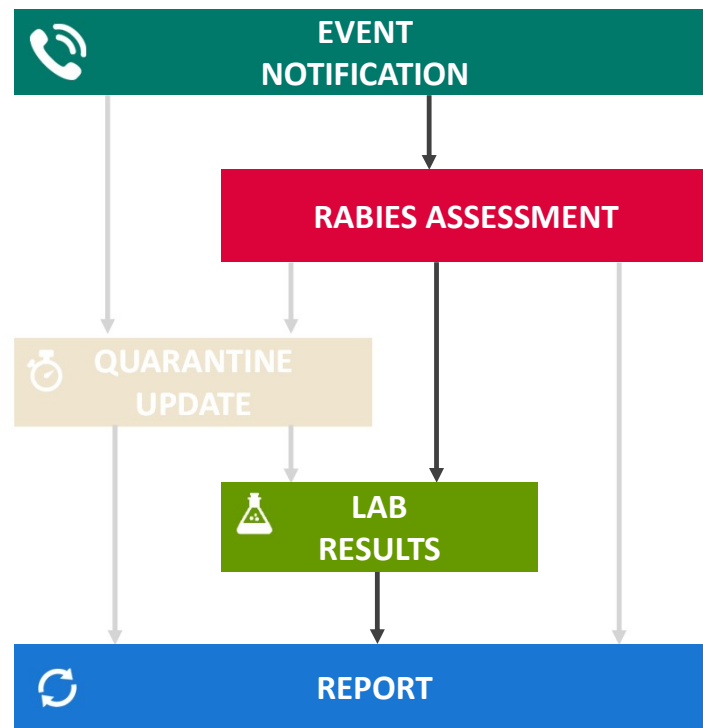
REPORTING



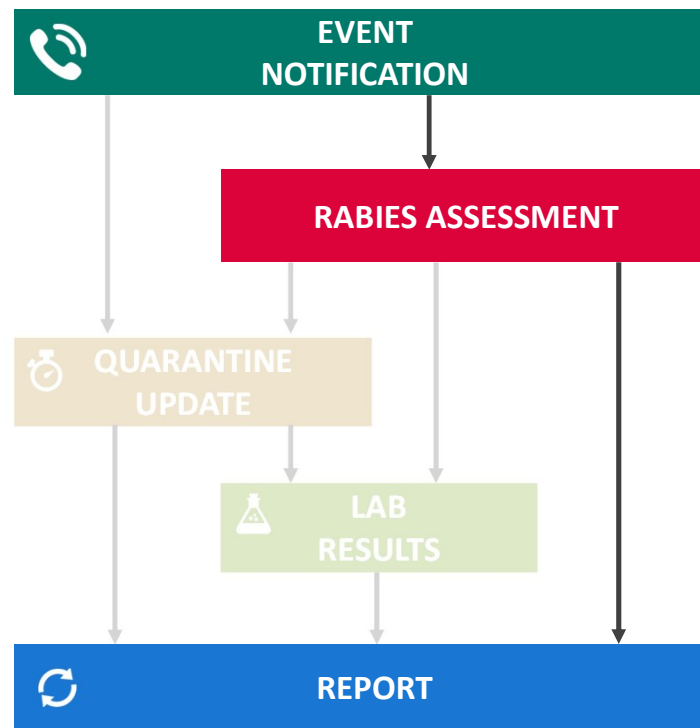
IBCM case flow



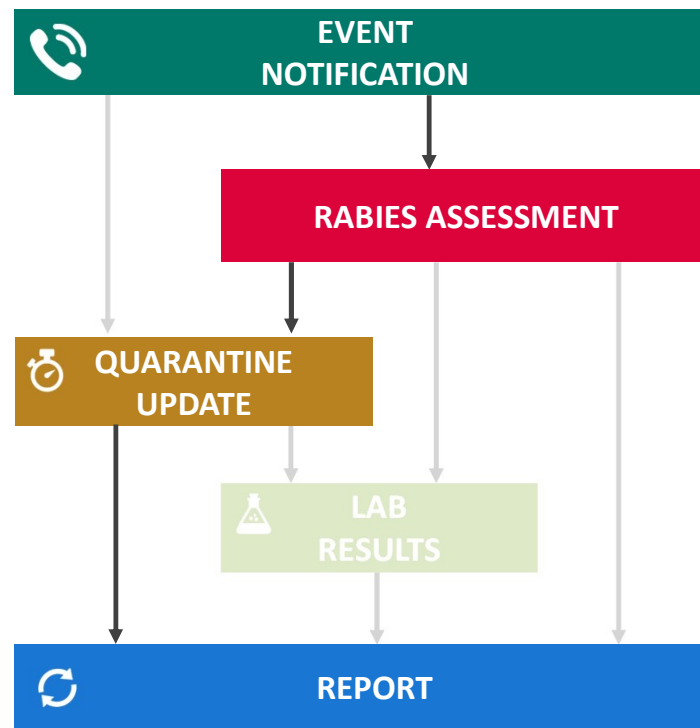
IBCM case flow



IBCM case flow



IBCM case flow



Benefits of IBCM



- Find and remove rabid animals from community
- Prevent animal and human exposures
- Reduce unnecessary use of rabies post-exposure prophylaxis (PEP)
- Ensure PEP given to those exposed to confirmed rabid animals
- Identify additional bite victims
- Provide more accurate disease burden estimates
- Increase government support for rabies control

MISSION RABIES MALAWI IBCM RABIES SURVEILLANCE CASE INVESTIGATION

Reporter/Bite victim

Health Facilities
Via Hotline only

District WhatsApp group

Rabies hotline
IBCM team

DAHLD office
Report into hotline,
district whatsapp, or
phone

Blantyre vet lab
Physically report to
the lab

Report
test
results

IBCM team investigate
the cases

Dog not showing rabies
signs- quarantine for 10
days

Report
quarantine
results

Dog dead- brain sample
collected and tested for rabies

Dog showing rabies signs-
euthanasia, brain sample
collected and tested for rabies

Fail quarantine

Pass quarantine

Negative rabies
(DFAT confirmed)

Positive rabies
(contact tracing)

Previously vaccinated -Rabies booster quarantine 60 days,
follow up by IBCM team

Human exposures PEP recommended,
and bite victim follow up by IBCM
team

Dog exposures

Previously not vaccinated, euthanasia
recommended

A light-colored dog, possibly a Golden Retriever, is sitting against a textured, light-brown wall. The dog has a red mark on its forehead and is wearing a blue collar with a metal chain. The word "Questions?" is overlaid in white text on the left side of the image.

Questions?

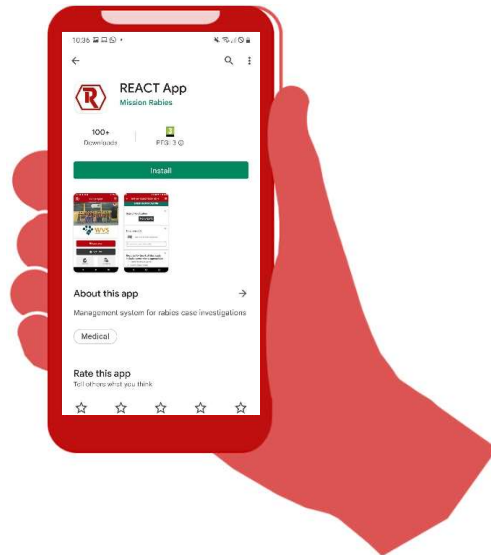
REACT



Rabies Exposure Assessment and Contact Tracing



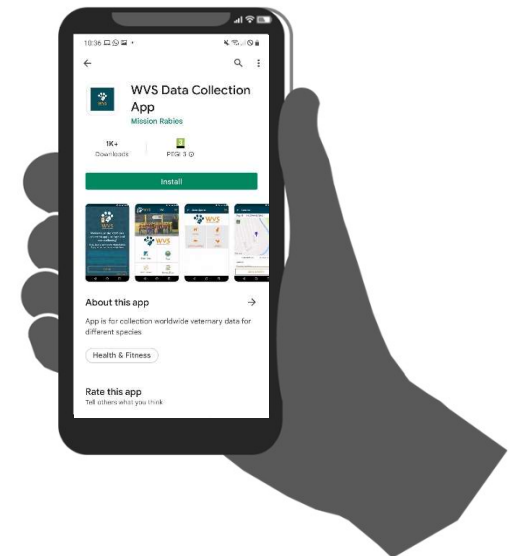
REACT App



Rabies surveillance / IBCM

- Longitudinal case management
- Multi-sectoral coordination

WVS App



Campaign Implementation

- Event tracking
- Spatial team management

Paper-based forms

- Limited information collected
- Do not validate investigator case determinations
- Do not track notification results
- Long delays to reach surveillance manager

Animal Rabies Investigation Form Animal ID: _____

Please fill out form completely. Check all that apply Date of Notification: __/__/____

Notification	1. Reported From: <input type="checkbox"/> DELR → NSSS Number: _____ <input type="checkbox"/> Health Department: _____ <input type="checkbox"/> Hospital: _____ <input type="checkbox"/> Vet Agent: _____ <input type="checkbox"/> Veterinarian: _____ <input type="checkbox"/> Public	Medical Contact Name: _____ Phone Number: _____ Patient Name: _____ Age: _____ Phone Number: _____
	2. Reason for report: <input type="checkbox"/> Human Exposure (bite or scratch) <input type="checkbox"/> Sick animal <input type="checkbox"/> Hit by car <input type="checkbox"/> Other _____	
	3. Type of animal: <input type="checkbox"/> Dog <input type="checkbox"/> Cat <input type="checkbox"/> Goat <input type="checkbox"/> Pig <input type="checkbox"/> Mongoose <input type="checkbox"/> Other _____	
	4. Was this animal: <input type="checkbox"/> Owned <input type="checkbox"/> Stray <input type="checkbox"/> Unknown	
	5. Location of animal exposure: Department _____ Commune _____ Street _____	
Investigation	6. Investigator Name: _____ Date of Investigation: _____	
	7. How many people were bitten by this animal? _____ How many people were scratched by this animal? _____	
	8. How many people received rabies vaccine? _____	
	9. What other animals were bitten by this animal? How many? <input type="checkbox"/> Dog _____ <input type="checkbox"/> Livestock _____ <input type="checkbox"/> Wildlife _____ <input type="checkbox"/> Other _____	
	10 a. Was the animal located? <input type="checkbox"/> YES, see 10 b. <input type="checkbox"/> NO, see 10 c.	
	10 b. YES: <input type="checkbox"/> Alive <input type="checkbox"/> Escaped <input type="checkbox"/> Killed by owner <input type="checkbox"/> Killed by public <input type="checkbox"/> Hit by car <input type="checkbox"/> Died naturally <input type="checkbox"/> Died unknown	
	10 c. NO: <input type="checkbox"/> Killed by owner <input type="checkbox"/> Killed by public <input type="checkbox"/> Hit by car <input type="checkbox"/> Died naturally <input type="checkbox"/> Died unknown <input type="checkbox"/> Not found	
	11. Where was animal located? Department _____ Commune _____ Street _____	
Assessment	12. What is the animal's age? <input type="checkbox"/> Puppy <input type="checkbox"/> Junior <input type="checkbox"/> Adult <input type="checkbox"/> Senior <input type="checkbox"/> Unknown	
	13. What is the animal's sex? <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Unknown	
	14. Has the animal been vaccinated for rabies? <input type="checkbox"/> Yes, year: _____ <input type="checkbox"/> Not vaccinated <input type="checkbox"/> Unknown	
	NOTES:	
	15. Signs of Disease: <input type="checkbox"/> Aggression <input type="checkbox"/> Biting <input type="checkbox"/> Hypersalivation <input type="checkbox"/> Paralyzed <input type="checkbox"/> Lethargy <input type="checkbox"/> Unknown <input type="checkbox"/> Other (specify) _____	
	16. Rabies Assessment: <input type="checkbox"/> Healthy <input type="checkbox"/> Sick, signs of rabies <input type="checkbox"/> Sick, not rabies <input type="checkbox"/> Dead <input type="checkbox"/> Other (specify) _____	
Lab	17. Assessment Decision: <input type="checkbox"/> Quarantine, see 17 b. <input type="checkbox"/> Euthanize <input type="checkbox"/> Dead <input type="checkbox"/> Other _____	
	17 b. Quarantine results: <input type="checkbox"/> Healthy after 10 days <input type="checkbox"/> Died, date __/__/____, see 17 c.	
	17 c. Died: <input type="checkbox"/> Euthanize <input type="checkbox"/> Killed by owner <input type="checkbox"/> Natural causes <input type="checkbox"/> Other _____	
	18 a. Was the animal submitted for testing? <input type="checkbox"/> YES, date: __/__/____ <input type="checkbox"/> NO, see 18 b.	
	18 b. NO: <input type="checkbox"/> Animal not found <input type="checkbox"/> Body discarded <input type="checkbox"/> Decomposed/Burned <input type="checkbox"/> Other _____	
NOTES:		
19. Date specimen received at lab: _____ 20. Lab ID Number: _____ 21. Date tested: __/__/____		
22. Test Results: <input type="checkbox"/> Positive <input type="checkbox"/> Negative <input type="checkbox"/> Inconclusive		
<input type="checkbox"/> Hospital notified, date __/__/____ <input type="checkbox"/> Health department notified, date __/__/____		



Complete Case Management

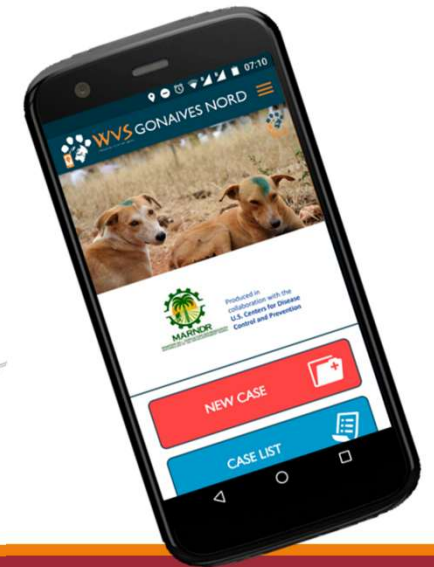
- **Built-in structure is based on IBCM protocols**
- **Provides all-in-one system for management of rabies case investigations**
- **Guides surveillance officers through each stage of investigation**
- **Provides reminders of actions needed to be completed**
- **Enables offline entry of investigation data**



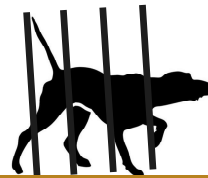
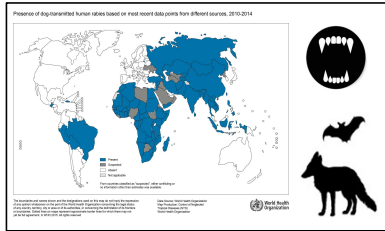
REACT App



>100,000 logged investigations globally



Overview



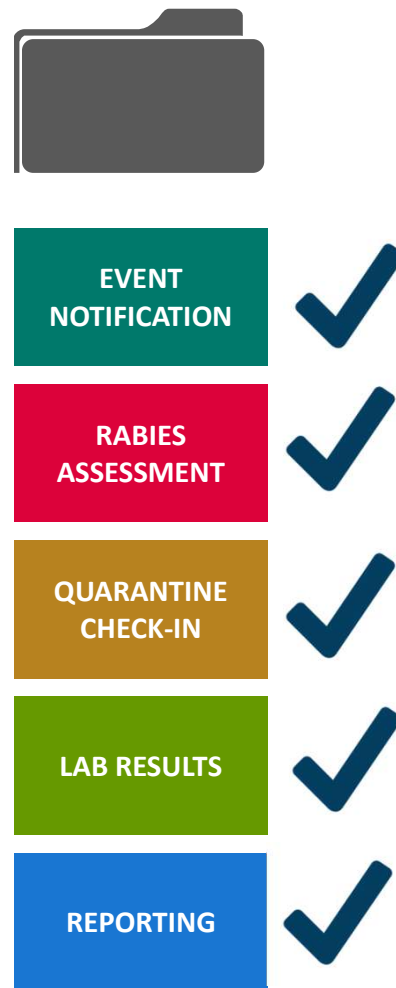
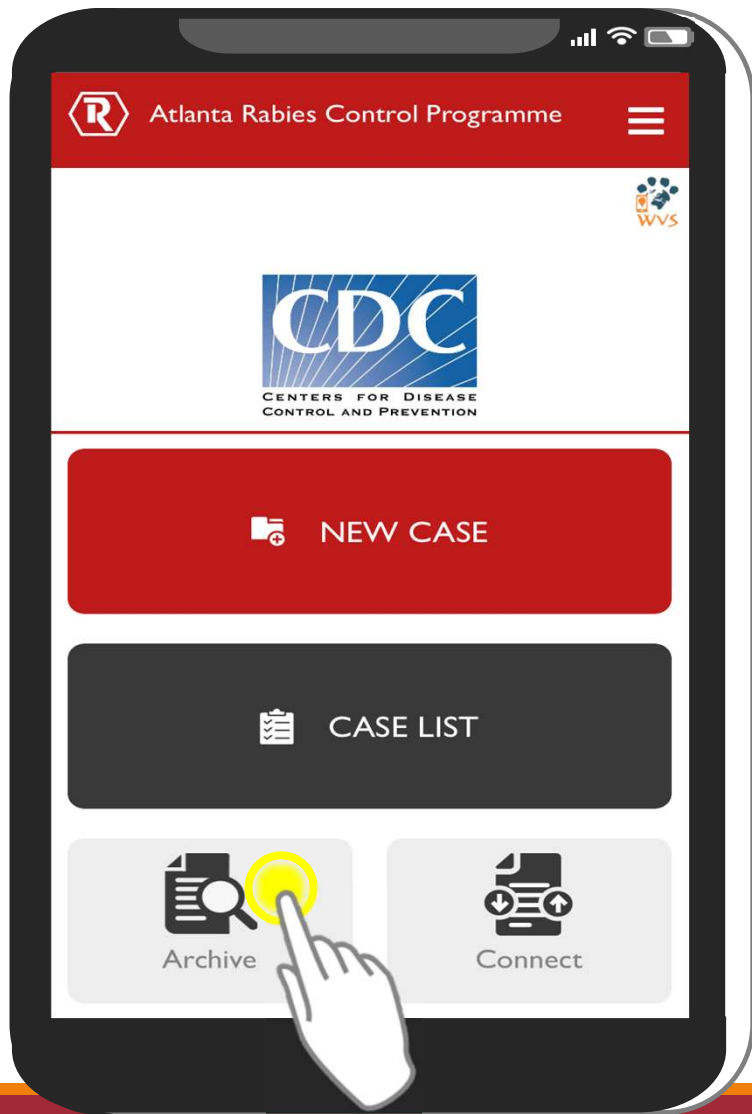
NOTIFICATION

INVESTIGATION

QUARANTAINE

LABORATORY

REPORT



EVENT
NOTIFICATION

RABIES
ASSESSMENT

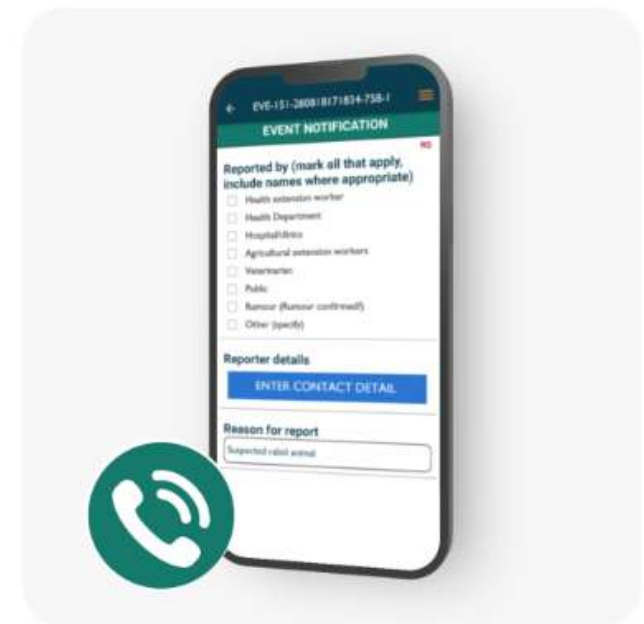
QUARANTINE
CHECK-IN

LAB RESULTS

REPORTING

Event Notification

- Rabies Officer is notified of a possible rabid animal
- This can be the report of someone bitten by a dog or an animal exhibiting signs of rabies
- Short form is completed
 - details of the case
 - location and condition of the animal
 - Other exposures
- A preliminary risk screening helps determine next steps in the investigation
 - Does the case need further investigation?
 - Is verbal quarantine an available option?



Rabies Assessment

EVENT
NOTIFICATION

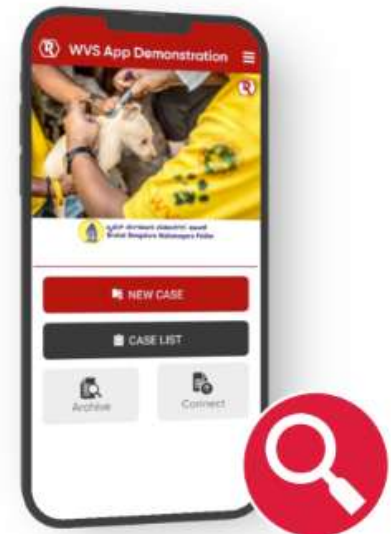
**RABIES
ASSESSMENT**

QUARANTINE
CHECK-IN

LAB RESULTS

REPORTING

- **A more detailed assessment of the case that typically takes place in the field**
- **Rabies Officer interviews the bite victim and physically assesses the suspect animal if available**
- **Develop a more complete picture of the situation, including the risk of rabies in the animal and identification of all people and animals that have been bitten**
- **Bite victims of animals posing a high rabies risk can be counselled to ensure post-exposure treatment**
- **Found dead animals and those that are euthanized should have samples sent to the laboratory for testing**
- **If the animal appears healthy, then quarantine is an option**



Quarantine

EVENT
NOTIFICATION

RABIES
ASSESSMENT

QUARANTINE
CHECK-IN

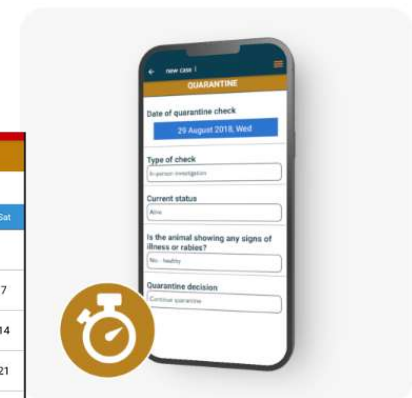
LAB RESULTS

REPORTING

- The animal can be safely monitored in Quarantine
- REACT allows you to schedule quarantine check-ups to check the status of the animal during quarantine
- Notifications are sent to your phone to remind you of cases that need follow-up
- At each quarantine check you are asked about the health status of the animal:
 - Healthy/sick
 - Lost to follow-up
 - Died – obtain a sample for laboratory testing

QUARANTINE						
Click on a date to see options						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
Jan 2023						
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				
Feb 2023						
			1	2	3	4
5	6	7	8	9	10	11

ADD CHECK-IN



Laboratory Testing and Results

EVENT
NOTIFICATION

RABIES
ASSESSMENT

QUARANTINE
CHECK-IN

LAB RESULTS

REPORTING

- **Record and communicate laboratory test results**
- **Obtain samples for laboratory testing from dogs that have died or been euthanized**
- **After you receive rabies test results from the lab, update them in the app case record in the Lab Results section**



Final Report

EVENT
NOTIFICATION

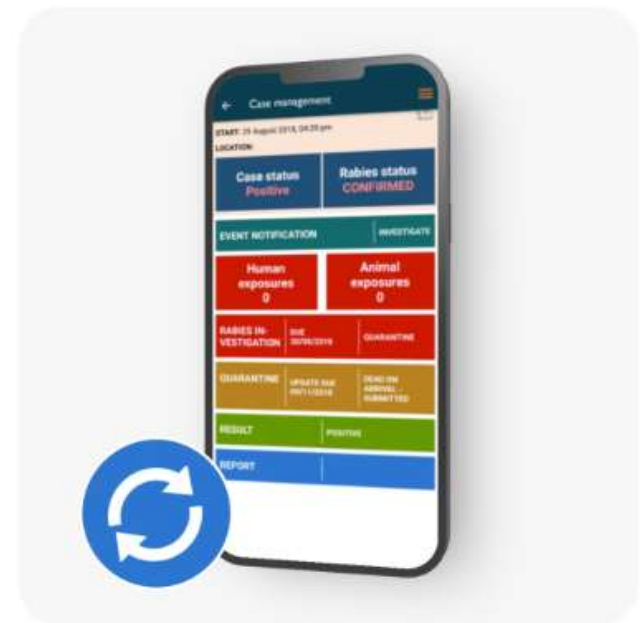
RABIES
ASSESSMENT

QUARANTINE
CHECK-IN

LAB RESULTS

REPORTING

- **All relevant parties are notified of the outcome of your investigation**
 - Owner of the animal
 - Bite victims – animal and human
 - Animal and human health officials
- **Confirm and document everyone has been notified before you are able to close the case in the app**
- **All information collected during the investigation is uploaded to a central rabies database accessible by the program coordinator**
- **Near real-time surveillance of rabies in the area**



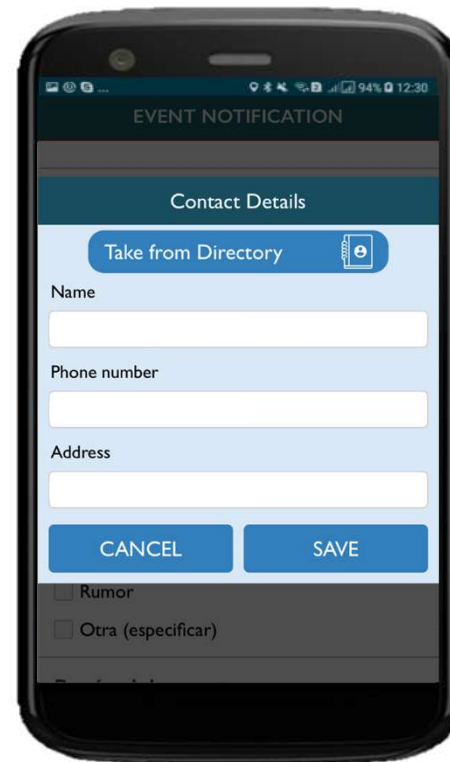
Directory Feature

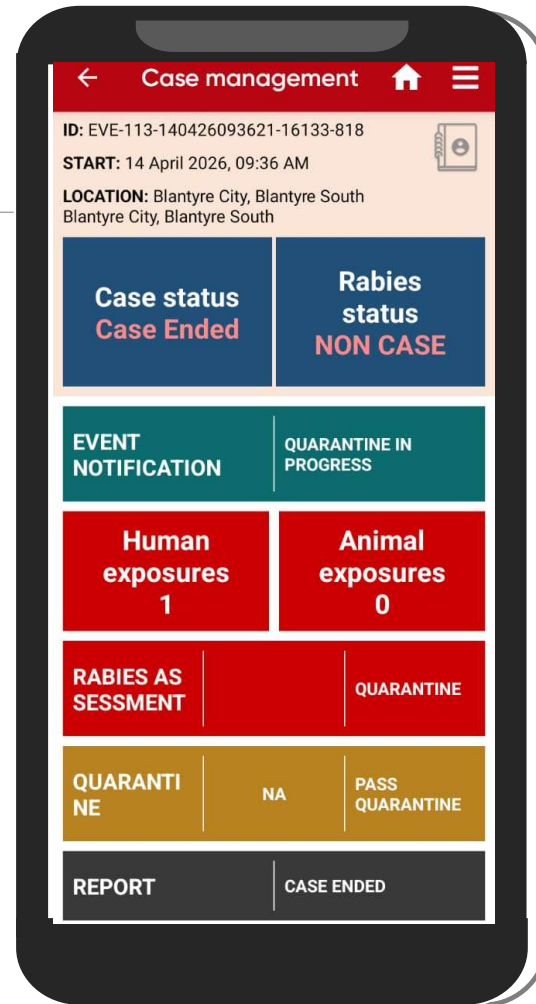
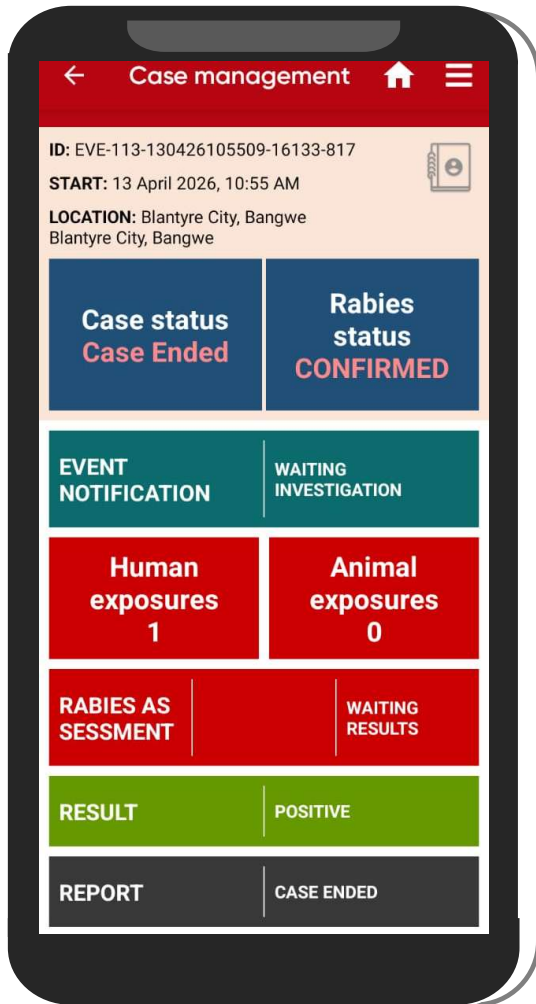
DIRECTORY

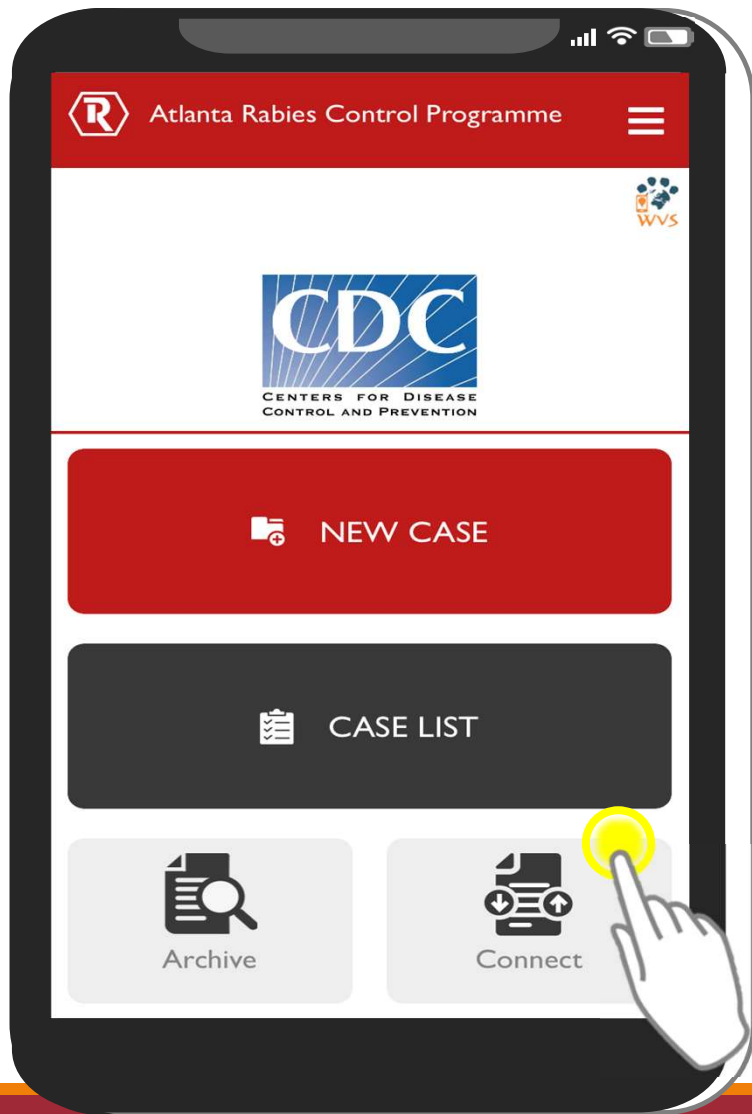
- Find all contacts that have been entered on a case

EXAMPLE USE

- Bite victim is the dog owner – only enter contact details once







EVENT
NOTIFICATION

RABIES
ASSESSMENT

QUARANTINE
CHECK-IN

LAB RESULTS

REPORTING

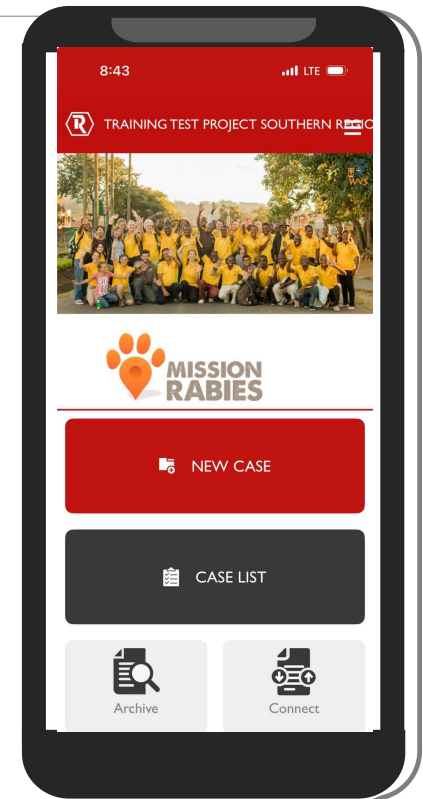
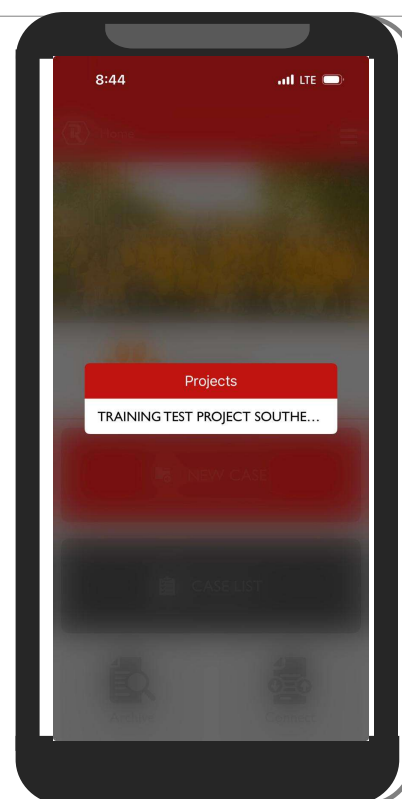
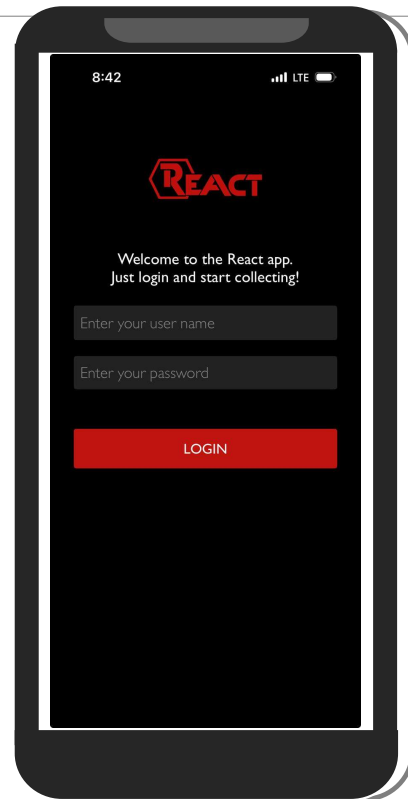


SYNC

Logins for activity

Login: WOAH

Password: 1234





Thank you
