

Environmental Health Response to Acute Rheumatic Fever (ARF) / Rheumatic Heart Disease (RHD)

Prepared by **Angela Pitts, PhD**

Senior Policy Analysis/Project Officer

Aboriginal Environmental Health Unit

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Health

Overview

- Acute Rheumatic Fever (ARF) / Rheumatic Heart Disease (RHD) Response Protocol – NSW Health
- Environmental Health (EH) Response guided by *Housing for Health* Survey Fix model.
- Delivery of the pilot Environmental Health Response
 - Challenges & Barriers
 - Breakthroughs

What is Acute Rheumatic Fever (ARF) & Rheumatic Heart Disease (RHD)?

- Acute Rheumatic Fever (ARF) is a rare but serious inflammatory complication of an untreated throat or skin infection from group A Streptococcus (GAS) bacteria, also known as Streptococcal disease (Strep).
- Episodes of ARF can cause permanent damage to the heart valves leading to Rheumatic Heart Disease.
- Rheumatic Heart Disease is a chronic, disabling and sometimes fatal disease and is 100% preventable.

Background

- Eliminated in most other developed countries
- Top 3 Third World diseases in Australia - Trachoma, Otitis Media and Rheumatic Heart Disease (RHD)
- Most affected are Aboriginal children and young adults with rates in Australia amongst the highest in the world
- Statistically, Aboriginal people are consistently over represented in the Acute Rheumatic Fever/Rheumatic Heart Disease notifications
- Aboriginal people are 122 times more likely to live with the life threatening RHD than their non-Aboriginal peers.

Background

- Significantly under-diagnosed in Aboriginal communities
 - Difficult to diagnose – multiple clinical and lab results
 - Failure to recognise Acute Rheumatic Fever
 - Poor awareness of the disease
- People diagnosed with ARF require long-term follow-up – including administration of Penicillin every 21-28 days for a minimum of 10 years



Some Resources

Take Heart video link:

<https://www.youtube.com/watch?v=PrI7t8e8tKM>

RHD Australia [Online]. Darwin
<http://www.rhdaustralia.org.au>

Menzies School of Health Research

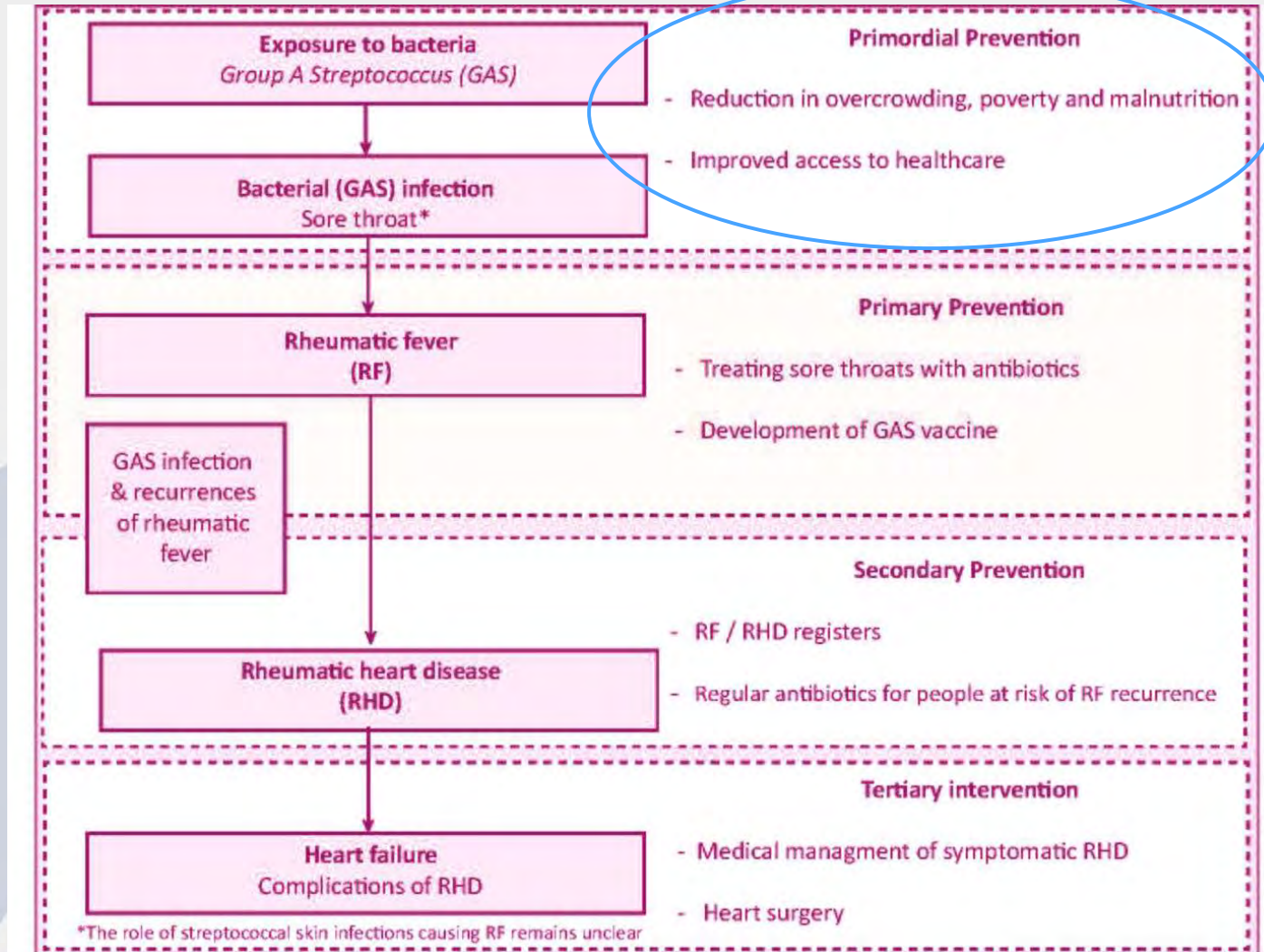




Housing and Environmental Disadvantage & ARF/RHD

- There is an association with housing and environmental disadvantage and ARF/RHD
 - poor housing and living conditions
 - inadequate infrastructure, water supplies, washing facilities and sanitation
 - overcrowding

Casual Pathway of ARF and RHD – prevention associated with improved environmental conditions



ARF/RHD in NSW

- In October 2015, Acute Rheumatic Fever & Rheumatic Heart Disease became a notifiable condition in NSW
- NSW Health Control Guidelines (2016) states that the Public Health Units:
 - *consider involvement of the Environmental Health team*
 - *seek to identify rectifiable environmental factors predisposing to Streptococcus (GAS) infection*
 - *discuss the potential for a Housing for Health or other community-level initiative with the Aboriginal Environmental Health Unit...*

ARF/RHD in NSW

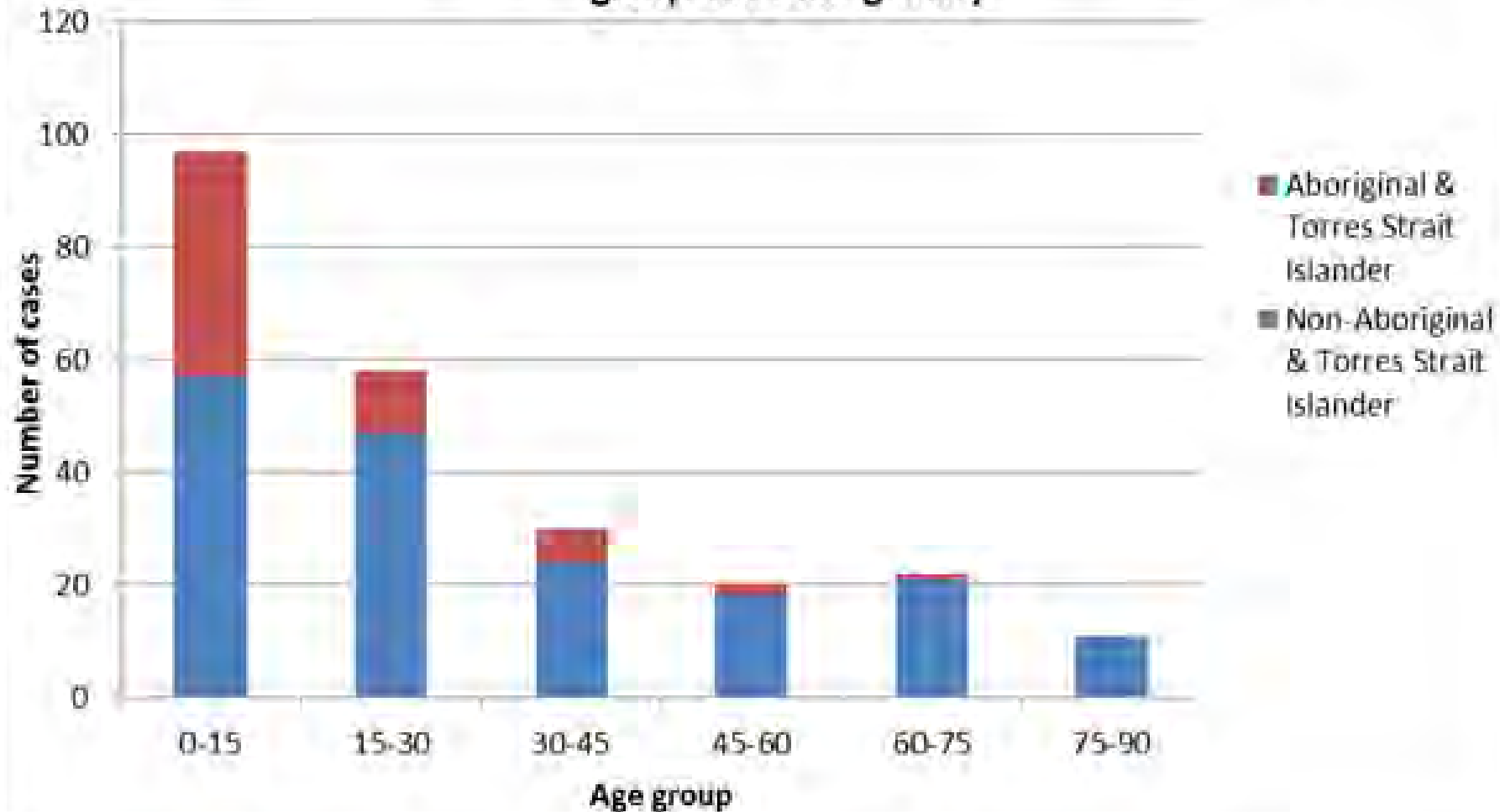
- ARF/RHD Project Working Group
 - Aboriginal Environmental Health Unit
 - Communicable Diseases Branch
 - Environmental Health Officers in various Local Health Districts (LHDs) across NSW
 - Infectious Disease Specialist
 - Office of the Chief Health Officer
- Rheumatic Heart Disease Network (include clinicians, RHD coordinators, infectious disease specialists)
- Healthabitat
- Better Cardiac Care Aboriginal Advisory Group

ARF/RHD in NSW

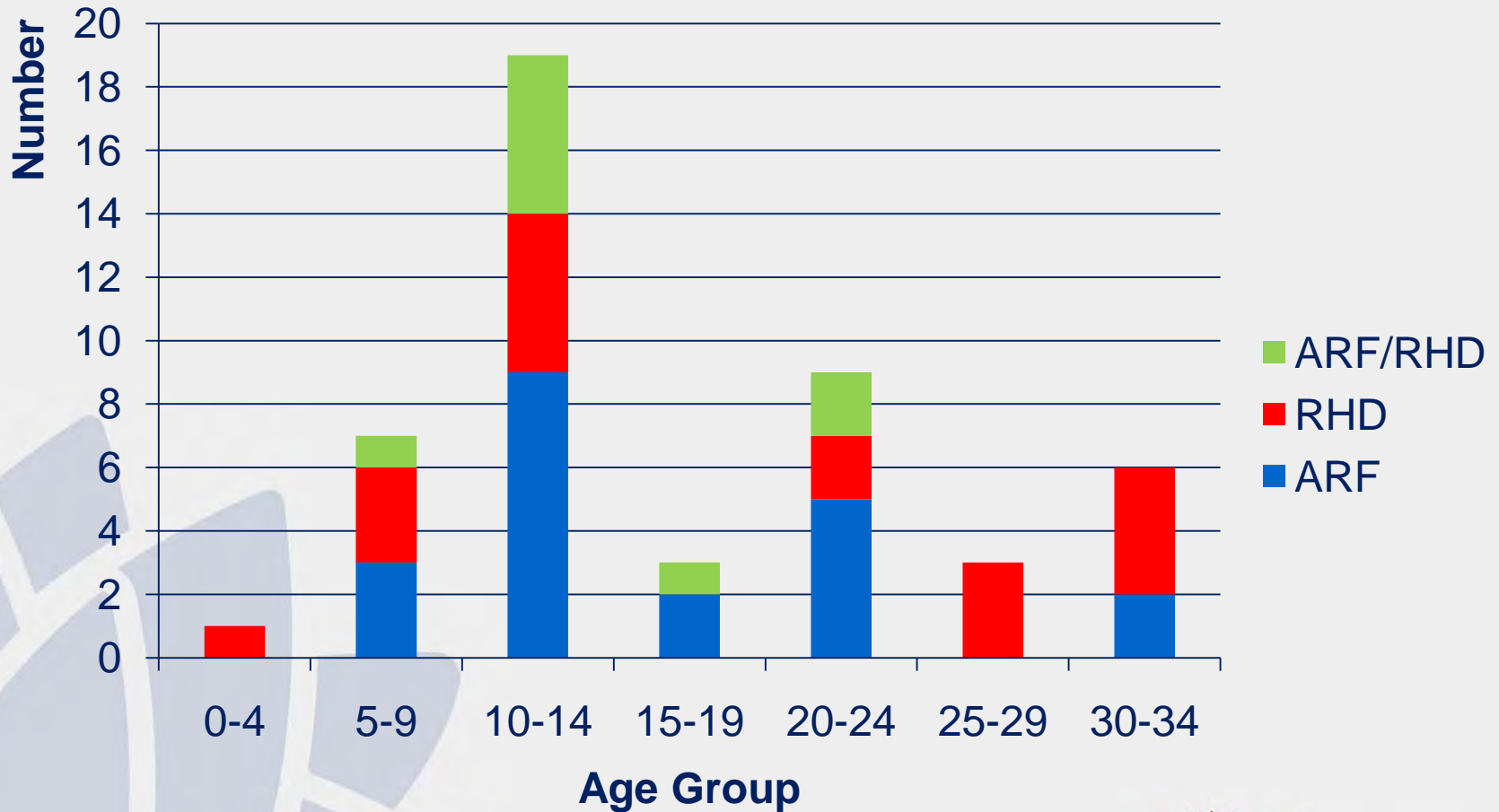
- 25-30 new cases per year with approximately 50% Aboriginal patients
- High risk populations:
 - Aboriginal and Torres Strait Islander people
 - Maori and Pacific Islanders peoples
 - people born outside of Australia, particularly migrants from South-east Asia and Africa.
- Higher rates in women and people living in disadvantaged conditions

Data from the NSW Admitted Patient Data Collection on ARF

Number of primary diagnoses of ARF between 2003 - 2012 by age group and Aboriginality

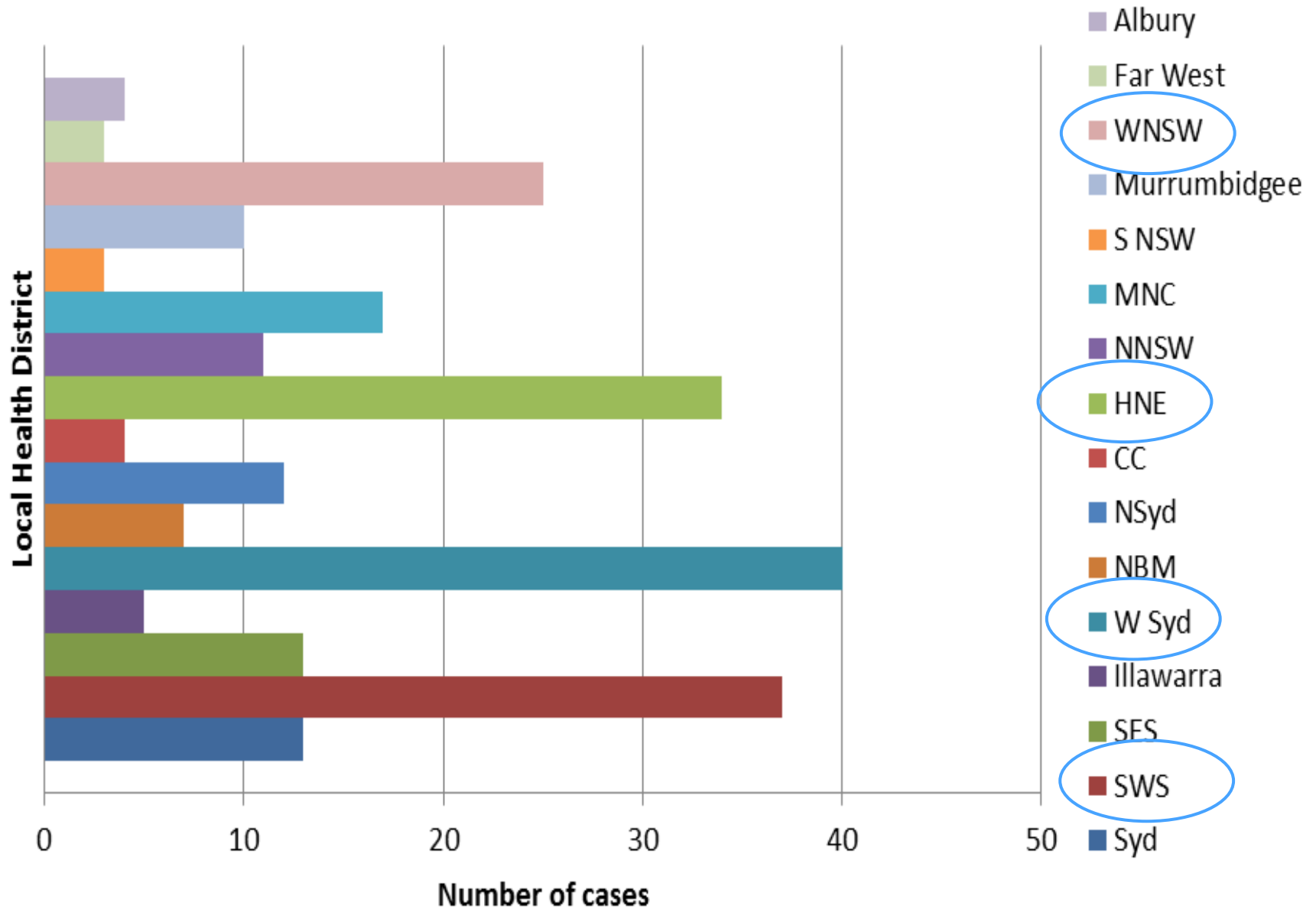


ARF/RHD notifications by age group 2 October 2015 to 8 August 2017



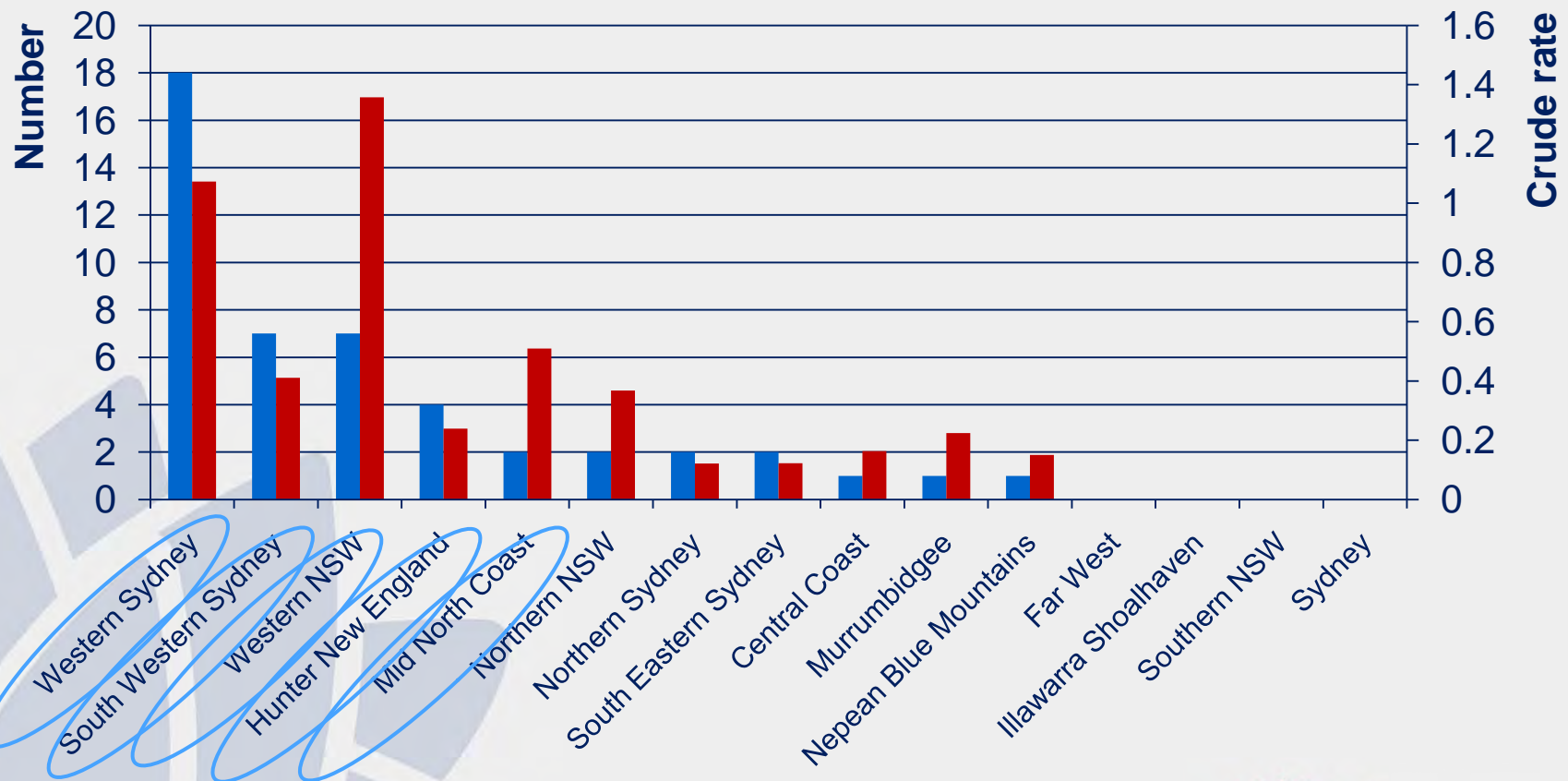
<25 years = 81%
5 – 14 years = 54%

Number of primary diagnoses of ARF between 2003-2012 by LHD



ARF/RHD notifications by LHD

2 October 2015 to 8 August 2017



LHD

■ Number ■ Annual crude rate (per 100 000 population)

Pilot ARF/RHD Environmental Health (EH) Response

- EH Response is guided by the *Housing for Health* (HfH) Survey Fix methodology
- Targeting EH responses such as HfH Survey Fix in the home of the case will support healthy living practices and reduce risk of disease transmission
- *Housing for Health* (HfH) Survey Fix in the home of the case in response to each diagnosis.

Pilot ARF/RHD Environmental Health (EH) Response

- Carried out by the local Environmental Health Officers with the Case Manager and/or culturally appropriate health workers.
- Resources developed to support the program
- Resources also includes health promotion and education to Aboriginal health workers and the broader community.

Pilot ARF/RHD Environmental Health (EH) Response

In 2017, the EH Response piloted at four LHDs across NSW:

- Far Western NSW
- Mid North Coast
- Hunter New England
- Western Sydney

EH Response Home Assessment & Fix

Home Assessment & Fix based on *Housing for Health* (HfH)
Survey Fix:

- set of standard tests to assess the safety and function of housing
- focuses on repairs that will maximise health gains, particularly for children under five years old
- evidence based health priorities - Healthy Living Practices (HLPs)
- HfH results - 40% reduction of hospital separations for infectious diseases

Housing for Health

9 Healthy Living Priorities*

a) Safety first

Electrical, fire, gas, structural

b) Providing a Healthy Living Environment

1. Ability to Wash People (especially children)
 2. Ability to Wash Clothes/bedding
 3. Removing Waste
 4. Improving Nutrition and Food Safety
 5. Reducing impact of Crowding
 6. Reducing impact of Pests, Animals & Vermin
 7. Controlling Dust
 8. Temperature Control
 9. Reducing Trauma
- Critical
- Important



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Home Assessment & Fix Healthy Living Priorities

Safety first

Electrical, fire, gas, structural

Providing a Healthy Living Environment

1. Ability to Wash People (especially children)
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Additional Home Assessment & Fix Priorities

- Dampness and mould
- Bathroom ventilation
- Clothesline, clothes hooks, towel rails
- Pests and vermin



Additional Home Assessment & Fix Priorities

- Education Materials & Health Packs

- Bed sharing
- Towel sharing
- General hygiene
- Companion animals
- Co-habiting with smokers

HOW IS IT DIAGNOSED?

To make a diagnosis your doctor might:

- Ask you about your symptoms
- Check your body for signs of these conditions
- Take a throat swab
- Take a sample of your blood to look for markers of inflammation
- Take a chest x-ray
- Do tests to check how your heart is working (such as an echocardiogram or ECG)

HOW IS IT TREATED?

People who have Acute Rheumatic Fever or Rheumatic Heart Disease need antibiotic injections every 21-28 days to prevent new attacks.

In addition to antibiotic treatment, you should:

- Have regular check-ups with your doctor
- Have regular check-ups with your heart specialist to monitor your heart
- Have regular check-ups with your dentist to prevent bacteria from your mouth getting into your blood and infecting your heart
- Get vaccinations for the flu and pneumococcal disease
- People with severe rheumatic heart disease may require surgery

MORE INFORMATION

More information about RHD is available in the RHD Australia "Things you need to know" booklet available on their website: www.rhdaustralia.org.au

You can also talk with your health care team, doctor, nurse or Aboriginal health worker, or call your local public health unit on **1300 066 055**



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Acute Rheumatic Fever & Rheumatic Heart Disease

Information for patients and the community



ACUTE RHEUMATIC FEVER

Acute Rheumatic Fever (ARF) is an illness that can occur in some people after an infection with a bug called Group A Streptococcus.



Group A Streptococcus is a bacteria that causes sore throats and skin sores

Acute Rheumatic Fever is more likely to affect:

- Children aged 5-14
- Someone who has had Acute Rheumatic Fever before
- Aboriginal and Torres Strait Islander people
- Maori and Pacific Islander people
- Females
- People living in disadvantaged conditions
- People where access to health services is poor

ACUTE RHEUMATIC FEVER CAN AFFECT...

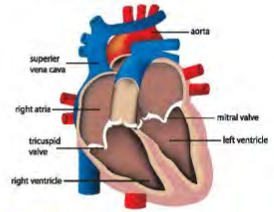


RHEUMATIC HEART DISEASE

When Acute Rheumatic Fever involves the heart, it can cause damage to the heart valves. This is called Rheumatic Heart Disease or RHD.

This damage to the heart valves makes it hard for your heart to do its job of pumping blood around the body.

Repeat episodes of Acute Rheumatic Fever can make your heart damage worse.



HOW IS IT PREVENTED?

To prevent Acute Rheumatic Fever, Rheumatic Heart Disease, visit your doctor or clinic:

- If you have a sore throat, or
- If you have one or more symptoms of Acute Rheumatic Fever

KEEP THE HOUSE CLEAN

- The germs that cause ARF can live on household furniture and other surfaces.
- Benches, bathroom sinks, taps and doorhandles that are frequently touched, should be cleaned often.

WHAT CAN MY FRIENDS AND FAMILY DO TO HELP ME STAY HEALTHY?

- Wash their hands regularly, particularly after coughing, sneezing or touching their nose.
- Cover any cuts and sores.
- Visit the doctor if they have a sore throat.



MORE INFORMATION

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Staying Healthy

Advice for people diagnosed with acute rheumatic fever (ARF) or rheumatic heart disease (RHD) and their families



REMEMBER YOUR INJECTIONS

- People with ARF or RHD need penicillin injections every 28 days to stay healthy and keep their heart strong.

DON'T IGNORE A SORE THROAT

- Visit your doctor or clinic if you have a sore throat.
- "Strep" germs that cause sore throats can also cause new episodes of ARF.

KEEP CUTS AND SORES COVERED

- This prevents cuts or sores from getting infected and stops germs from spreading to other people.
- Touching and picking sores or picking your nose can spread these germs too.
- Visit a Doctor if sores spread or don't seem to get better.

KEEP YOUR TEETH HEALTHY

- Brush your teeth every morning and night to help prevent other infections that may damage your heart.
- Visit your dentist every year to make sure your teeth are healthy.

KEEP YOURSELF CLEAN

- Strep germs that cause sore throats can also live on your skin.
- Having a bath or shower each day will wash away germs.
- Wash away the "strep" germ by washing hands with soap and running water:
 - Before and after touching a skin infection or sore
 - Before handling or eating food
 - After going to the toilet
 - After blowing your nose or helping someone else blow their nose
 - After touching or handling used clothing or linen

WASH CLOTHES AND BED LINEN REGULARLY

- The germs on your body can also live on your clothes and sheets.
- Washing clothes, towels and sheets regularly in the washing machine will help stop infections from spreading.
- Washing should be dried in a dryer or outside in the sun to help kill germs.

DON'T SHARE PERSONAL ITEMS

- Sharing clothes, towels, bed sheets, razors and toothbrushes can spread germs.
- If possible, children with ARF should have their own beds and bedding. If they do share a bed with someone, "top and tail" them to prevent the spread of infection.

Pilot EH Response - Case by Case

- The EH response will need to be assessed on a case by case scenario.
 - Ownership of the house
 - The response to include all social housing - not just Aboriginal housing providers (LALC/AC)
 - The response to include private-rental or privately-owned houses
 - Aboriginal and non-Aboriginal cases

Pilot EH Response Challenges & Barriers

- Transient Case
 - Case moved to three different towns/homes since notification. Unable to determine which house to offer Home Assessment and Fix.
- Consent from Housing Provider
 - House has been condemned by the community housing provider, who no longer provides repair and maintenance. Advise to establish stronger links with community.
- Case Manager/RHD Coordinator
 - Needs to establish a stronger relationship with case/family before can support the EH program

Pilot EH Response Breakthroughs - Early Days

- Mid-North Coast
 - Visit to RHD case/family went well
 - Consent to proceed with EH program
 - Housing provider is fairly positive about it
 - Waiting on housing approval before next stage of undertaking home assessment.

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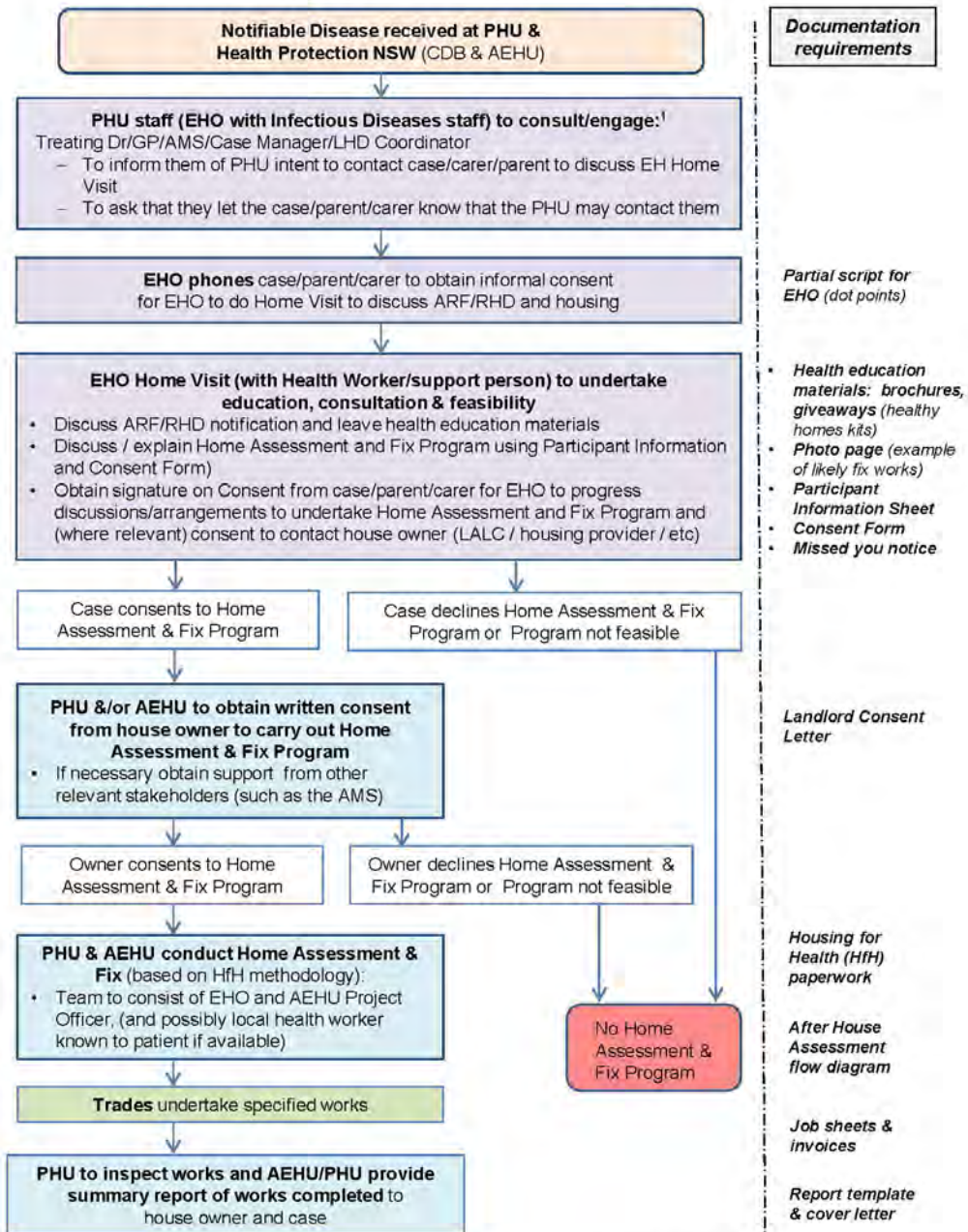


Thanks!



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ARF / RHD Case Environmental Health Response Flow Chart



Documentation requirements

Partial script for EHO (dot points)

- Health education materials: brochures, giveaways (healthy homes kits)
- Photo page (example of likely fix works)
- Participant Information Sheet
- Consent Form
- Missed you notice

Landlord Consent Letter

Housing for Health (HfH) paperwork

After House Assessment flow diagram

Job sheets & invoices

Report template & cover letter



Health

Workshop Activity: Development & Implementation

- What EH response do you think is appropriate?
- Any EH initiatives/value adding projects that would complement the response?
- Any issues for consideration or main barriers?
- Any other thoughts or feedback?

ARF / RHD Case Environmental Health Response Flow Chart

**Notifiable Disease received at PHU & Health Protection NSW
(CDB & AEHU)**



PHU staff (EHO with Infectious Diseases staff) to consult/engage:¹

- Treating Dr/GP/AMS/Case Manager/LHD Coordinator
- To inform them of PHU intent to contact case/carer/parent to discuss EH Home Visit
- To ask that they let the case/parent/carer know that the PHU may contact them

ARF / RHD Case Environmental Health Response Flow Chart

EHO phones case/parent/carer to obtain informal consent
for EHO to do Home Visit to discuss ARF/RHD and housing



EHO Home Visit (with Health Worker/support person) to undertake education, consultation & feasibility

- Discuss ARF/RHD notification and leave health education materials (may include brochures, giveaways, healthy home kits)
- Discuss / explain Home Assessment and Fix Program (using Participant Information and Consent Form & examples of likely fix work)
- Obtain signature on Consent from case/parent/carer for EHO to progress discussions/arrangements to undertake Home Assessment and Fix Program and (where relevant) consent to contact house owner (LALC / housing provider / etc)

ARF / RHD Case Environmental Health Response Flow Chart

Case consents to Home Assessment & Fix Program



PHU &/or AEHU to obtain written consent from house owner to carry out Home Assessment & Fix Program

- If necessary obtain support from other relevant stakeholders (such as the AMS)



Owner consents to Home Assessment & Fix Program

ARF / RHD Case Environmental Health Response Flow Chart

PHU & AEHU conduct Home Assessment & Fix (based on HfH methodology):

- Team to consist of EHO and AEHU Project Officer, (and possibly local health worker known to patient if available)

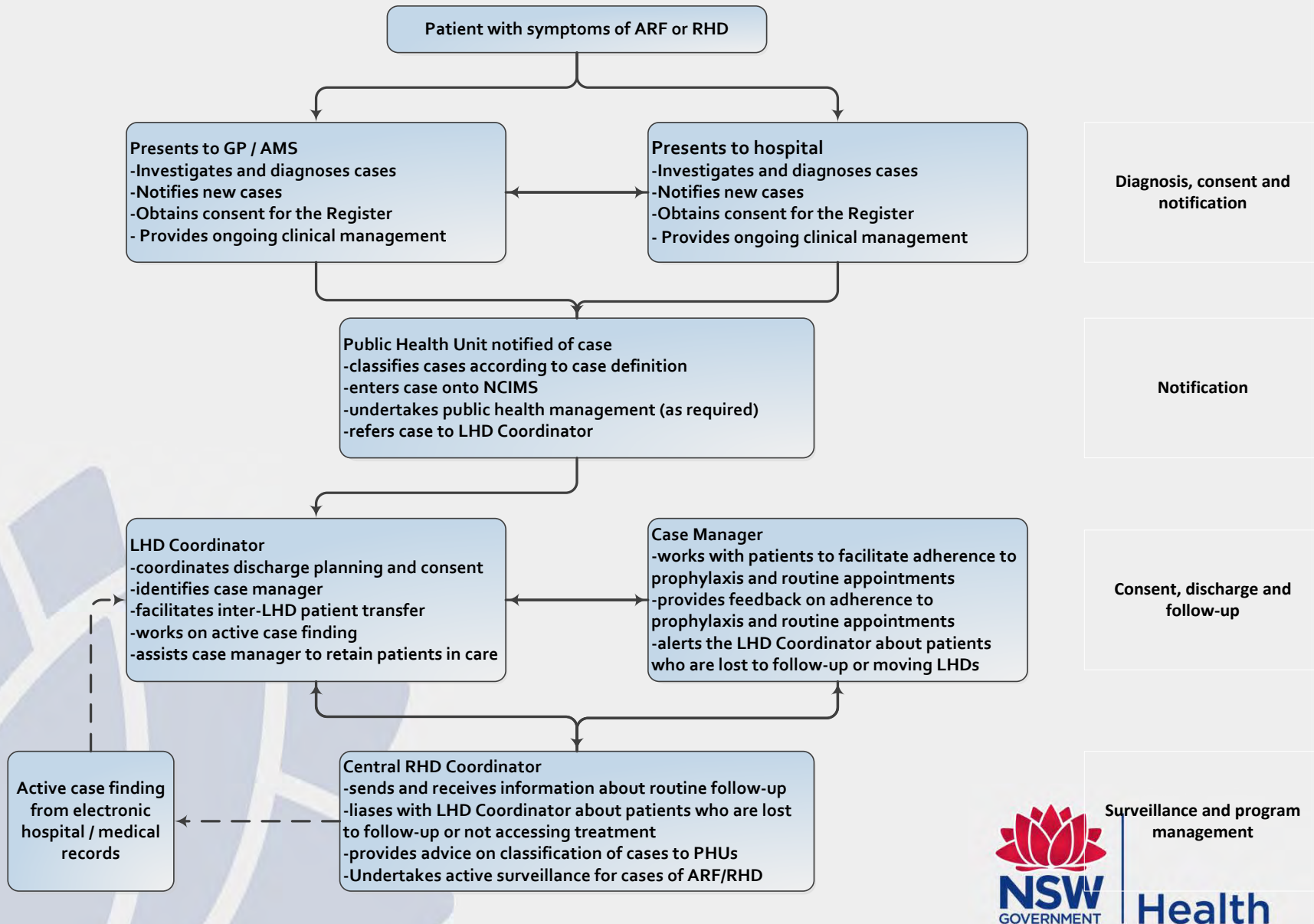


Trades undertake specified works



PHU to inspect works and AEHU/PHU provide summary report of works completed to house owner and case

Management of patients with ARF / RHD in NSW



NSW Communicable Diseases Weekly Report Week 11, 14 March to 20 March 2016

New confirmed case Acute Rheumatic Fever and Rheumatic Heart Disease.

One case of acute rheumatic fever (ARF) was reported this week in a boy of Pacific Islander ancestry from South Western Sydney LHD. He presented with classic symptoms, including carditis, polyarthritis, erythema marginatum, subcutaneous nodules and fever. This was his first presentation with ARF, and he has subsequently also been diagnosed with rheumatic heart disease (RHD).