

The Singapore Field Epidemiology Experience

Pushing the boundaries of public health policy

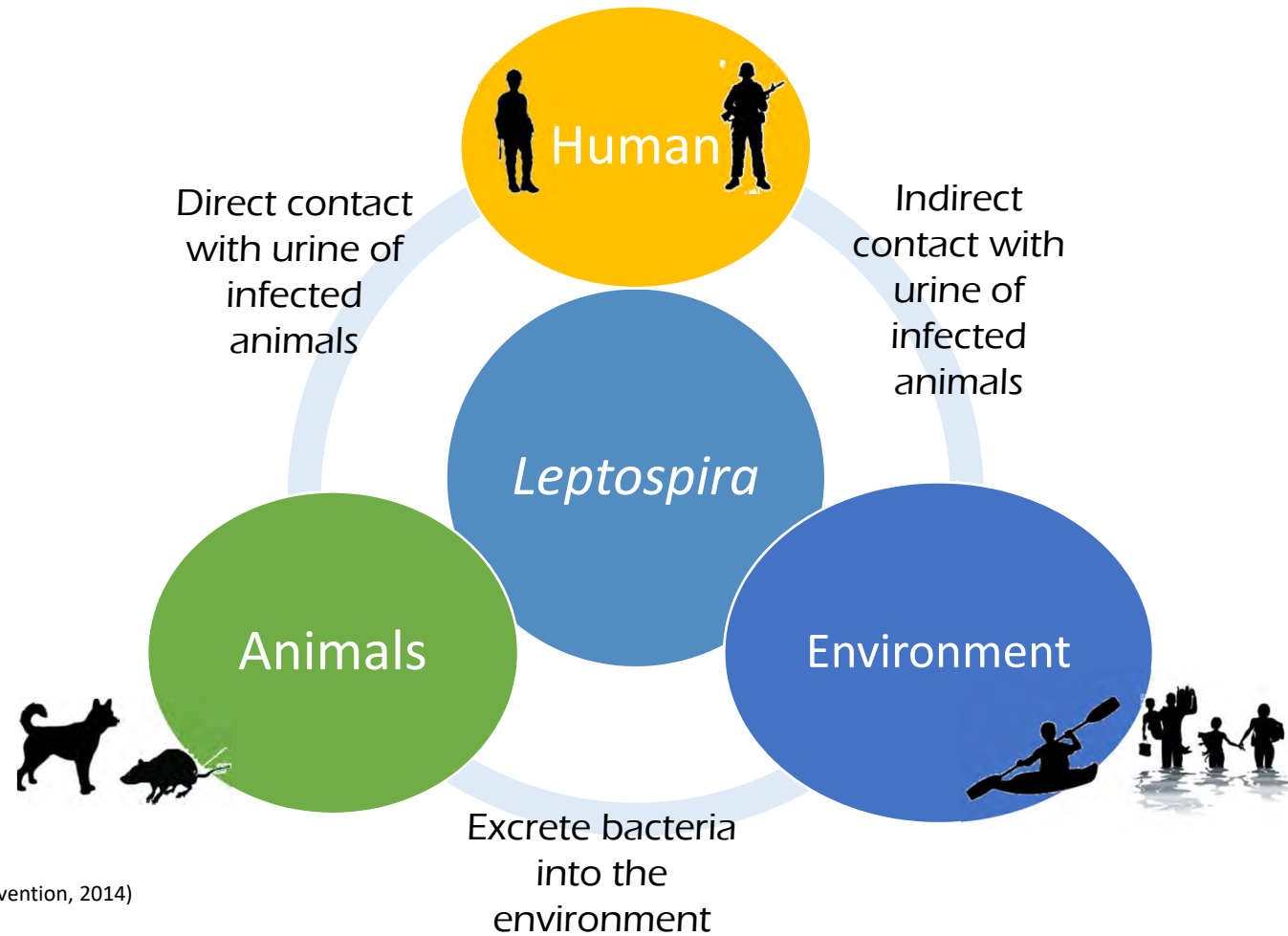
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Ministry of Health, Singapore

Science and Art for Epidemiologists to Influence Policy Makers
TEPHINET Pre-conference Workshop ▪ 6 August 2017

Baby Steps in Making/Changing Policy

- Triggers for policy review and change
- Information gathering and analysis
- Technical discussion and recommendations
- Obtaining of approvals
- Implementation
- Monitoring and evaluation

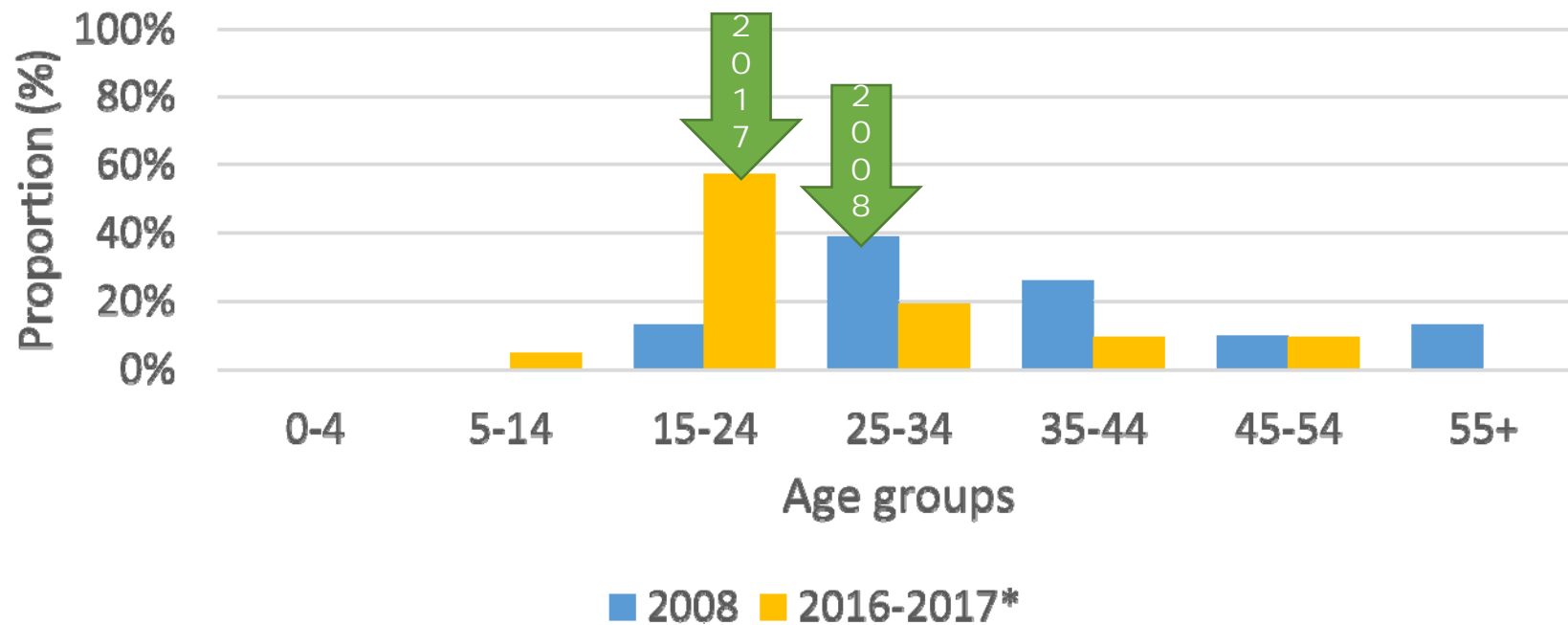
Leptospirosis



(Centers for Disease Control and Prevention, 2014)

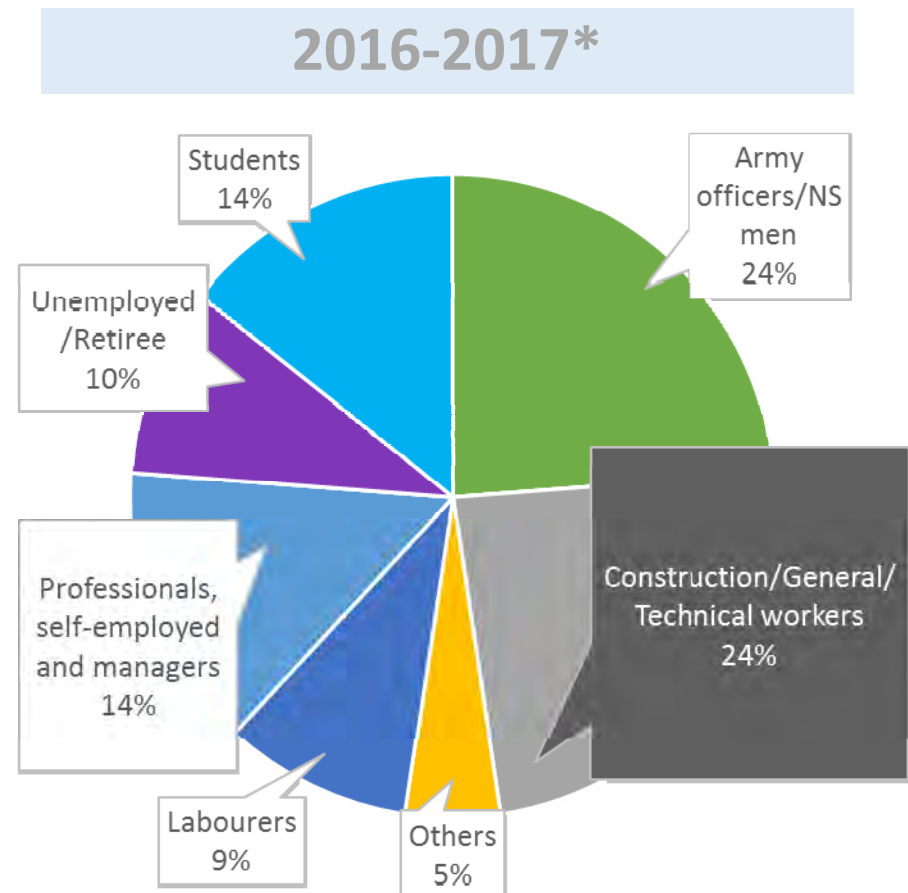
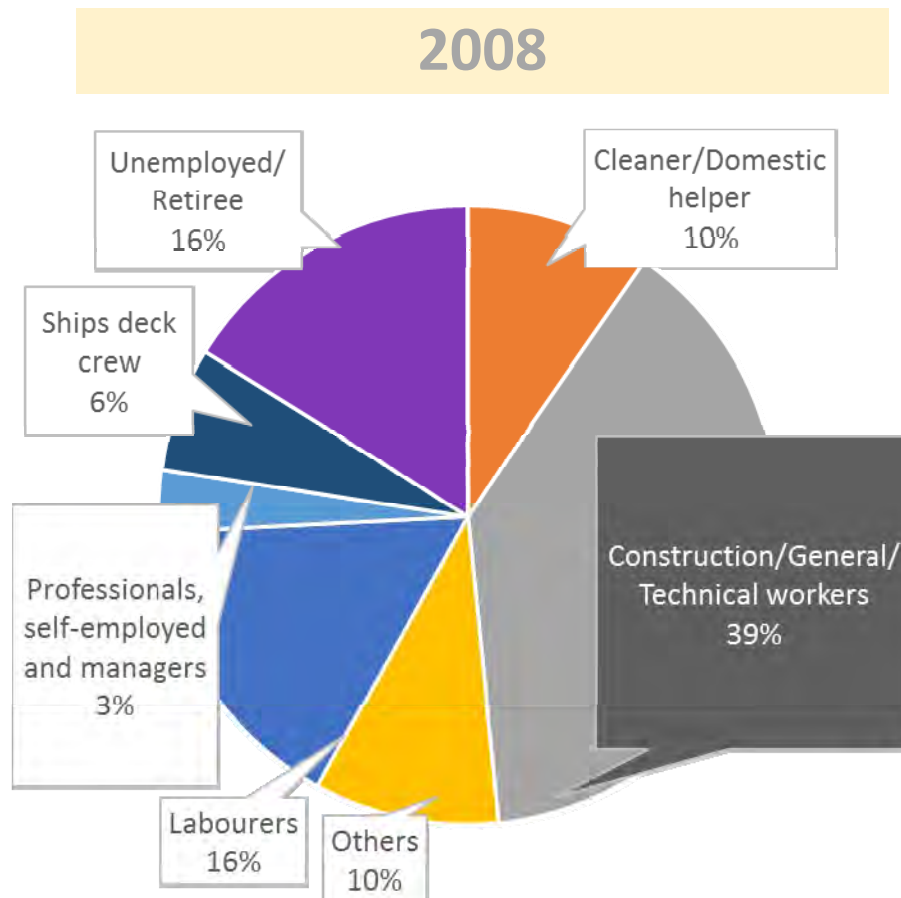
●●●● Emerging concern: **younger age group**

Indigenous leptospirosis cases by age group, 2008 (n=31) and 2016-2017 (n=21)*



*data collected from 28 Sep 2016 to 30 May 2017 (8 months)

– ●●●● Emerging concern: **changing epidemiology of leptospirosis?**



*data collected from 28 Sep 2016 to 30 May 2017 (8 months)
 ^Others include food handlers, salesperson, prisoner.

Environmental exposures



Occupational

- Construction workers
- Military personnel
- Veterinarians



Recreational

- Wading
- Kayaking
- Rafting



International travel

- Rural areas
- Slums

(Centers for Disease Control and Prevention, 2014)

— ●●● Emerging concern

2008

Occupational risk factors



2017

No clear known risk factors

?

INCREASE IN RAT-RELATED MEDIA REPORTS

Bukit Batak rat infestation due to people feeding stray dog, say authorities

-Dec 18, 2014, *The Straits Times*



Rat activity in 14 Marina Square shops: NEA

-Jan 26, 2015, *TODAYonline*



“Rodent activity in false ceiling of food shops and stalls and bin centre in Marina Square”

Dog daycare centre issued with isolation order after spike in leptospirosis cases

-Jul 20, 2016, *The Straits Times*



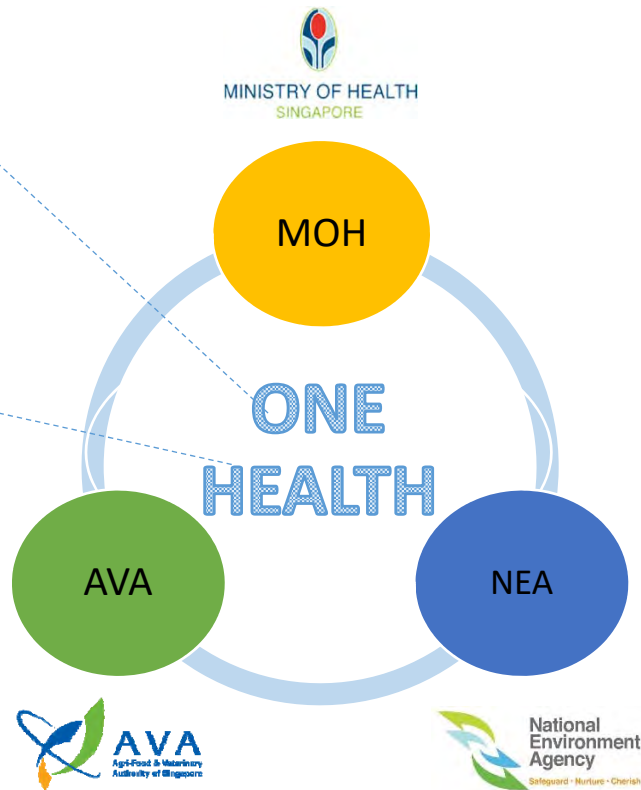
Rodents found at Jurong hawker centre

-Nov 25, 2016, *The Straits Times*

“Poor refuse management there, with clutter in common areas and bin center...”

One Health approach

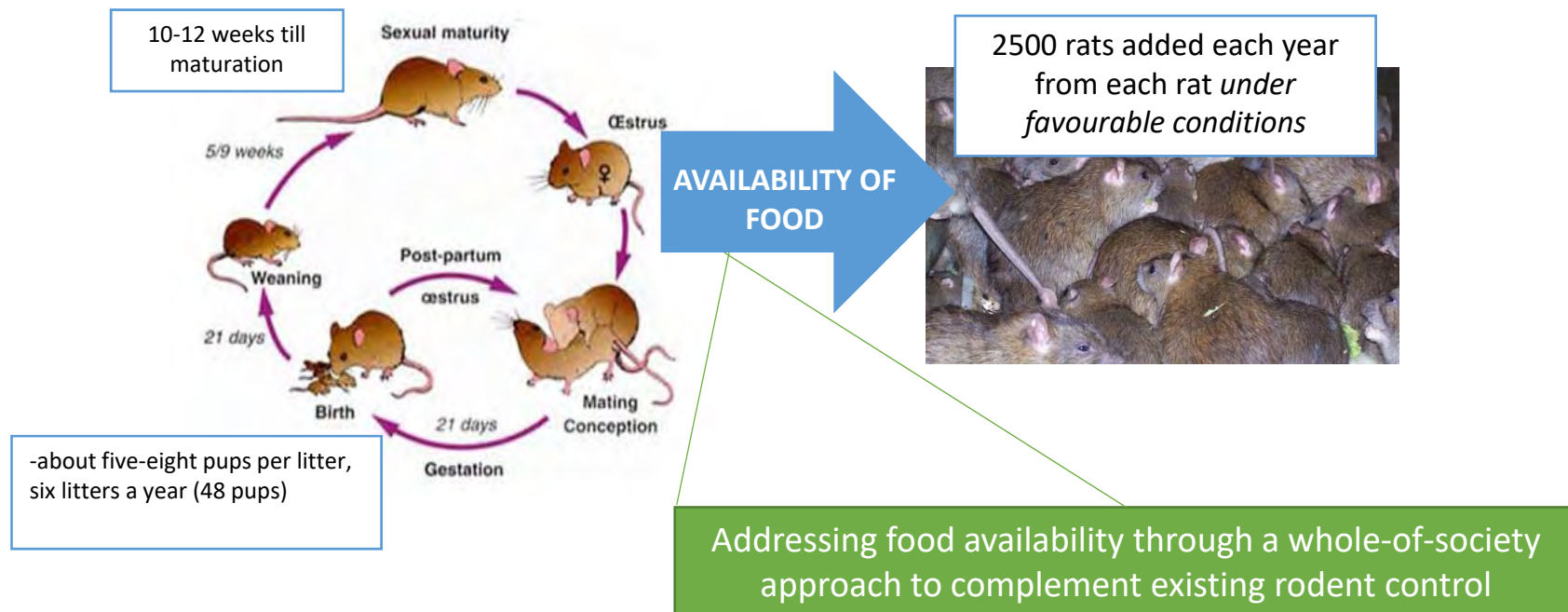
- ✓ Human and animal surveillance
- ✓ Rodent control
- ✓ Outbreak response



Rodent control follow-up

- One Health agencies work closely to follow up on all indigenous cases and rodent-related feedback
- NEA conducts burrow surveillance to identify priority areas
 - About 90% burrows detected in 2016 were in housing estates managed by the Town Councils
 - 82% burrows found near bin chutes, central refuse chutes and bin centres in TC areas
- Close proximity suggest for **whole-of-society approach** to rodent control

Addressing food availability



(Feng Y.T. And Himsworth C.G.,2014)

Rodent-related research

- Leptospira detected in 41% of rodent population in Singapore[^]
- As with many cities, rodents have adapted well to our urban environment
- Rodent proximity to human populations is a function of access to food sources
- The key to rodent control is community responsibility that cannot be borne by any single agency or stakeholder alone
- In the whole of society approach, community has a role to play in denying rodents access to food wastes

[^]ENB Quarterly, 2016



Lessons in Making/Changing Policy

1. Epidemiologists should not infer beyond what scientific evidence supports
2. Stakeholder engagement and persuasion is more art than science
3. Influencing policy requires credibility, mutual respect and patience

THANK YOU

