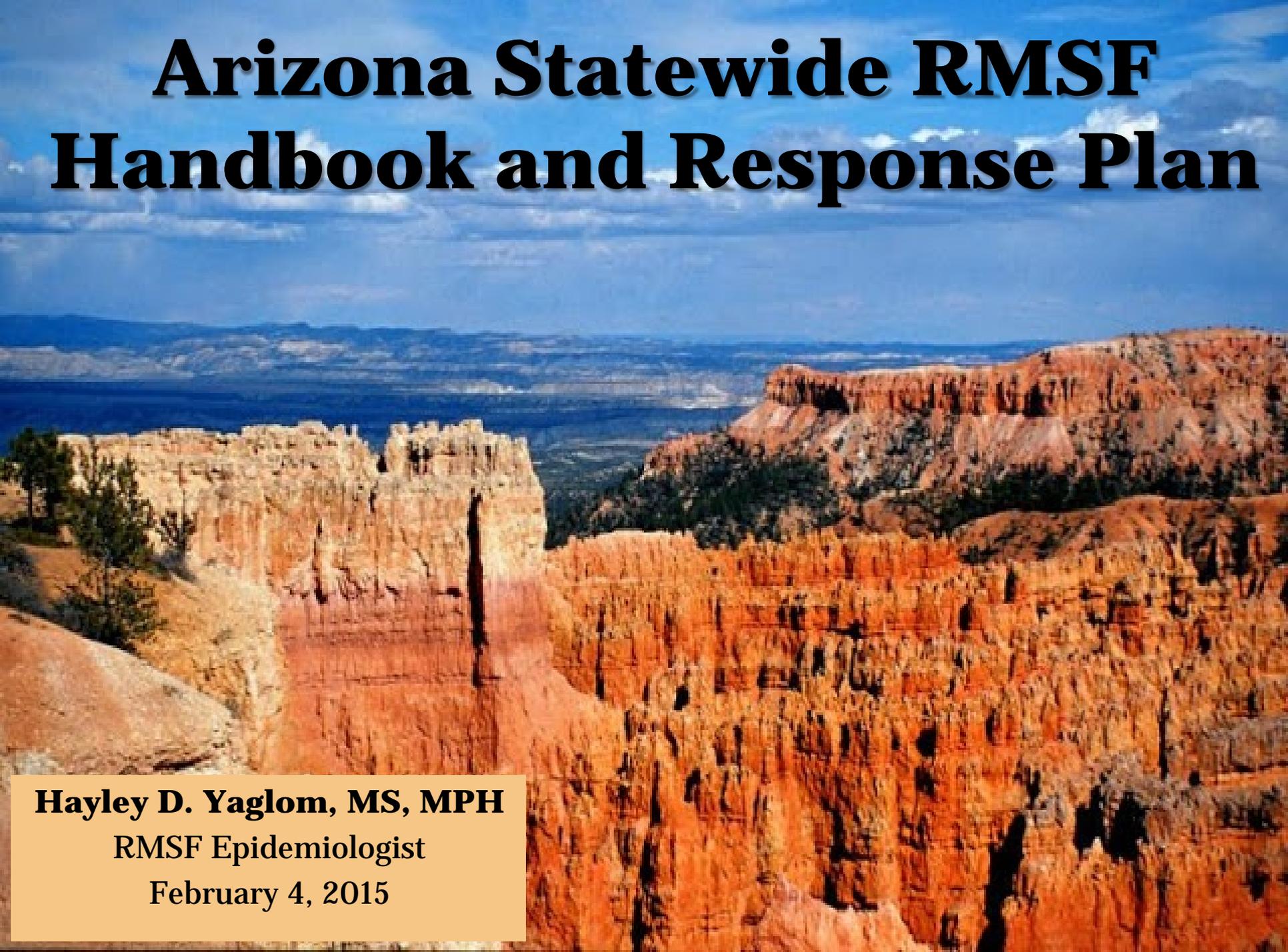


Arizona Statewide RMSF Handbook and Response Plan



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RMSF Epidemiologist

February 4, 2015

Objectives

- Provide epidemiological and historical background of RMSF
- Present a **sustainable framework** for human case surveillance
- Outline **response strategies** to protect tribal lands and work to eradicate RMSF
- Achieve **enhanced communication and collaboration** between partners and stakeholders
- Provide an **understanding of past and present burden of RMSF** and mechanisms to reduce burden

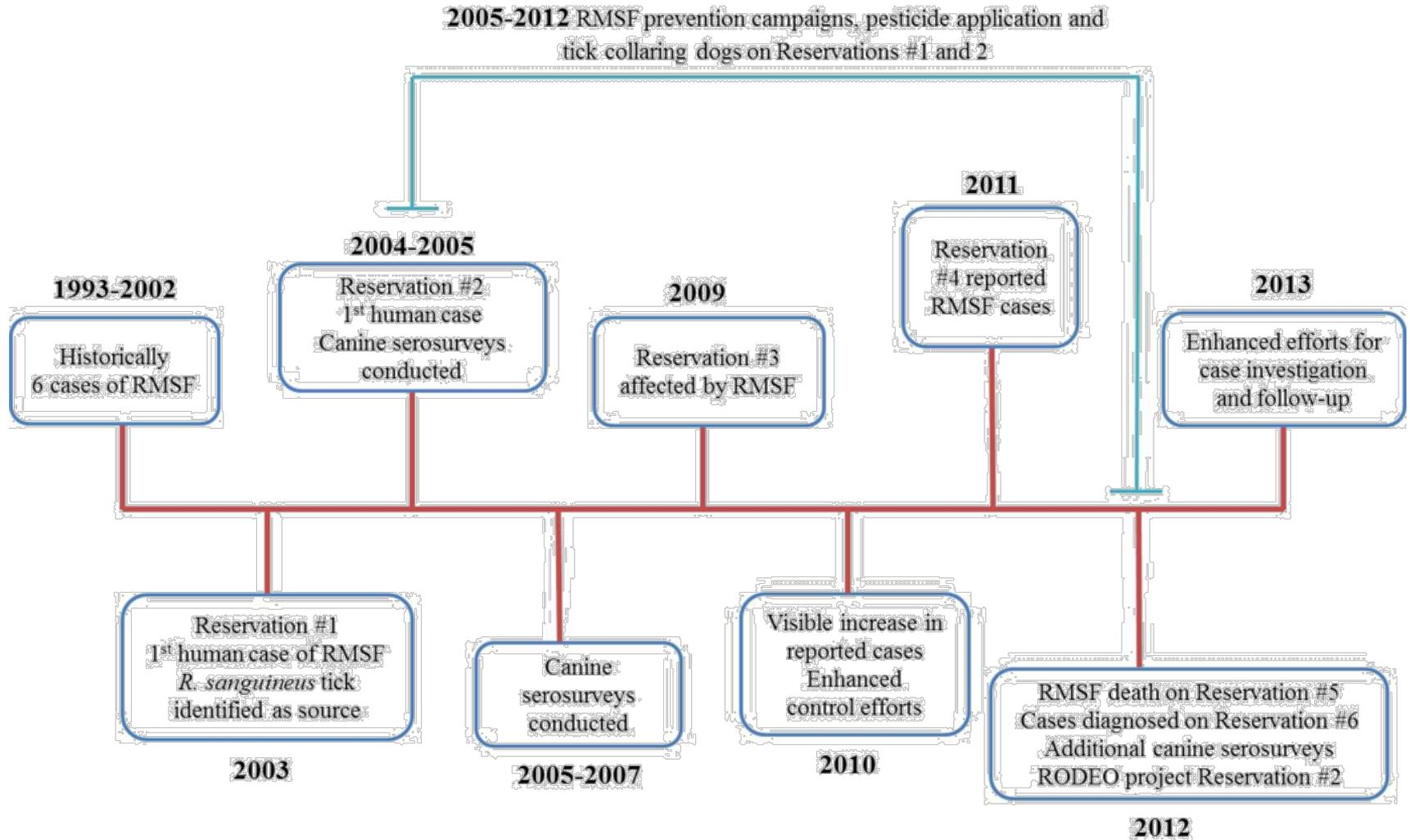


Contents

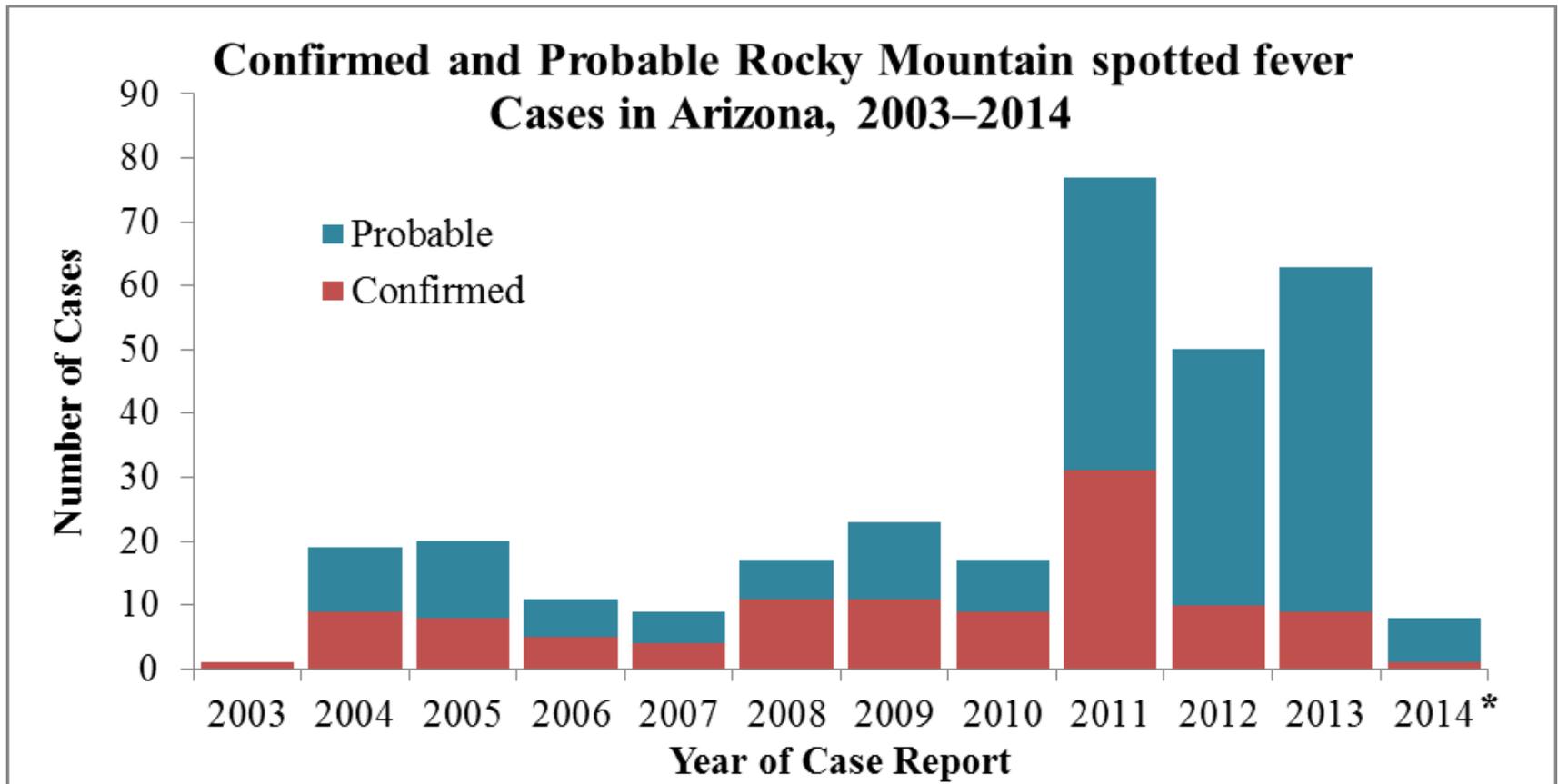
- Epidemiology (background, vector, role of dogs)
- History of RMSF in Arizona
- Clinical Diagnosis & Treatment
- RMSF Investigations
- RMSF Response Strategies
 - Environmental
 - Animal control
 - Health care
 - Community education and outreach



History of RMSF-Timeline

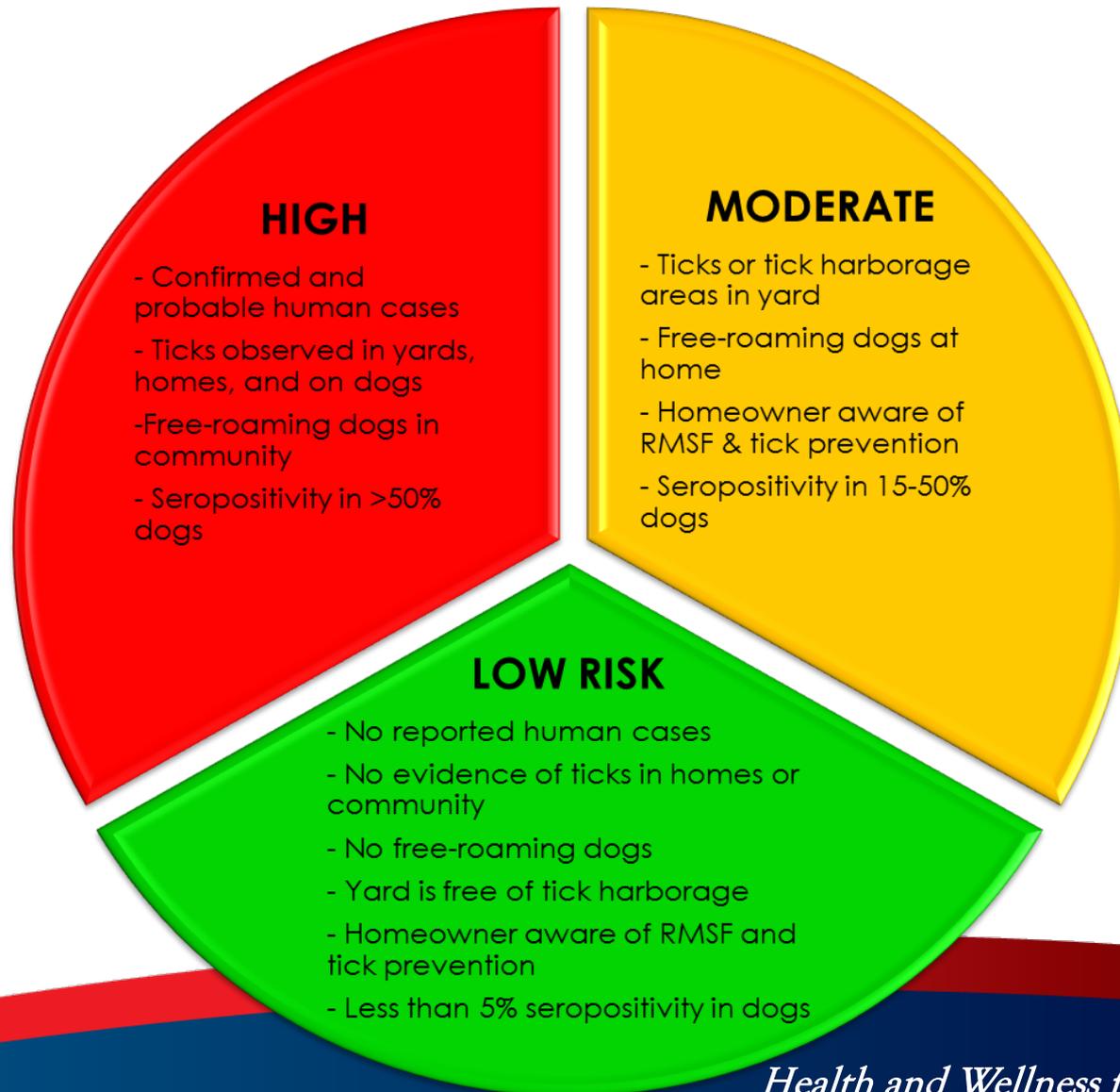


RMSF in the Past

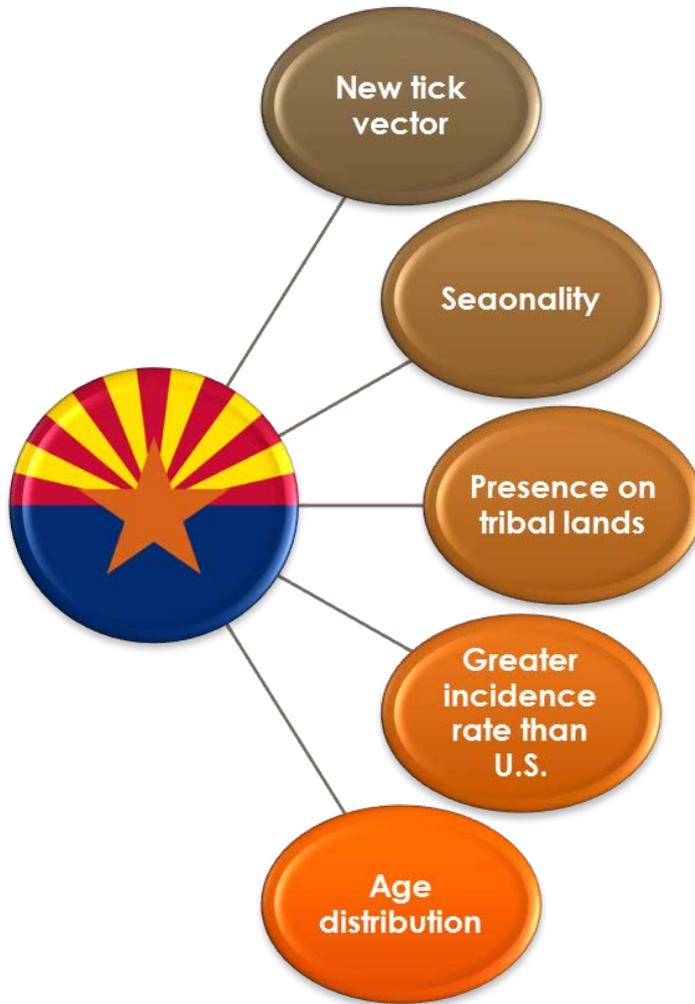


***2014 case count not finalized**

RMSF Risk Categories



RMSF & Arizona



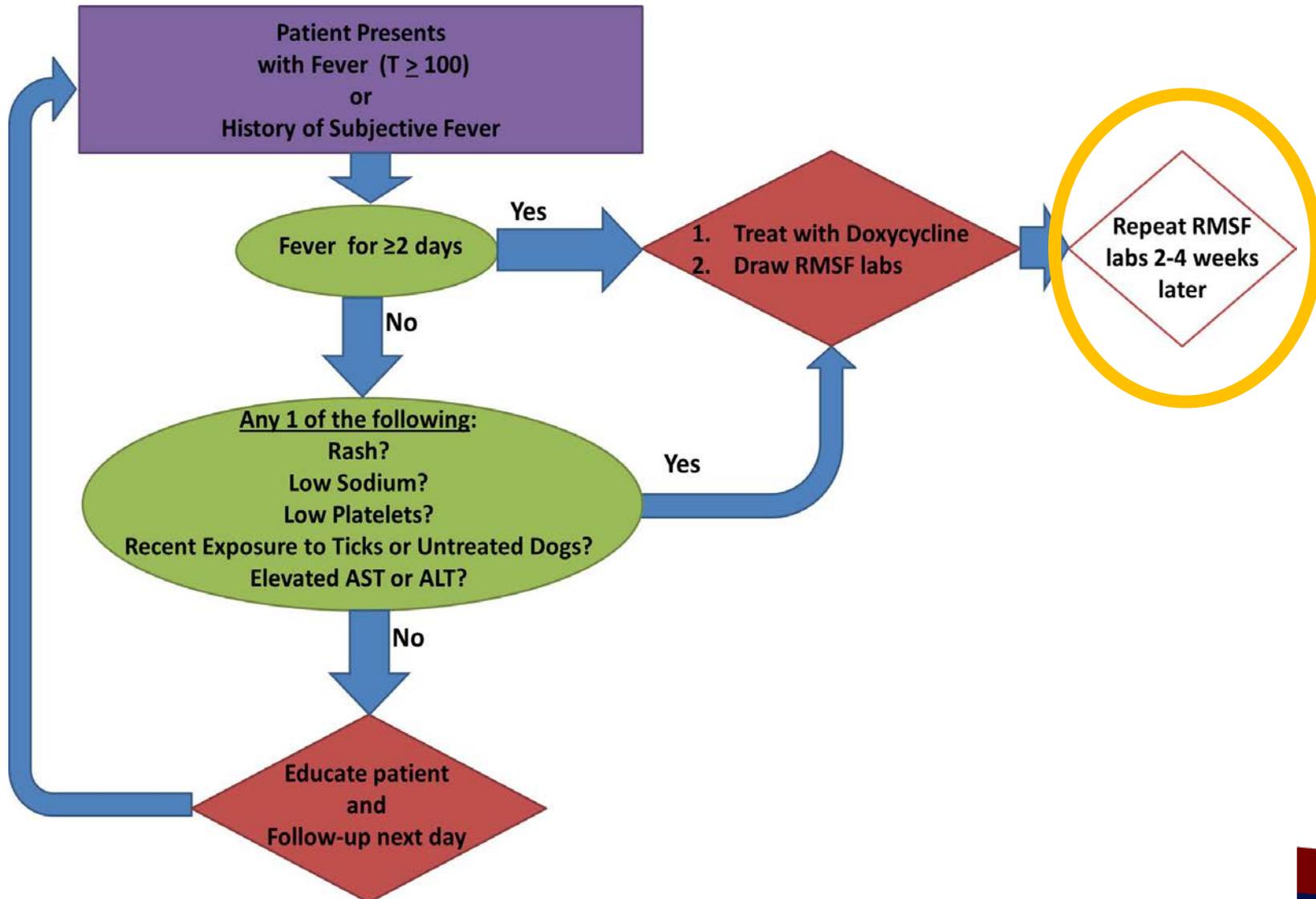
- These 5 characteristics make RMSF in Arizona very unique.
- *R. Sanguineus* (brown dog tick) as vector
- Two peaks of tick/RMSF activity
- Cases exclusively on tribal lands
- Rate is >200 times national rate
- ~45% cases in AZ in younger populations

RMSF Surveillance

- **Surveillance** allows us to understand burden of diseases in specific areas and populations
- Vital for RMSF
 - Understand true burden in Arizona tribal lands
 - Implement control and prevention activities
 - **Allocate resources appropriately**



Clinical Algorithm



Convalescent Specimen Reminder

My doctor says I may have RMSF

I need to come back to
the doctor's office on

for my next blood test.

For any questions, contact:

RMSF is
Rocky Mountain Spotted Fever



Place
tribal
seal

RMSF Investigations

- RMSF is a nationally notifiable disease
- Tribal or local public health is responsible for conducting investigation of suspected cases
- Utilize MEDSIS (Medical Electronic Disease Surveillance Intelligence System) for case management
- Follow RMSF investigation steps

Tips for RMSF Case Investigation

Bureau of Epidemiology and Disease Control
Office of Infectious Disease Services

Do you have a
suspect RMSF case?

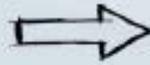


STEP 1

Review RMSF algorithm

STEP 2

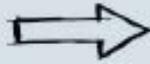
Draw acute RMSF specimen
Give Doxycycline!



Schedule follow-up for patient for
convalescent RMSF specimen in 2-4 weeks

STEP 3

Enter case into MEDSIS



Complete mandatory fields
(e.g. demographics, onset date, lab results)



STEP 4

Complete DSO

Add a note

Attach a document

Clinically
compatible illness
(YES/NO)

Symptom onset date

Hospitalized
(YES/NO)

Symptoms
(rash, headache, joint
or muscle pain,
abnormal labs)

Recent tick exposure
or risk of exposure?

Transfer case?
Hospital name

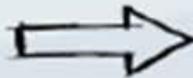
Medical records

Laboratory results
(e.g. RMSF,
CBC/CHEMISTRY,
other diagnostics)



STEP 5

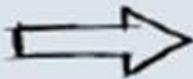
Follow-up with patient
Collect convalescent



Enter convalescent lab result
into MEDSIS case

STEP 6

Update status in
case management section
(If convalescent cannot be
obtained after 60 days,
mark case as lost to follow-up)



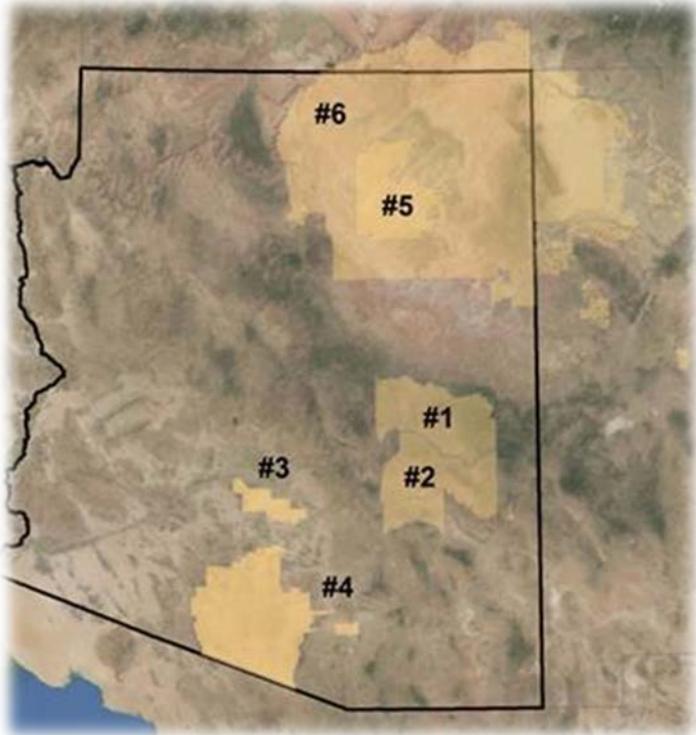
Classify MEDSIS case
Close and submit to ADHS



January 2015



Stopping the Chain of RMSF



Detection



Reservoir



Prevention



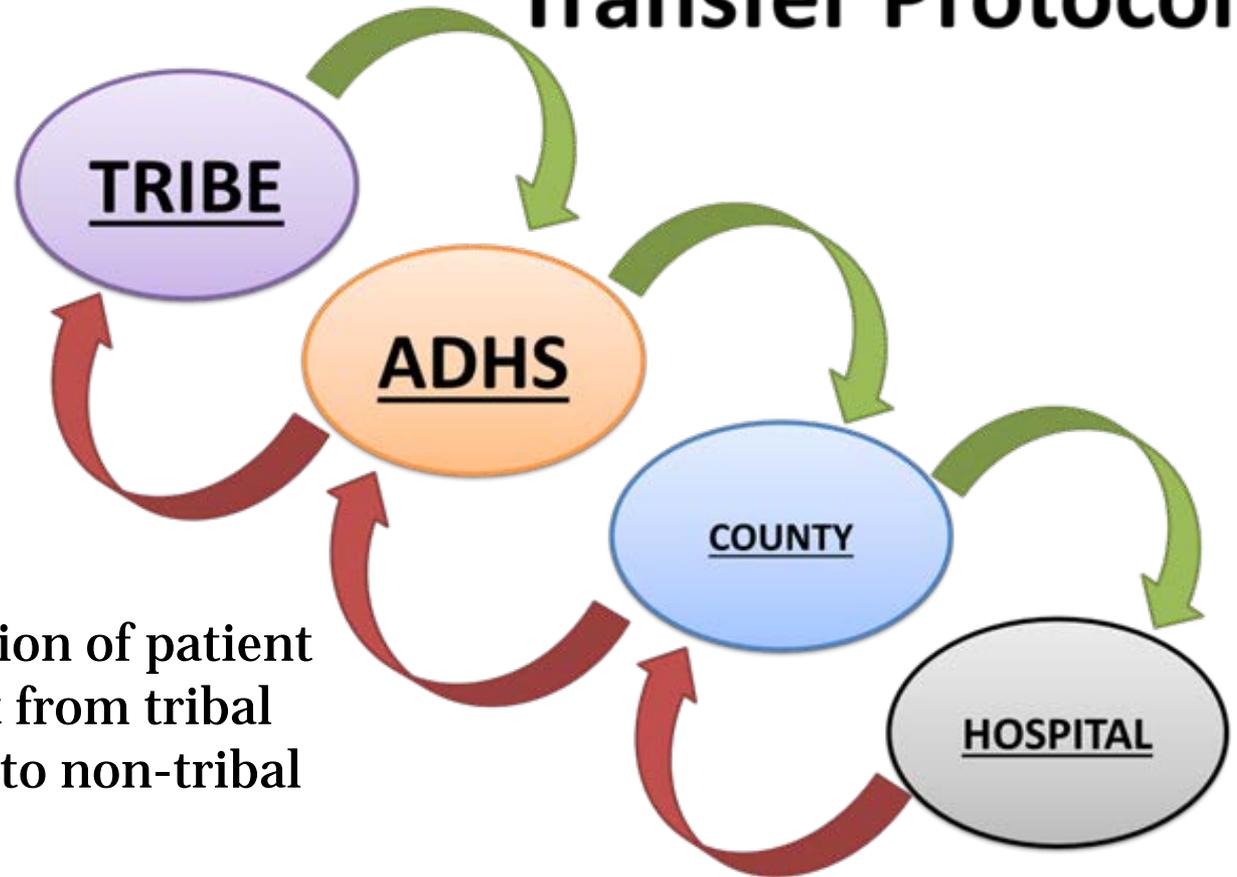
Environment

RMSF Response

- Environmental Control & Surveillance
 - Assessing risk & tick load
 - Strategies
- Animal Control & Veterinary Programs
- Health Care
- Community Outreach and Education

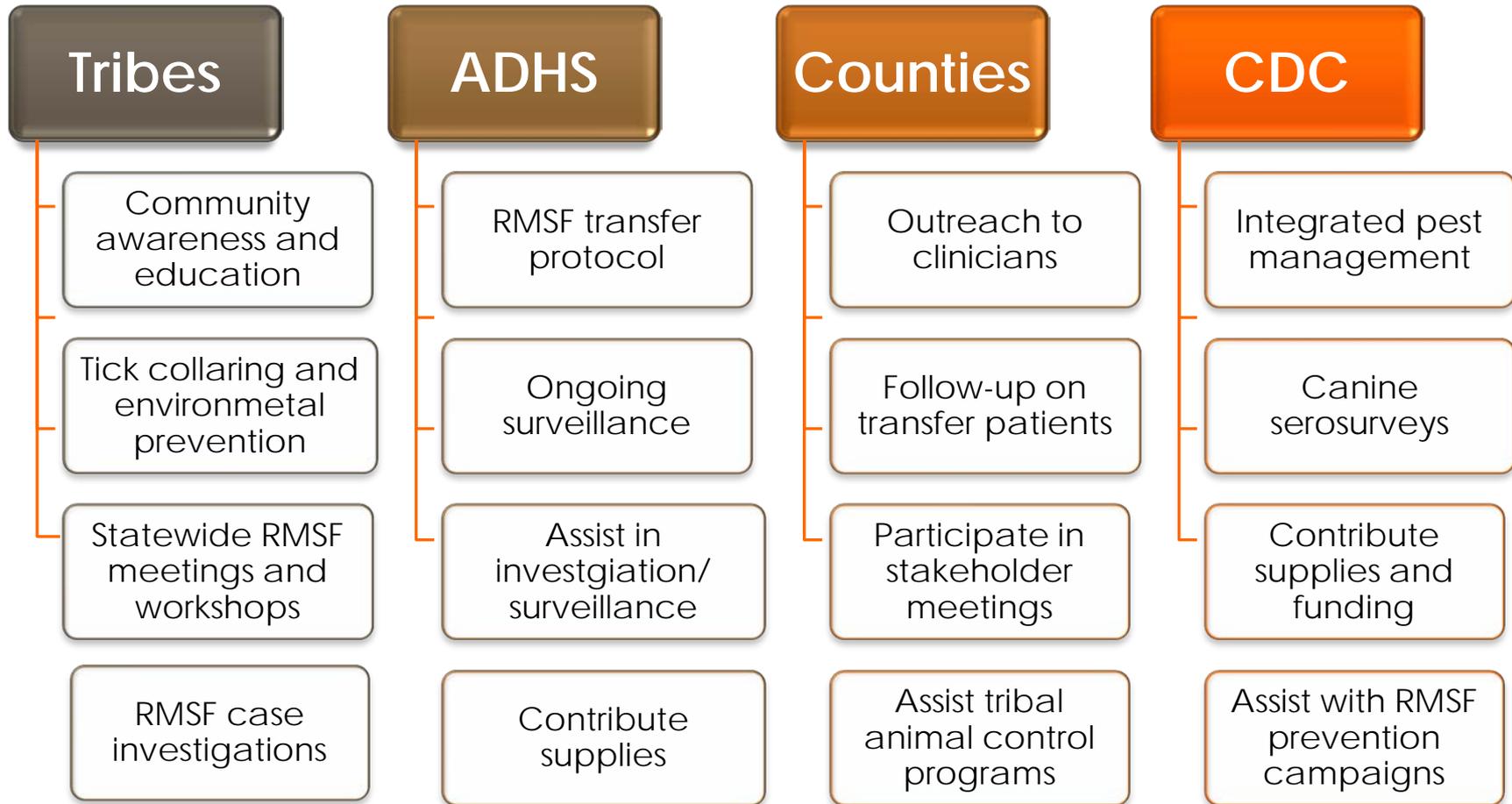


Transfer Protocol



- Promote continuation of patient care and treatment from tribal health care facility to non-tribal health care facility
- Prevent case information gaps
Facilitate communication and collaboration between jurisdictions

Collaborative Partnerships



- Continue **coalition and response efforts** on affected tribal lands
- Maintain stronger **surveillance** methods and case investigations on tribal lands
- **Annual statewide meeting** to bring all partners together
- Biannual calls at the beginning and end of tick season with all partners
- Strengthen animal control and environmental control programs
- Expand educational opportunities for the community on RMSF and dog health
- Expand transfer protocol to other IHS and tribal facilities
- Conduct canine serosurveys on affected tribal lands to assess current risk



Feedback & Suggestions

- I want your feedback!
- What's your role?
 - General review
 - Edit content
 - Add sections



- FINAL STEPS
 - Complete and print the handbook
 - Disseminate to all partners and stakeholders

Questions?

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RMSF Epidemiologist

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Office #: 602-542-2521



Health and Wellness for all Arizonans

RMSF Case Scenarios to Understand Importance of Investigations

Setting the Scene

A 5-year old child comes into a healthcare facility with high fever. The child has been sick for about 2 days. There does not seem to be a rash present or any severe body or muscle pain. The child sometimes plays outside with dogs, but the family cannot recall a tick bite. The child lives on tribal lands where Rocky Mountain spotted fever has been a continual concern.

Due to fever and potential tick exposure, a blood specimen is drawn to test for acute titers to RMSF. Doxycycline is prescribed. Other labs (blood cell count and chemistry panel) are drawn as well. Other symptoms that may have developed and general lab results come back to the healthcare facility and are entered into the patient's medical record.

The child is sent home with doxycycline and soon feels better. When the test results come back from the first test, the result is negative (written as “not detected”).

Scenario 1

- Public health nursing is unable to set up an appointment in 2-4 weeks for the child to come back for a convalescent blood draw to check RMSF titers.
 - No case investigation is performed.
 - No convalescent specimen is collected.
- The laboratory reports the first test result to ADHS.
- Because there is no symptom information or convalescent specimen, the ADHS RMSF Epidemiologist classifies it as “not a case”.

Scenario 2

- Public health nursing sets up an appointment 2-4 weeks following symptoms onset and acute titer for the child to come back for a convalescent blood draw to check RMSF titers.
- Case investigation is conducted
 - Symptoms, potential exposures, general laboratory results, and differentials
 - Case opened and managed in MEDSIS
- Convalescent specimen is obtained and tested
- Case is classified (based on clinical and laboratory information)

Discussion

- Scenario 1 is not correct, but it is how the majority of RMSF cases in Arizona are currently reported. Follow-up for RMSF cases takes time and persistence. However, resources for case investigations are often limited, and it can be challenging to convince patients to return to the healthcare facility for a convalescent blood draw. In the short-term, this may seem like pressure is being placed on public health nursing resources. However, in the long-term, thorough case management and investigation is much more sustainable. It also results in a more complete picture of RMSF in Arizona.
- For assistance in case investigation, contact Hayley Yaglom at Hayley.Yaglom@azdhs.gov or 602-542-2521.
- For assistance with MEDSIS training, please contact the MEDSIS helpdesk at medsishelpdesk@siren.az.gov.