

Enhanced Surveillance of Heat-Related Illness in Pinal County, AZ

A summary of community impacts, benefits, and lessons learned



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Background

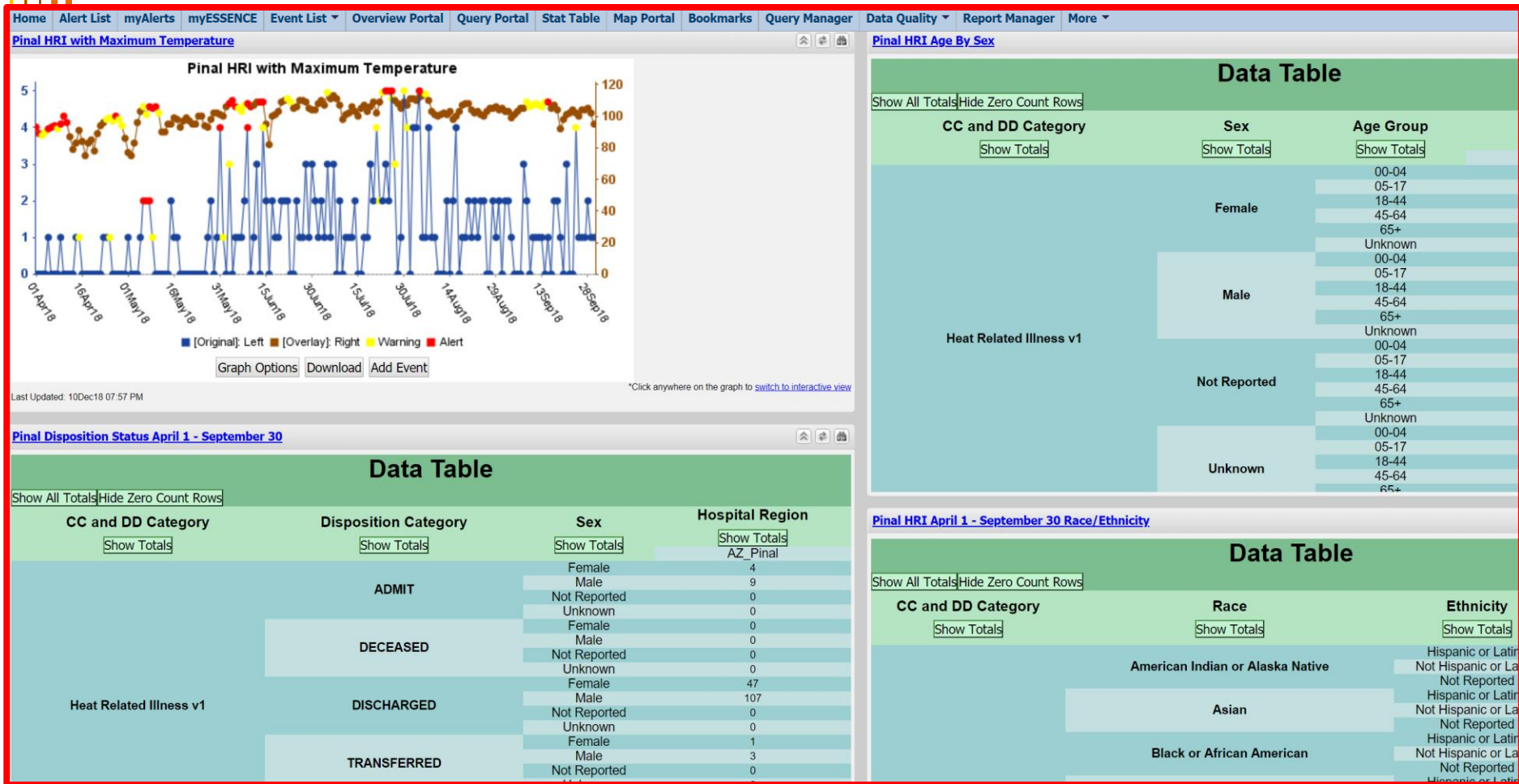
- Extreme heat & related illnesses in Pinal County
- HRI syndromic surveillance and interviews
- Key collaborations: United Way of Pinal County, Central Arizona Governments, Heat Relief Network, Arizona Department of Health Services
- Three participating Pinal County emergency departments

Project Goals

1. Improve HRI case identification and assessment through enhanced HRI surveillance and interview processes
2. Determine HRI risk factors & populations in Pinal County
3. Recommend and implement practical interventions to prevent HRIs among Pinal residents

SyS Using NSSP ESSENCE

NSSP ESSENCE from CDC BioSense Platform



The HRI Surveillance Process

Clinical Description:

An illness relating to excessive heat-exposure that causes any combination of heat stroke, heat exhaustion, loss of consciousness, death, hyperthermia, headache, dehydration, and/or sunburn. Other heat-related symptoms may be observed.

Case Classification:

A confirmed heat-related illness case shall be defined by the following criteria:

- Case is identified in the ESSENCE query as an HRI and;
- Case medical records are compatible with HRI clinical symptoms and;
- Symptom onset began within 24 hours of heat exposure and;
- Case visited an Emergency Department for heat-related illness between the months of May 1st and Sept 30th and;
- Case is a resident of Pinal County.

A probable heat-related illness case shall be defined by the following criteria:

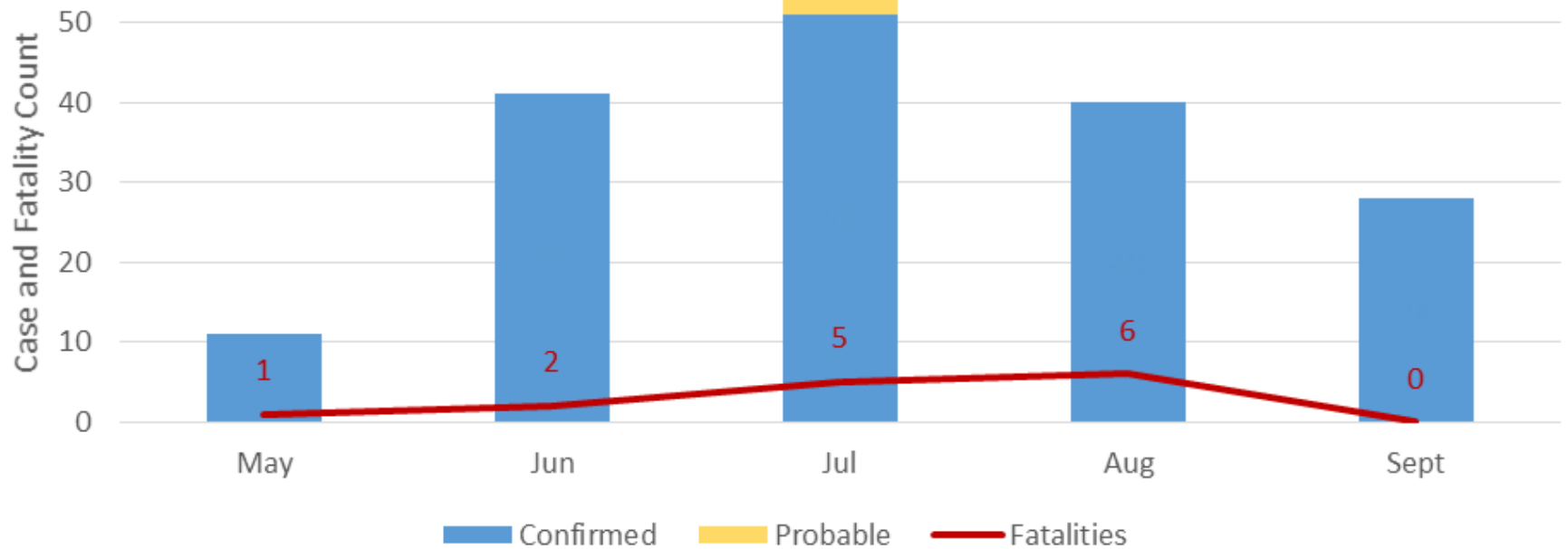
- Case meets the confirmed case definition, except the time between heat exposure and onset of symptoms is unknown (must be within 24 hours to be confirmed as an HRI).

Exclusions:

- Heat exposure identified by ESSENCE is not environmental/weather related.

Results: Seasonal HRI Summary

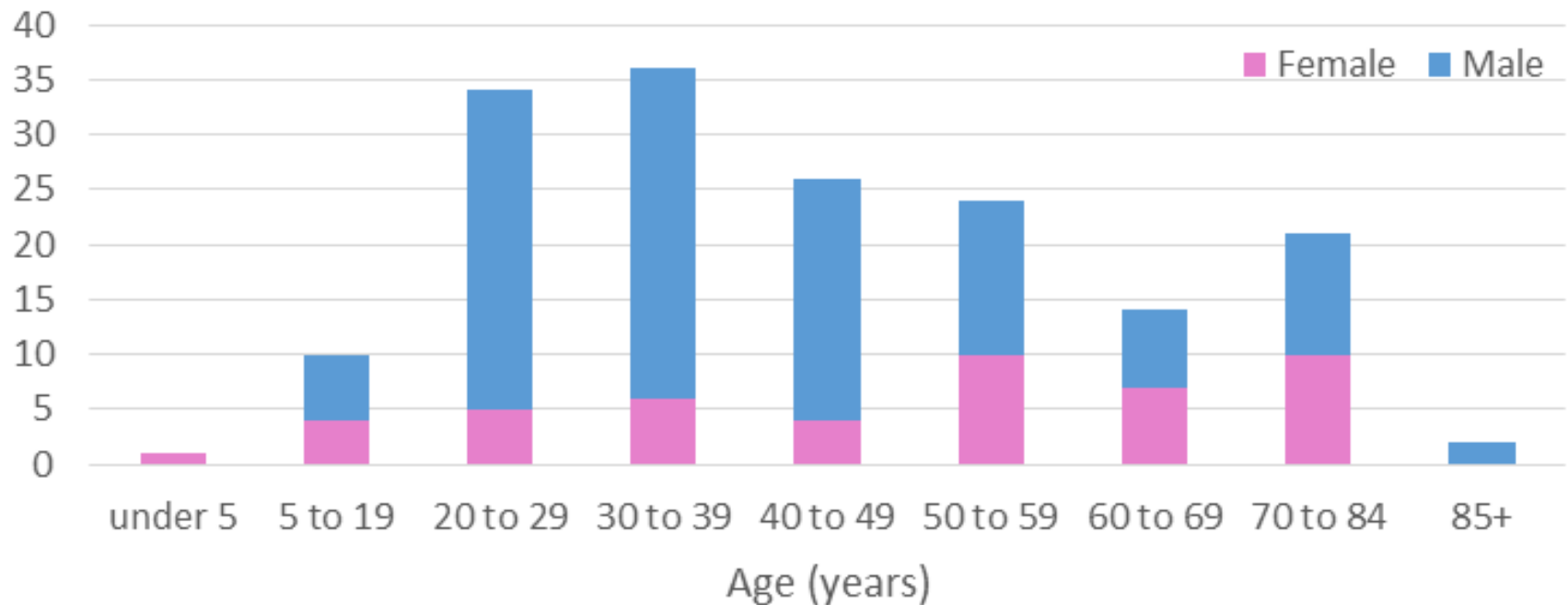
Summary of HRI Cases and Fatalities by Month, Pinal County
May 1, 2018 - September 30, 2018



Confirmed Probable Max Temp Min Temp Fatalities

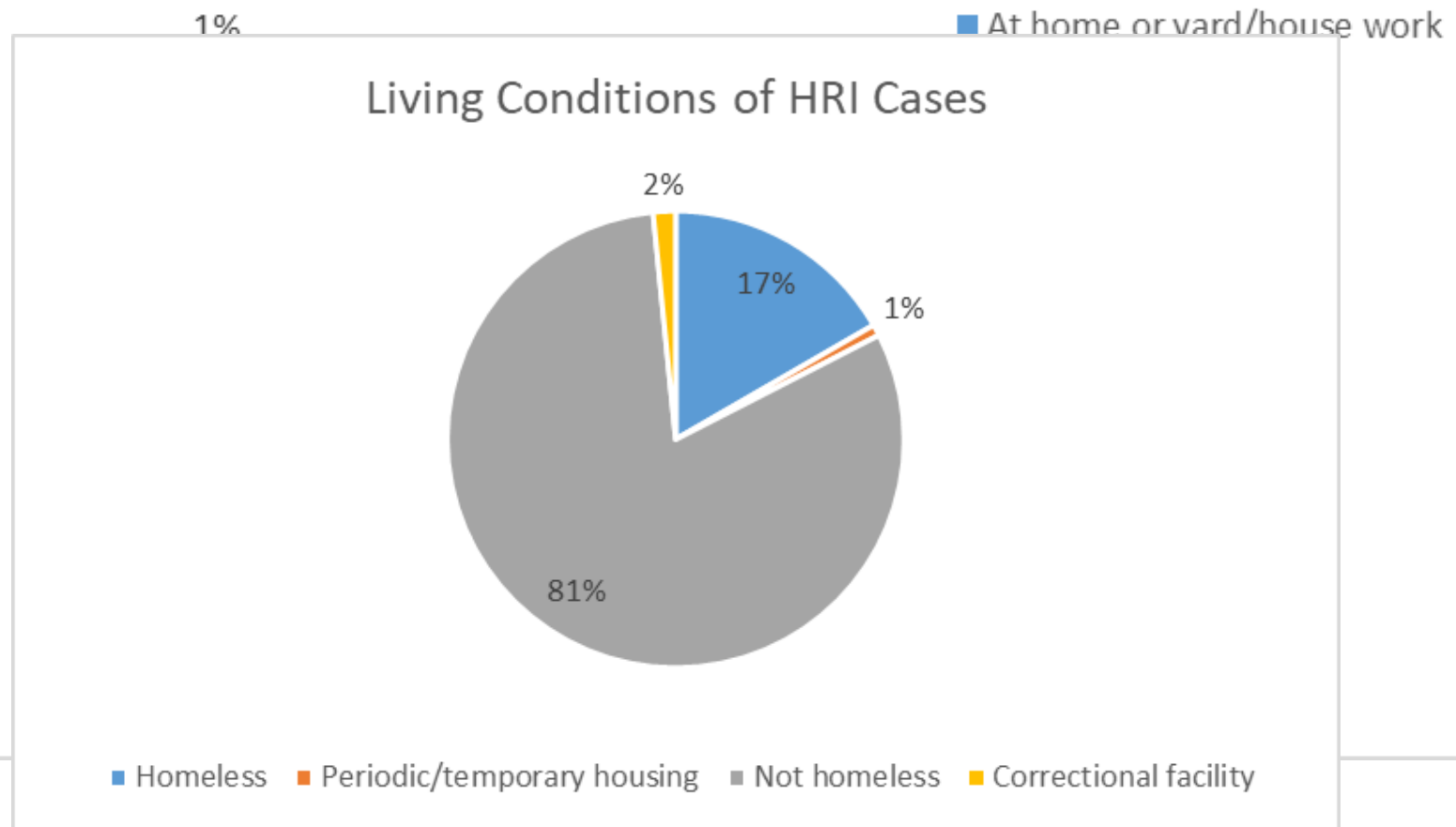
Risk Factors & Risk Populations

HRI Cases by Age and Sex, Pinal County
May 1 - Sept 30, 2018



Risk Factors & Risk Populations

Case Activities during Heat Exposure



Community Impacts

- **Improved understanding of HRIs in Pinal**
- **Increased awareness of HRI among Pinal residents**
- **Developed targeted interventions to reduce HRIs & deaths during the summer months**
 - Access to heat safety & educational resources
 - New Heat Relief stations and participating organizations

Pinal Community Resources

to help you beat the heat!

Cooling Centers and Heat Refuge

The Heat Relief Network

Includes hydration stations and cooling centers that community members can visit to seek relief from the heat. A list of relief locations is available on the next page. A map of relief locations is available online:

<https://centralazgovts.maps.arcgis.com/apps/webappviewer/index.html?id=27a2c9d344ef4a89933f0b7812eac1e8>

Arizona Crisis Response Network

Statewide homelessness resources including shelter beds, water, and cooling can be found by calling 211 or 800-352-3792. Additional information available online: <https://211arizona.org/>.

Arizona Department of Health Services

Sign-up on ADHS's website to receive heat alerts:

https://public.govdelivery.com/accounts/AZDHS/subscriber/new?qs=AZDHS_2
ADHS 24-hour information line: 602-364-4500 or 800-314-9243

Utility Programs and Assistance

Budget Billing and Payment Plans

Budget billing and payment plans are available through utility providers. Contact your provider to ask about their utility assistance services:

SRP: 602-236-8888 or 800-258-4777 (Spanish, 602-236-1111)

APS: 602-371-7171 or 800-253-9405 (Spanish, 602-371-6861)

SW Gas: For English and Spanish, call 877-860-6020

Home Energy Assistance

Provides home energy assistance for qualified households (seniors, disabled, low-income). Assistance available through these organizations:

Community Action Human Resources Agency (CAHRA): 520-466-1112

Low Income Home Energy Assistance Program (LIHEAP): 602-542-4446

Open Hands Outreach Program: 866-721-6983

Arizona Weatherization Assistance Program: 602-771-1000

PEPP Rural Institute

Provides assistance with rent, mortgage, and/or utilities. For assistance and additional information, call 520-622-3553.

Arizona Crisis Response Network

Includes numerous resources for assistance with utility bills, mortgage, rent, and other basic life needs. Additional information available online:

<https://211arizona.org/food-clothing-bills-pinal/>. To speak with someone, call 211.

Appliance Usage and Reduction

Learn how to reduce the amount of energy used in your home to lower your monthly bill. Additional information available online:

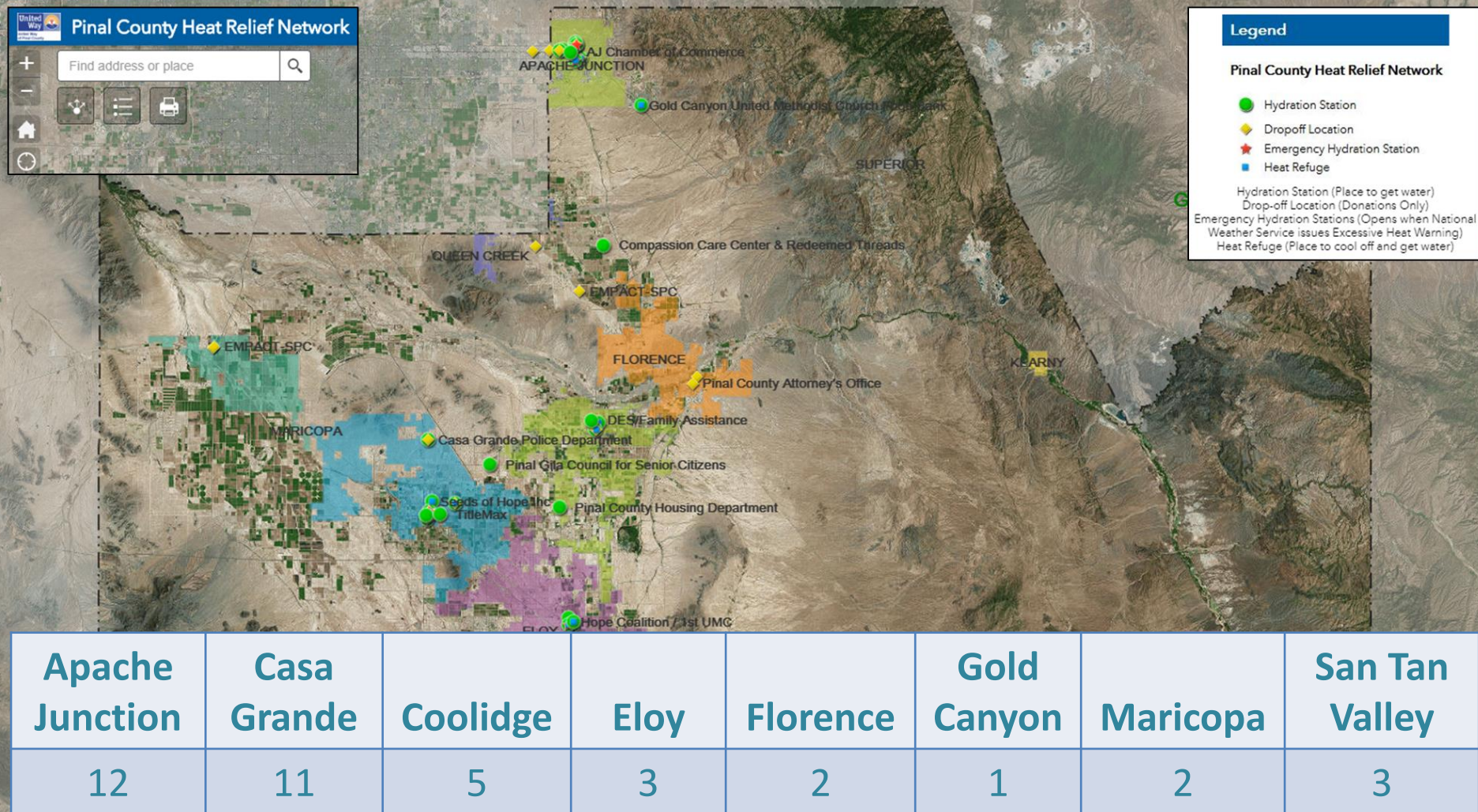
<https://www.aps.com/en/residential/savemoneyandenergy/homeappliance/Pages/appliance-usage.aspx>

Pinal County Assistance Programs

Additional resources and crisis assistance programs are available online (includes crisis assistance for bills, rent, housing, food, and more)

<https://www.aps.com/en/residential/savemoneyandenergy/homeappliance/Pages/appliance-usage.aspx>

Heat Relief Network Map



HRI Surveillance Limitations

- First call attempt up to 2 months after HRI event
- Insufficient Spanish resources
- Exclusion of non-Pinal County residents
- Limited information available for ICE/prison cases

Future HRI Surveillance

Improvements for summer 2019

- Call cases within 1-2 days of ER visit (or within 1 week) if interviews will be conducted
- Develop a self-fill questionnaire link for email/text
- Send follow-up information directly after each interview

Acknowledgements

- Commission for Environmental Cooperation
- United Way of Pinal County
- Central Arizona Governments
- Arizona Department of Health Services
- Maricopa Association of Governments
- Clancey Hill, PCPHSD
- Rachel Zenuk, PCPHSD
- Matt Roach, ADHS
- Krystal Collier, ADHS



Heat-Caused & Heat-Related Deaths in Arizona

Heat-Related Hospital Visits*		Heat-Caused Hospital Visits (2016)		Heat-Related Deaths*		Heat-Caused Deaths (Avg/yr 06-16)	
Arizona (2016)	Pinal (2017)	Arizona	Pinal	Arizona (2015)	Pinal (2017)	Arizona	Pinal
3,011	190	1,862	110	128	8	56	5

Notes:

*Heat-related data is for the year listed, and includes data from May to September.
 95% of all heat-caused deaths from 2006-2016 occurred from May to September.
 Hospital visits data includes inpatients and ED visits.

Data sources: National PH Tracking Network & ADHS Mortality and Morbidity Report for Exp. to Excessive Natural Heat 2006-2016