

You say Haboob  
I say Dust Storm:  
Cocci Blowing in the Wind

John N Galgiani MD

Valley Fever Awareness Week

BIO5 Institute

November 6, 2011



Janice K. Brewer  
Governor

# Office of the Governor

**\* ARIZONA VALLEY FEVER WEEK \***

**WHEREAS**, Valley Fever infections have increased significantly in Arizona over the last decade, with 60% of all reported cases of Valley Fever in the U.S. occurring in Arizona; and

**WHEREAS**, Valley Fever is the second most commonly reported infectious disease in Arizona; and

**WHEREAS**, enhanced surveillance of Valley Fever cases demonstrates the serious impact Valley Fever has on the health of our citizens and on Arizona's healthcare system; and

**WHEREAS**, the Arizona Department of Health Services, governmental entities, corporations, and organizations are united to educate the public and healthcare providers about Valley Fever in Arizona; and

**WHEREAS**, through public education and promoting early diagnosis, the number of individuals impacted by Valley Fever may be reduced; and

**WHEREAS**, Arizona is the focal point of quality clinical care and research for Valley Fever.

**NOW, THEREFORE**, I, Janice K. Brewer, Governor of the State of Arizona, do hereby proclaim November 2-10, 2011 as

**\* ARIZONA VALLEY FEVER WEEK \***

in recognition of the outstanding treatment and research conducted by the Valley Fever Center for Excellence at the University of Arizona and of the advances in Valley Fever education and public health by the Arizona Department of Health Services.

**IN WITNESS WHEREOF**, I have hereunto set my hand and caused to be affixed the Great Seal of the State of Arizona



*Janice K. Brewer*  
GOVERNOR

**DONE** at the Capitol in Phoenix on this twelfth day of October in the year Two Thousand and Eleven, and of the Independence of the United States of America the Two Hundred and Thirty-sixth.  
**ATTEST**

*Kim Blumenthal*  
Secretary of State

**9<sup>th</sup> Annual  
Valley Fever  
Awareness  
Week  
October 31<sup>st</sup>  
thru  
November 6<sup>th</sup>  
2011**

# Coccidioidomycosis as Community-Acquired Pneumonia In Southern Arizona A third of all pneumonia is Valley Fever

Tourists to Arizona (or out-of-state students)  
would have the same risk soon after  
returning home

Valdivia et al, Emerg. Inf. Dis, 2006

# Valley Fever in Arizona

Findings from a telephone survey  
10% of reported cases in 2007

## Impact on People

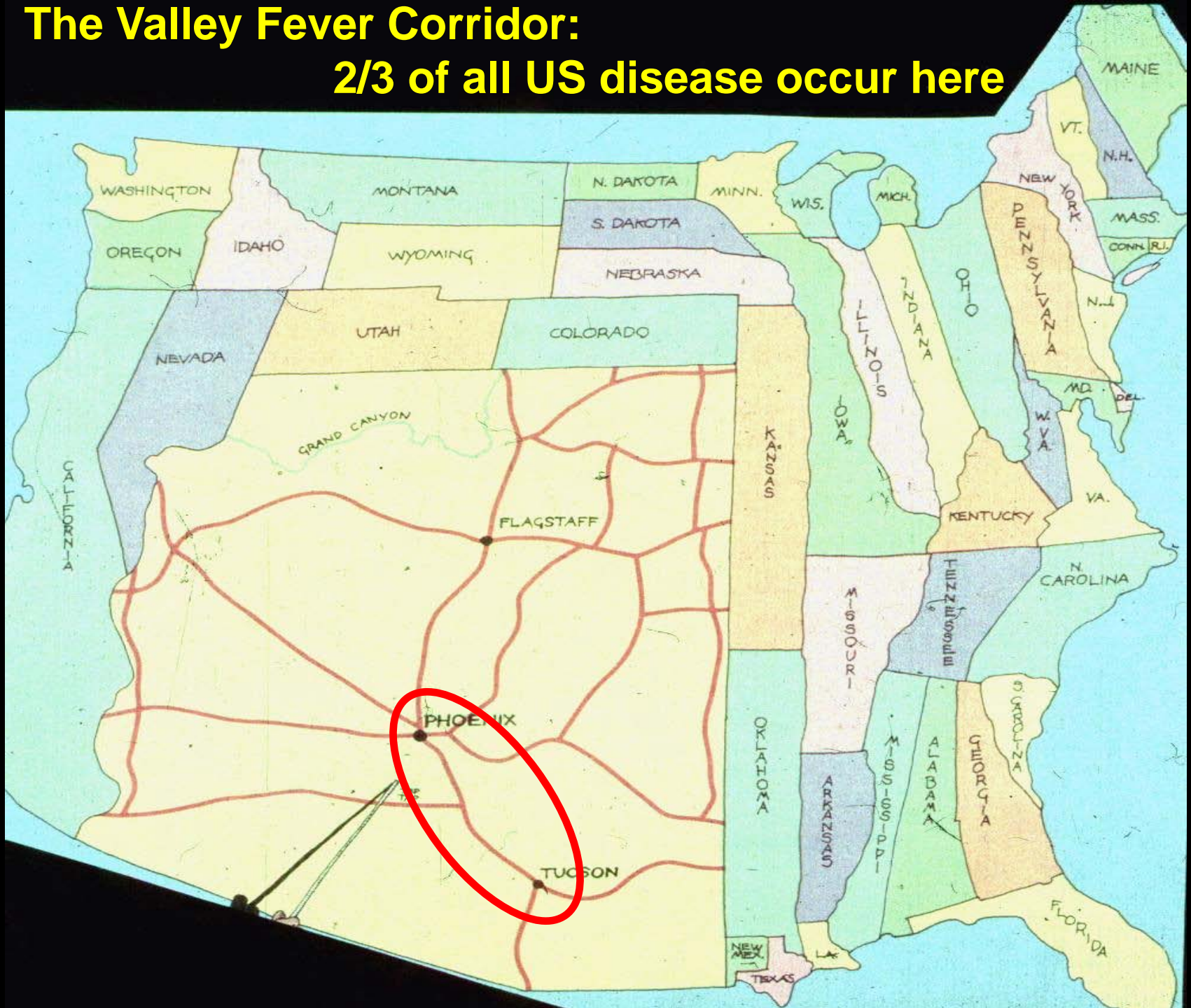
- Illness lasted an average of 6 months
- 75% of workers off for over 1 month

## Impact on Health Care

- 25% needed more than 10 doctor visits
- 40% hospitalized (\$86 million in 2007)



# The Valley Fever Corridor: 2/3 of all US disease occur here



# Valley Fever Corridor Project

- Initiated by the Valley Fever Center in 2008
- Primary goals
  - Increase understanding
  - Improve patient care
  - Assist clinical research

# Medical Education

- Valley Fever CME for Primary Care clinicians
  - Phoenix 2008, 2010
  - Tucson 2009, 2011
  - Alternating each year in the future
- On line CME course: released 2009
- Advanced CME for specialists
  - Scottsdale 2010; Tucson 2011



# Organizations Supporting the Valley Fever Corridor Project

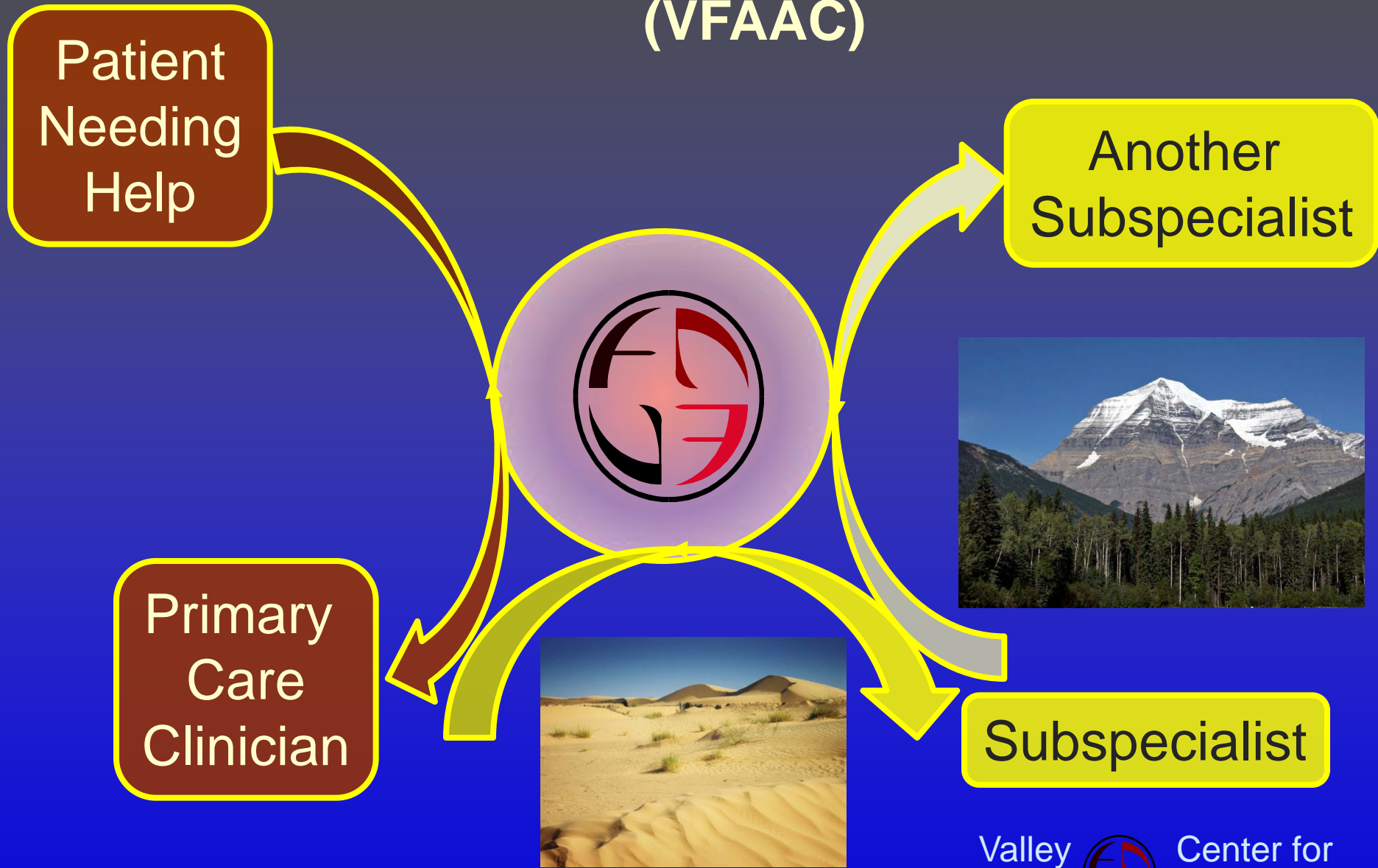
## Medical Groups

Arizona Department of Health Services  
Maricopa County Medical Society  
Pima County Medical Society  
Arizona Infectious Diseases Society

## Non-Medical Groups

Maricopa Association of Governments  
Marana City Council  
Oro Valley City Council  
Tucson City Council

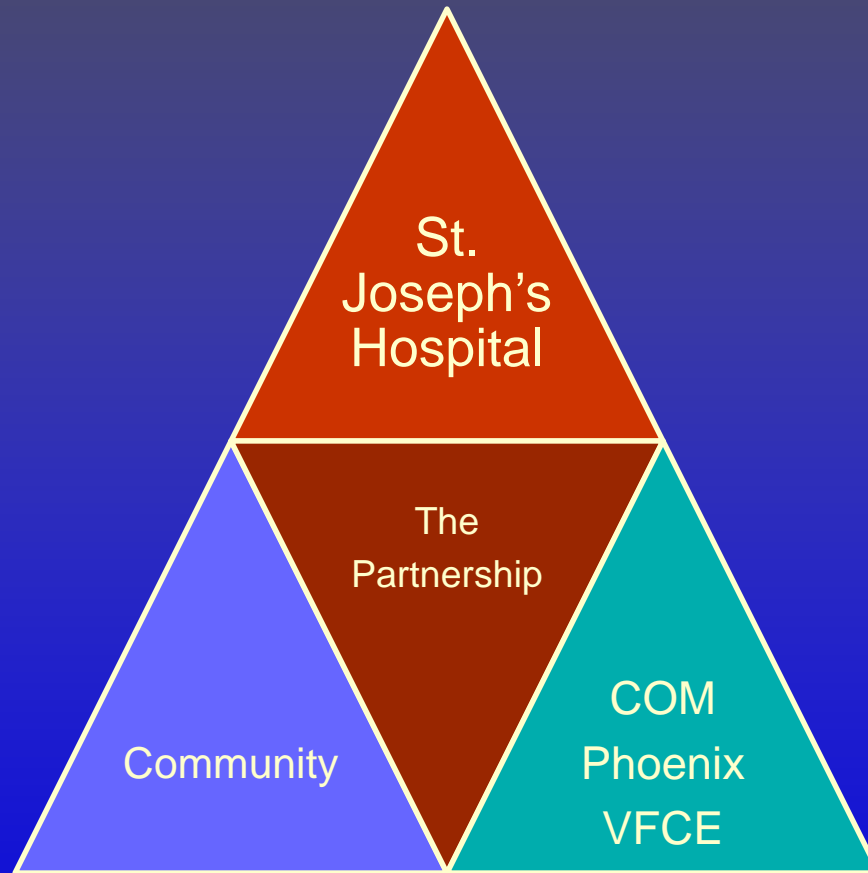
# Valley Fever Alliance of Arizona Clinicians (VFAAC)



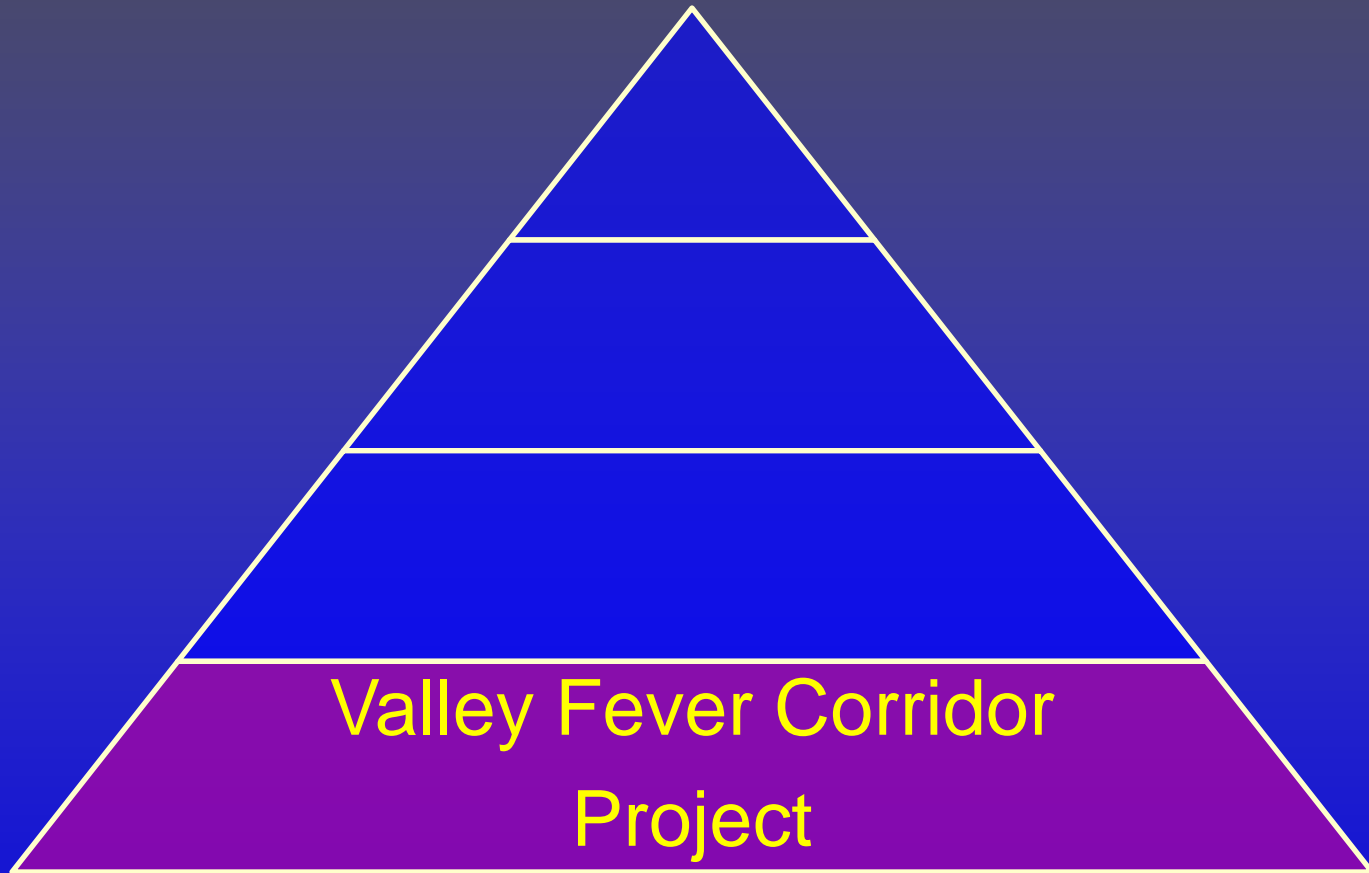
# Maricopa Community

- 61% of Arizona's 2010 census population
- Half of all US Valley Fever infections
- Large retirement community: VF is more severe in older persons.

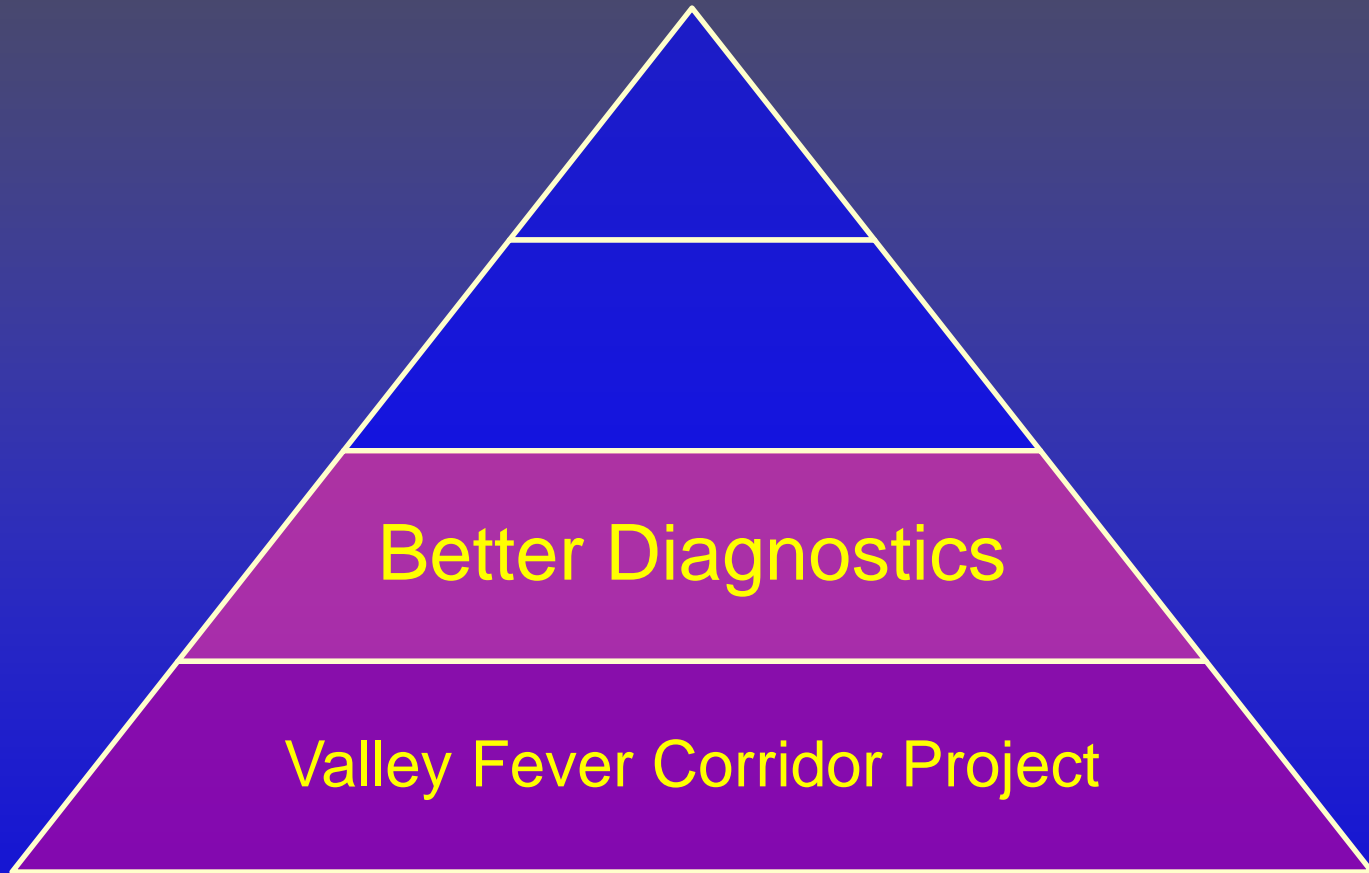
# Valley Fever Center in Phoenix: January 2012



# Clinical Network and Research

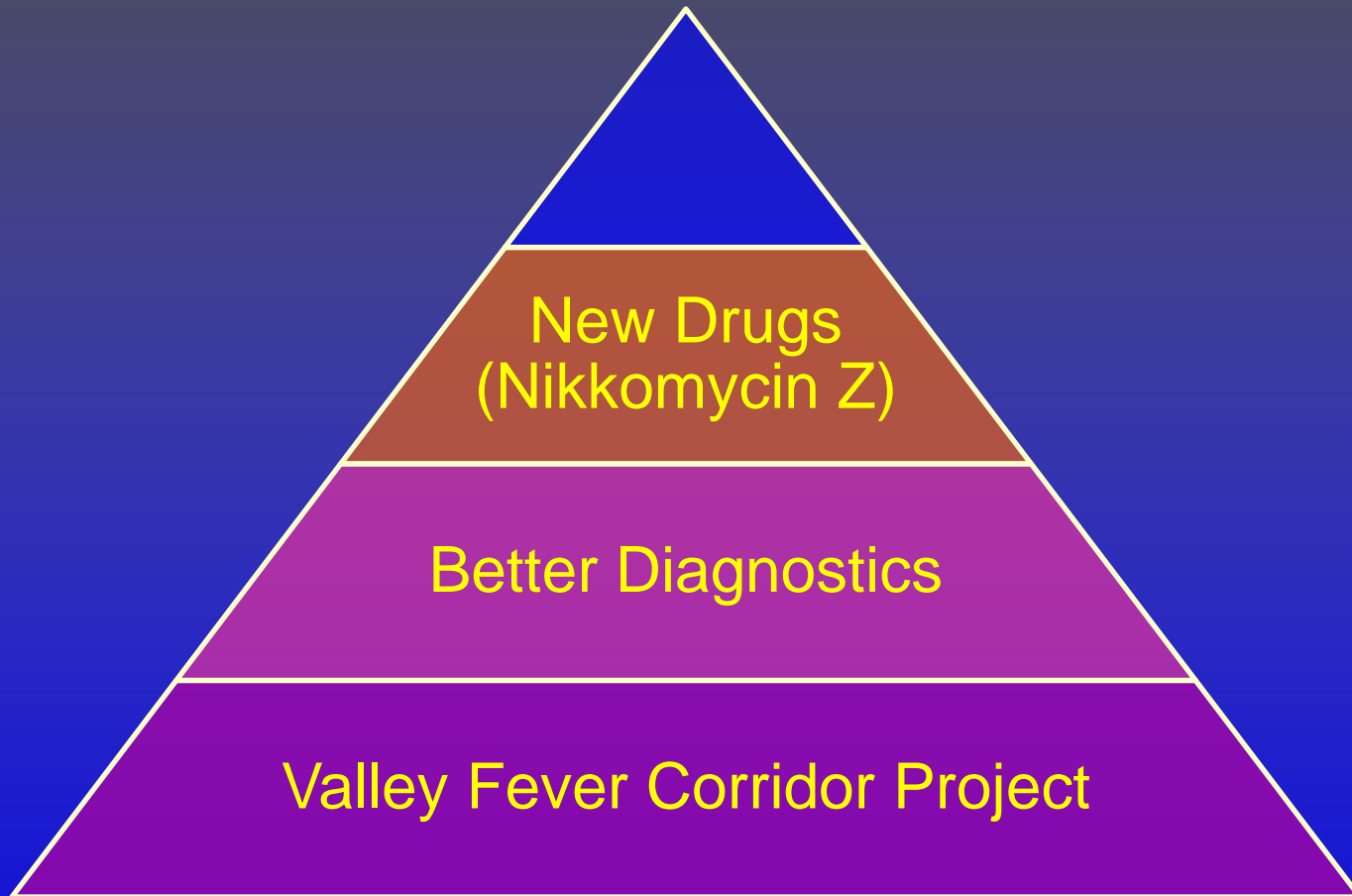


# Clinical Network and Research

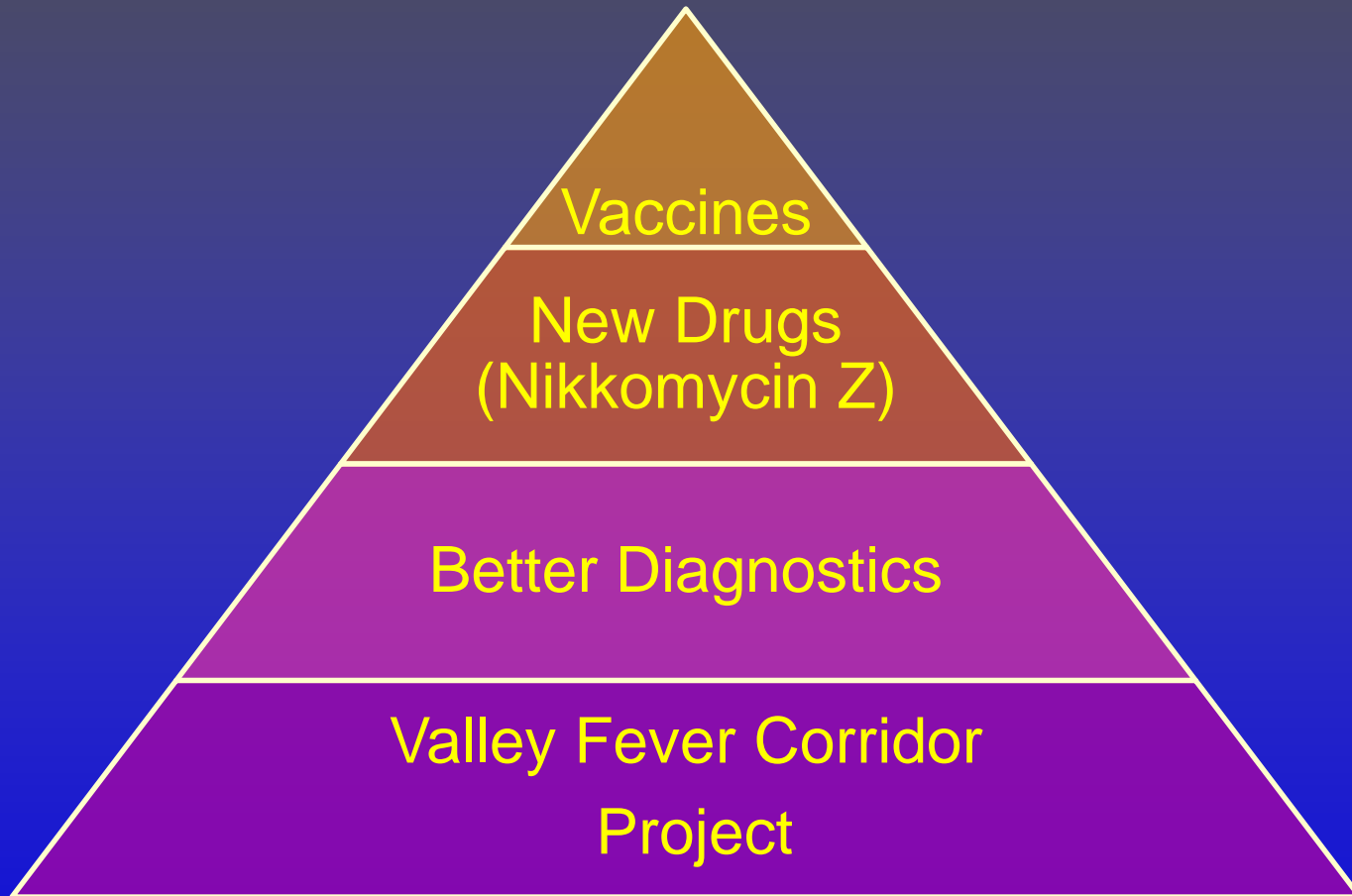




# Clinical Network and Research



# Clinical Network and Research



# Valley Fever Costs to Arizona

Educate Arizona patients  
and doctors

\$100 thousand/year

Referral network and case  
management

\$300 thousand/year

Diagnostic test  
development

\$1.5 million

Nikkomycin Z development

\$40-\$60 million (if things  
go well)

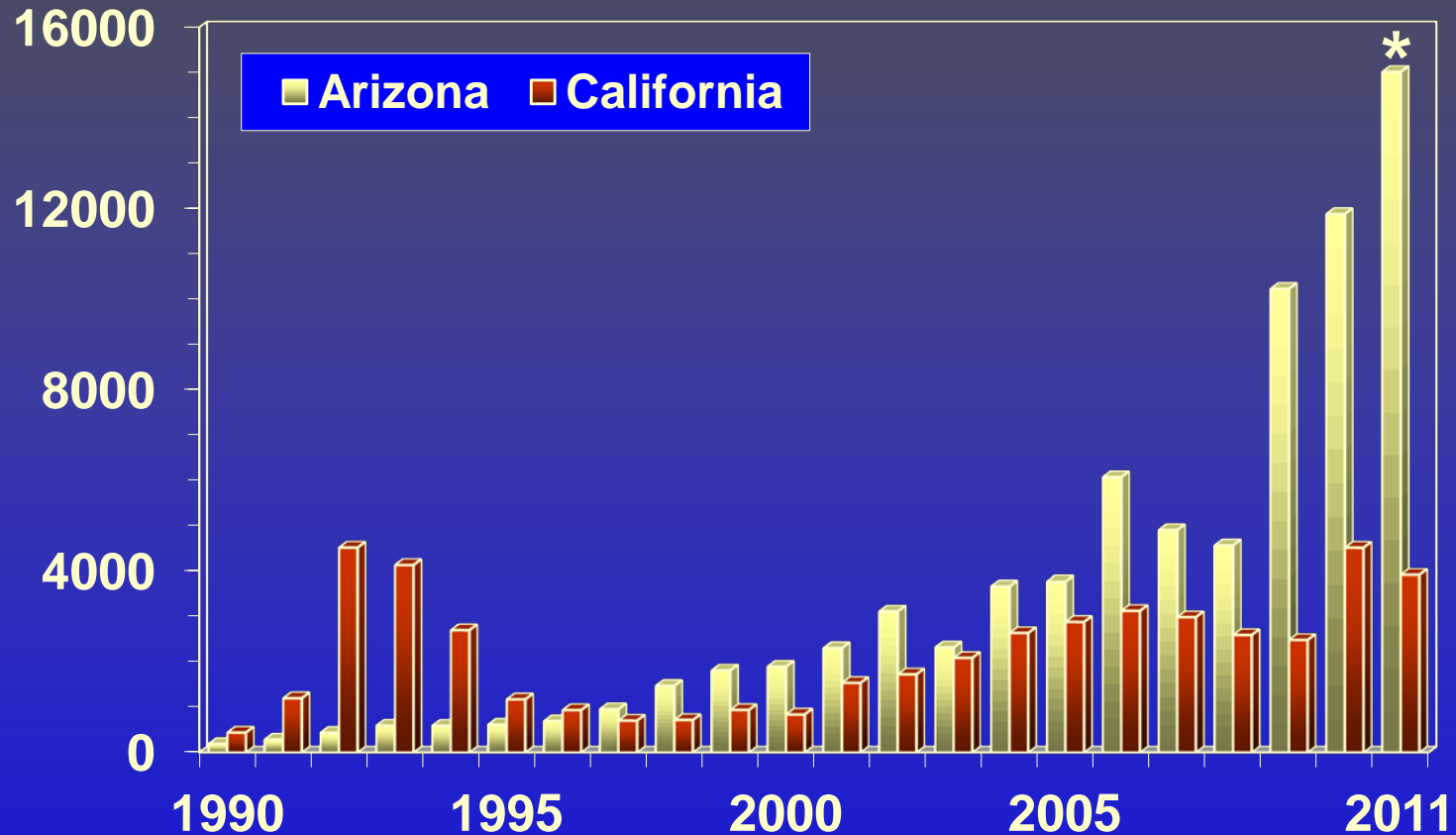
Vaccine development

\$40 million **before**  
clinical trials could begin

Doing nothing

**\$86 million per year  
just for hospital costs**

# Reported Valley Fever



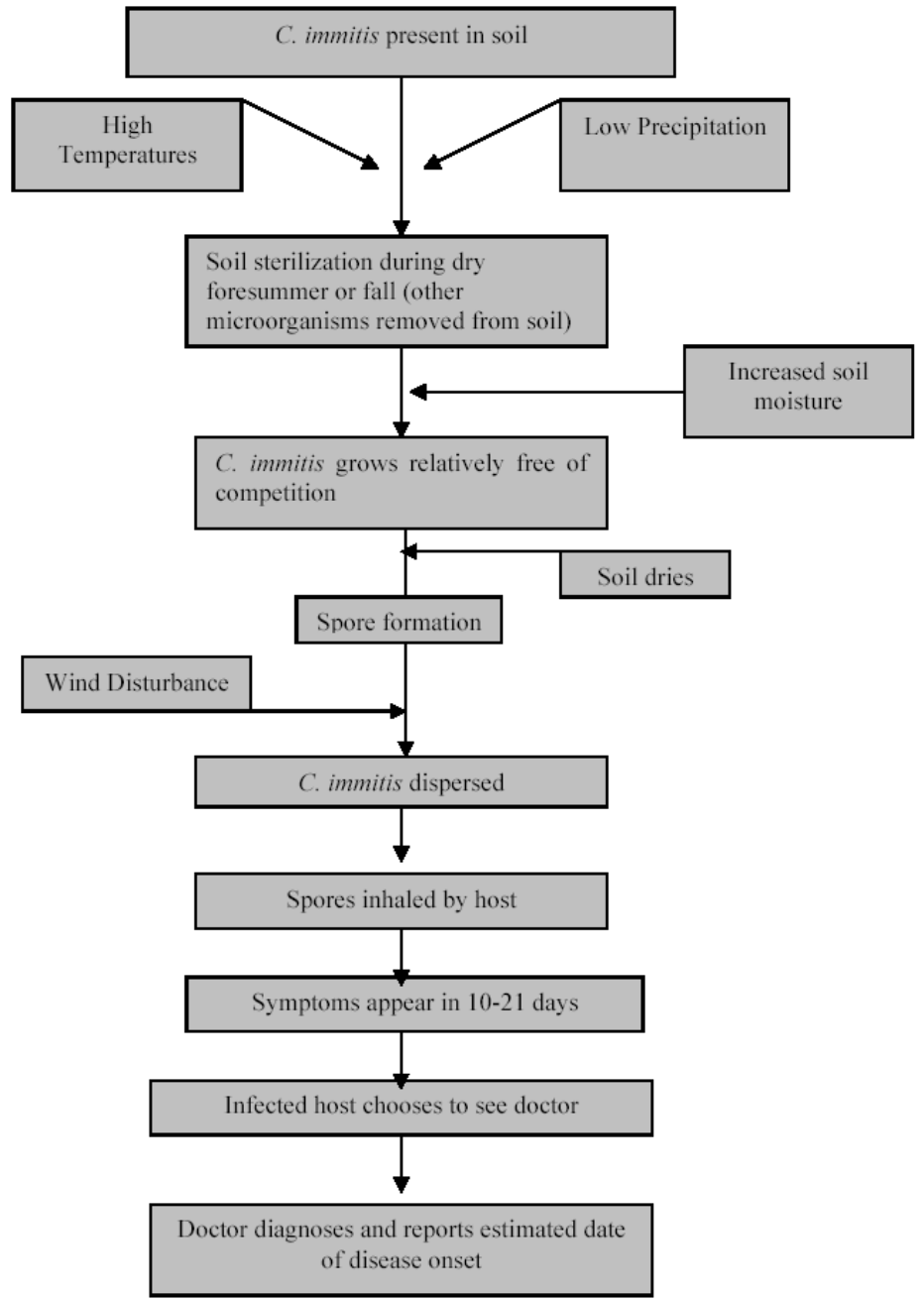
\* 2011 extrapolated from week 43 MMWR

# Climate and Valley Fever

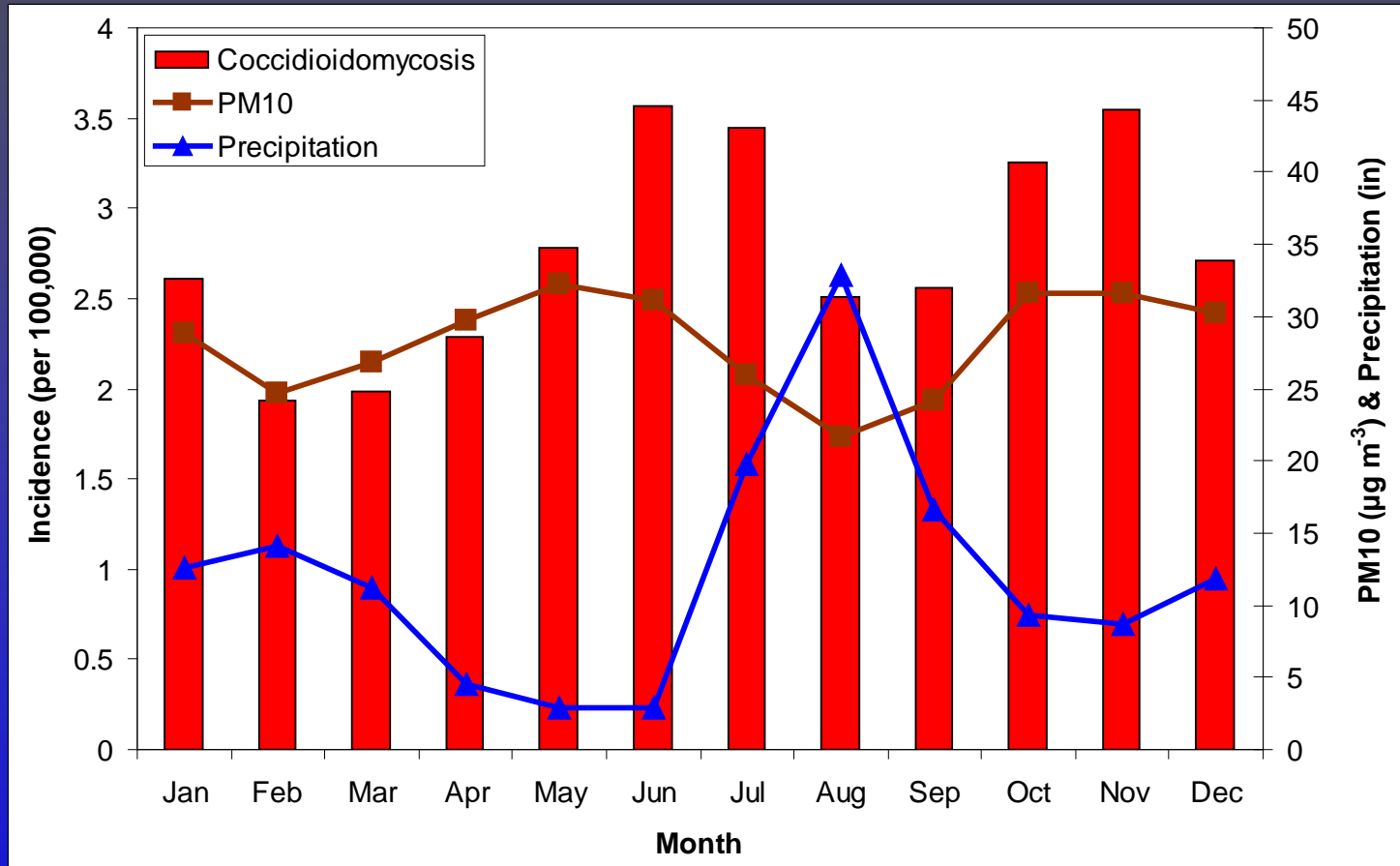
Mycelial growth in soil (seasonal rain)

Wind Dispersion

Symptoms and Clinical diagnosis



# Dust Levels and Rain Fall in Relation to Reported Coccidioidomycosis in Tucson



AC Comrie. Environ. Health Perspect.  
March 5, 2005. [ehponline.org](http://ehponline.org)



# Phoenix, July 5<sup>th</sup>, 2011

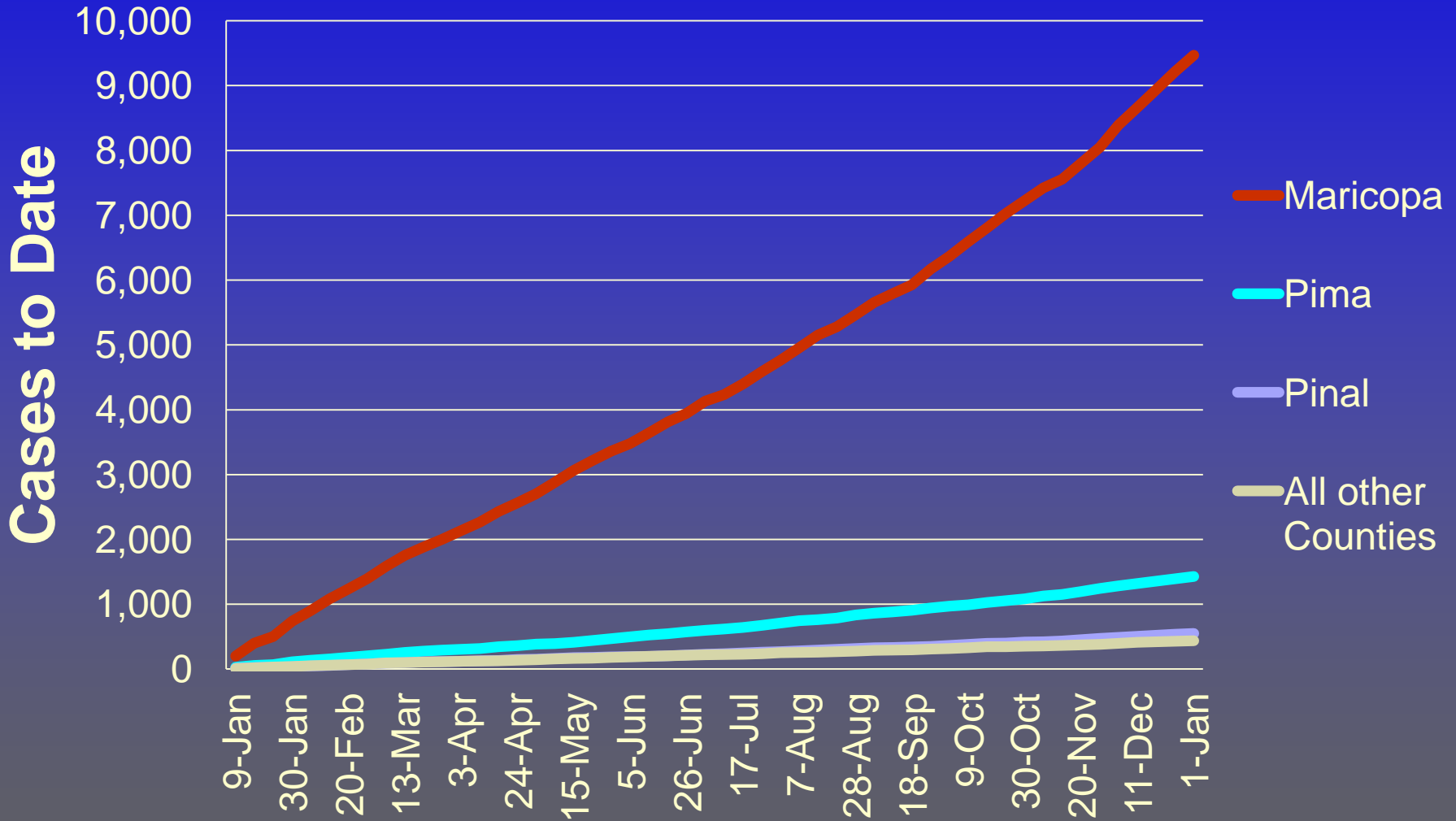


# Kern 1978 vs Maricopa 2011

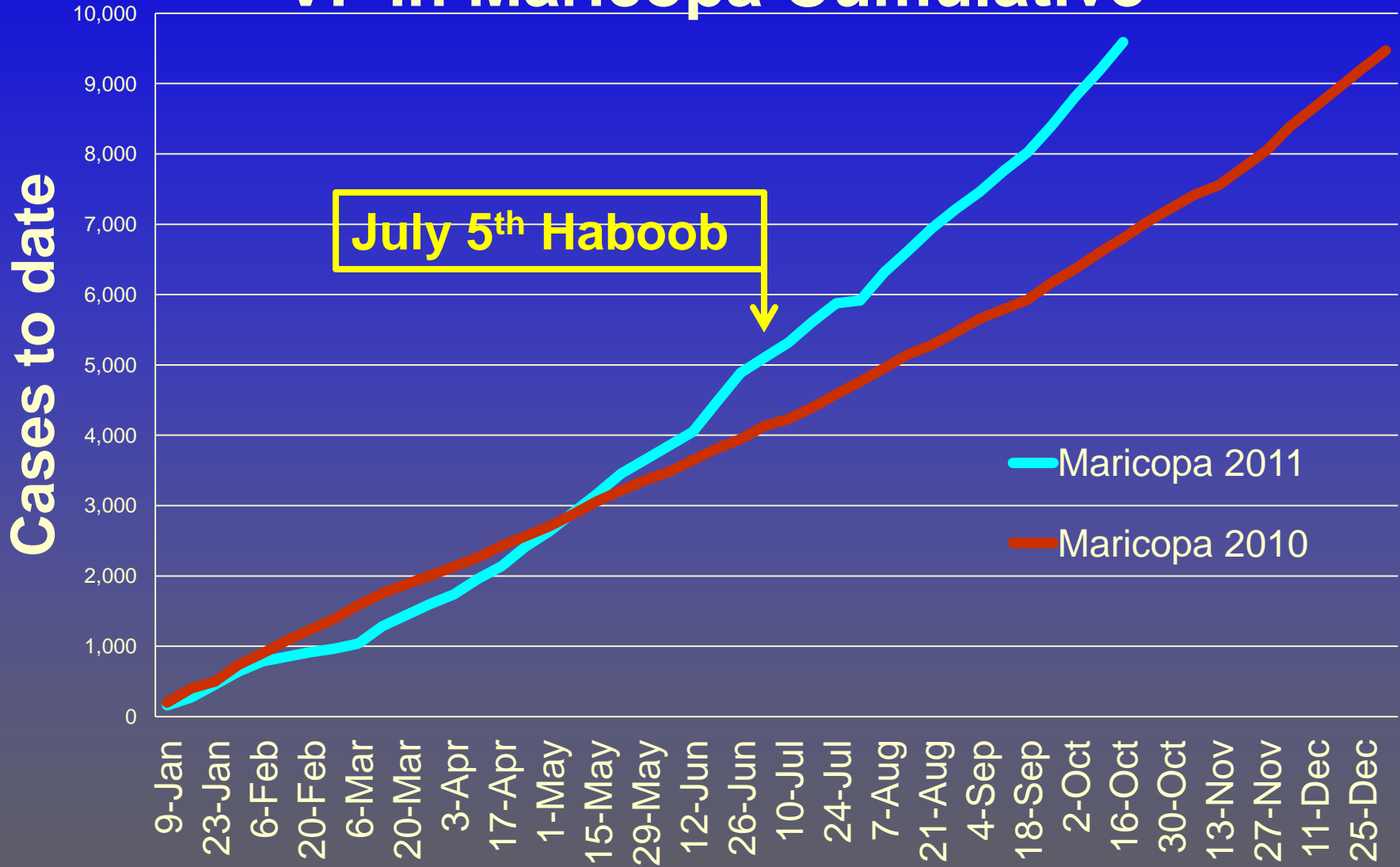
	Kern California	Maricopa Arizona
County Population	400,000	4 million
% of pop. susceptible	~25%	~75%
Excess Cocci Cases	120*	3,600
Predicted Disseminated		140*

\*Pappagianis, West J Med, 1978

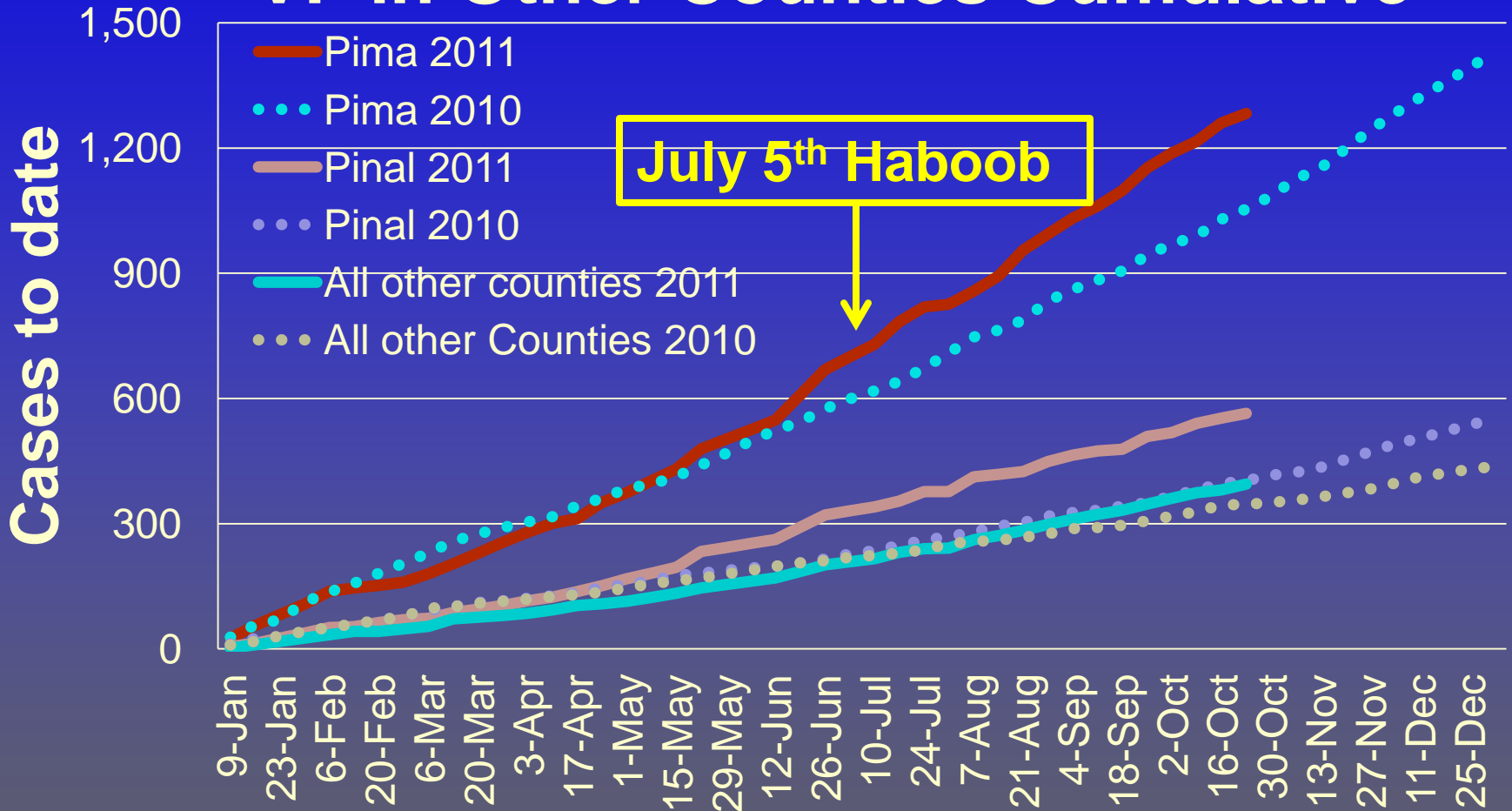
# 2010 VF Cases Cumulative



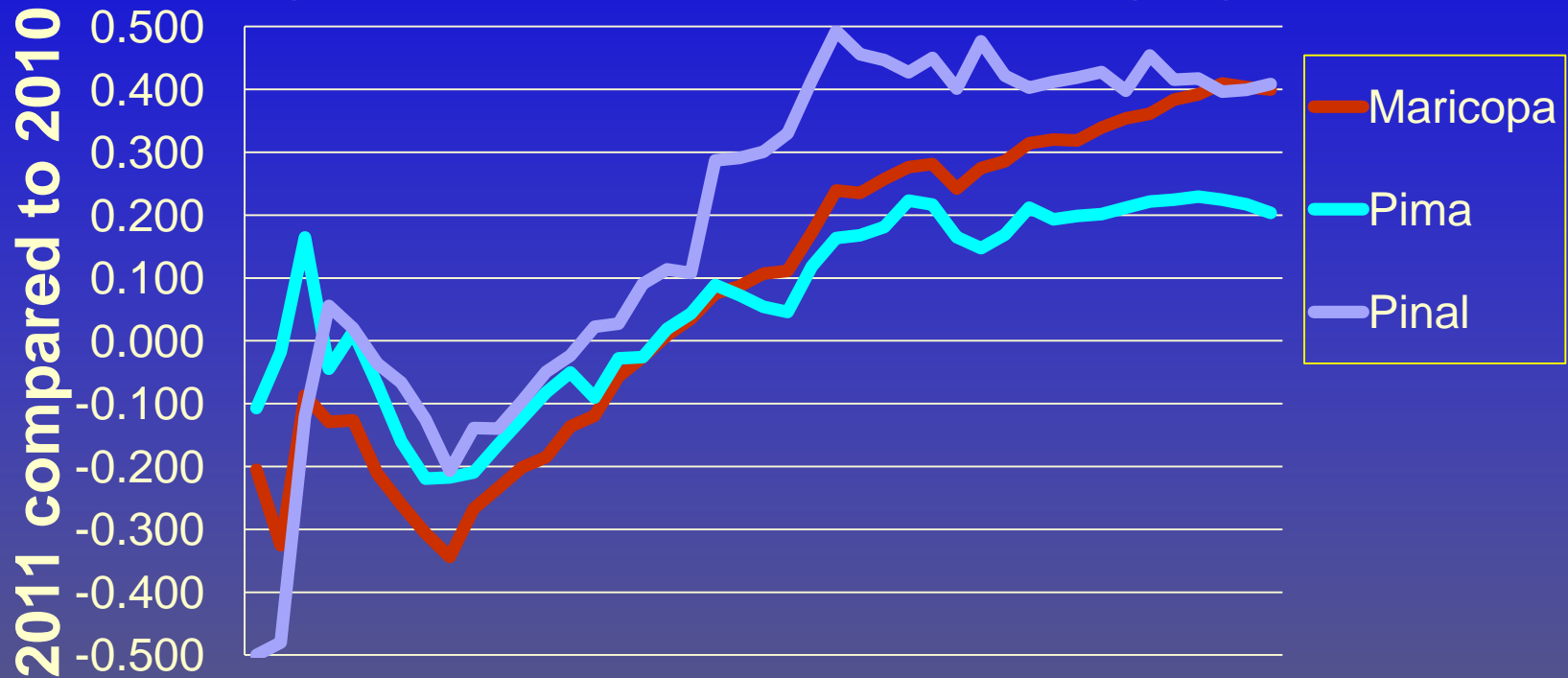
# VF in Maricopa Cumulative



# VF in Other Counties Cumulative



# 2011 difference from 2010



Weekly Through Week 43



# Why More Valley Fever Now?

- July dust storms may have accounted for some but not all of the increase.
- Dust storms may reflect an overall dry year (until September).
- Doctors may be doing a better job of diagnosing Valley Fever.

# Thank-you

# And

# Questions?

## Valley Fever Center for Excellence



College of Medicine

